

Current Themes in Psychiatry

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Preface

This book is based on a selection from the lectures delivered at Bexley Hospital in September 1976 at the tenth of a bi-annual series of courses for Senior Psychiatrists. A comprehensive overview of current psychiatric knowledge is not intended, but we have tried to strike a reasonable balance in representing the diverse fields of recent enquiry and concern. We have chosen to focus on contemporary thinking, and research reviews, rather than on original research reports. We think that such a focus will meet a major need of the busy general psychiatrist: to keep abreast of developments on many fronts in a rapidly changing field. The book should also prove useful to psychiatrists preparing for higher examinations, and to colleagues in allied disciplines with a special interest in psychiatry.

The variety of contributions makes it hard to trace common themes, except in the most general terms. Perhaps the most striking is the multi-faceted approach to the understanding of psychological phenomena and the treatment of psychiatric disorder. Psychology, biology, physiology, pharmacology, all contribute, and eclecticism in treatment, with increasing concern for both effectiveness and economy, is the order of the day. Common to all the chapters is the attention given to clinical applications.

Our grouping of chapters into sections has, of necessity, been somewhat arbitrary with inevitable overlaps. However, we felt that these drawbacks were outweighed by the benefits of easier accessibility and lesser unwieldiness. We have tried to avoid repetition, but that too could not entirely be eliminated without doing injury to the arguments of separate contributors who happened to use similar reasoning or quote similar evidence in presenting their topic.

This volume is the first of a series. In future editions we will seek to compensate for the omissions that are unavoidable in a volume of this size and to update the content as new knowledge and thinking emerge.

Finally, we would like to thank those senior psychiatrists who attended the courses and gave us valuable feedback on the content and style of the lectures. Without their help we could not have been so confident in our task. We hope this book will stimulate as well as inform.

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Foreword

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Psychiatry is a rapidly developing subject and for a number of years courses have been provided at Bexley Hospital, Kent, for senior psychiatrists. These courses fill a real need and have always been well attended. This book comprises a selection of the papers given during one of the courses, by established experts, relating to current themes and problems in psychiatry, and will be invaluable for the busy doctor who may have difficulty in keeping up with advances in psychiatry.

The topics covered are very interesting and of considerable diversity, ranging from highly topical matters, such as kidnapping and hostage-taking, discussed by a world authority on the subject, to psychopathy, aspects of schizophrenia and policy and mental health planning. There are also interesting contributions on the affective disorders, various aspects of the neuroses, dependency problems, psychosomatic and somatopsychic interactions, and problems of epidemiology and classification.

The final part of the book presents accounts of various forms of psychological treatment and various aspects of physical therapies in psychiatry.

This volume will be of great interest and benefit both to senior psychiatrists and to psychiatrists in training. It will also be of value to physicians and to others interested in the rapidly developing field of psychiatry.

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SECTION 1

ISSUES OF

CONTEMPORARY

CONCERN

1 Psychiatric Indications for Termination of Pregnancy

Robert G. Priest

The subject of termination of pregnancy is a topical one. The introduction of the Abortion Act has produced a radical change in medical practice in the United Kingdom, with an enormous increase in the number of these operations, many of which are on women from abroad. The majority are carried out on psychiatric grounds, and this forces us to re-examine our knowledge about the relationship of mental health to pregnancy.

Do we really know what we are doing when we say 'Yes, this woman should have her pregnancy terminated' or 'No, this woman should bear a live child'. Is there a coherent body of knowledge about the effects of termination on the mind of a woman? Alternatively, if as happens now a woman is encouraged to think that abortion is available merely for the asking, what will be the effect on her of a medical decision forcing her to bear the baby she has wanted taken away?

In the present climate of popular opinion it is likely that these are questions that the average psychiatrist is going to be faced with. He will be faced with them as a matter of urgency. If he temporises or postpones his decision then consciously or unconsciously he will be weighting the scales against termination for that particular case. Rumination and 'waiting to see' are out of place. Whatever our motivation for taking up the specialities of psychiatry and psychoanalysis, we are usually spared the problem of sudden, arbitrary decisions. So much so that normally we also discourage them in our patients. If we are faced with a woman at the twelfth week of pregnancy, asking for an abortion, we do not have much time in which to make up our minds. There are no marks given for saying that, if she has left it to the twelfth week, then she is ambivalent about the idea of termination anyway.

These, then, are some of the problems that are increasingly preoccupying the British psychiatrist. In the light of recent legal decisions in the U.S.A., it seems possible that the American mental health professional is going to have to deal with similar problems.

Abortion

In England and Wales since 1972 there have been about 150 000 legal abortions annually.

I know that it is difficult to get such a figure into perspective. It represents about one abortion for every five live births. In an excellent review carried out a few years ago (Tietze and Lewit, 1969) it was shown that in some countries with very liberal laws the abortion rate approaches or even exceeds the live birth rate.

In the British National Health Service the ordinary citizen has come to expect to have all legitimate medical needs catered for, and to have all his operations free. He may have to wait a while to have his varicose veins dealt with, but urgent operations he expects to have done promptly.

It was into this health service that a more liberal legislation for abortions was introduced in April 1968. Until then abortions were carried out only if there were a grave threat to the health or life of the mother. Even then they were not strictly legal, but in practice no action was taken against a doctor carrying out such an operation in good faith. The consequence of the new Abortion Act was that these operations were legal, and so was *any* operation that was done to protect the physical or mental health of the mother. Altogether there are 4 main indications allowed for legal abortion, which are as follows (Abortion Act, 1967):

- (1) The continuance of the pregnancy would involve risk to the life of the pregnant woman greater than if the pregnancy were terminated;
- (2) the continuance of the pregnancy would involve risk of injury to the physical or mental health of the pregnant woman greater than if the pregnancy were terminated;
- (3) the continuance of the pregnancy would involve risk of injury to the physical or mental health of the existing child(ren) of the family of the pregnant woman greater than if the pregnancy were terminated;
- (4) there is a substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped.

You will see that all of these criteria finally devolve upon an effect on *health*. Nevertheless, there is included amongst the relevant considerations a clause which proved to be very controversial during the parliamentary debates on the bill, and which was referred to as the 'social clause'. In its final form this section now reads: 'account may be taken of the pregnant woman's actual or reasonably foreseeable environment' in determining the first three reasons for termination listed earlier.

Although the criteria for legal abortion remain those of health, and the certificate has to be signed by two doctors, there is a widespread impression in the United Kingdom that abortion is available on social grounds. Women expect to have the termination if they want it, they expect to have it carried out under the N.H.S., and they are puzzled and incensed when doctors deny them the operation.

Let us now take a look at what has happened under this changing climate of opinion. Some years before the introduction of the new Act of Parliament the number of therapeutic abortions which were carried out in N.H.S. hospitals in England and Wales varied between 2000 and 3000 *per annum*. There was a rise in these numbers, anticipating the legal changes, from about 1964, so that in

1967, the year before the change in law, there were nearly 8000 *per annum*.

The Act came into force on April 27th, 1968. The numbers of abortions carried out started rising immediately. They rose steadily throughout 1968, 1969 and 1970. I have shown previously (Priest, 1972a) that the rate of increase was in fact linear.

The correlation coefficient for the time elapsed since the change in law against the number of abortions was 0.99, and this was true for both N.H.S. hospital abortions and for total abortions (including private patients). Clearly, in the human situation, it was only a matter of time before this curiously non-biological relationship broke down. Later (Priest, 1972b) I showed that the number of abortions carried out in N.H.S. hospitals had seemed to reach a plateau.

The N.H.S. appears to have reached some limit of adaptation. It is now carrying out *seven times* as many terminations as in 1967, and 28 times as many as in 1960. This, it should be noted, is without any increase in funds being voted for purposes of carrying out the new Abortion Act.

The number of private abortions has now reached a plateau too, so that in round numbers there are about 150 000 terminations each year, of which one third are carried out in the National Health Service.

This, then, is the background. We have those who believe that it is a woman's right to decide what happens to her pregnancy, and on the other hand we have an alliance between those who believe it is morally wrong to interfere in a pregnancy with those who believe that if you terminate, the guilt and other psychological sequelae may well prove disastrous. Caught in between is the medical profession, trying to make decisions that have to take into account social influences, scientific evidence, financial pressures and psychological truth.

Objections to abortion on grounds of the danger to life no longer have the force that they once had. The number of women dying in association with notified abortions in England and Wales has been as shown in table 1.1.

It can be seen that the rate of mortality has now fallen to less than ten in 100 000. Thus the death rate from abortion runs at less than the maternal mortality rate—you are more likely to die if you continue the pregnancy to

Table 1.1
Number of deaths associated with notified abortions

Year	No. of deaths	No. of abortions	Deaths/100 000 abortions
1969	17	54 819	31.0
1970	14	86 565	16.2
1971	14	126 777	11.0
1972	26	156 714	16.6
1973	12	167 148	7.2
1974	11*	163 130	6.7
1975	8*	149 521	5.7

* Provisional figure.

delivery at term. Argued on this basis it looks as if you would be entitled to carry out a termination on almost any pregnancy under clause 1, that 'the continuance of the pregnancy would involve risk to the life of the pregnant woman greater than if the pregnancy were terminated'. I do not know of many surgeons that operate on this principle. We may accept that the decision to terminate no longer depends on considerations of mortality. As far as physical morbidity is concerned gynaecologists themselves vary widely in the sequelae of operations that they appear to find (Diggory, 1969; *Br. med. J.*, 1973).

In the United Kingdom, the vast majority of operations are carried out on psychiatric grounds, and it is clear that psychodynamic considerations should take a crucial place in the decision making process (Pines, 1972)

Psychodynamic Considerations

British law requires that the certificate is signed by two medical practitioners. In practice one of them is likely to be the gynaecologist who will carry out the termination. After all, he will have to be persuaded that this is the right course of action for the patient anyway, so he may as well be one of the signatories. The alternative, that he is required to carry out an operation recommended by two other physicians, obviously would engender friction.

Who should be the other signatory? It is not essential that the second doctor should be a psychiatrist, even when the abortion is to be undertaken on ostensibly psychiatric grounds. In fact to refer the case to a psychiatrist might throw a spanner in the works. Suppose that the general practitioner wants one of his patients to have a termination, and the gynaecologist assents. They decide that it can be done on psychiatric grounds—after all who can deny that the patient *may* suffer mental distress from continuing with the unwanted pregnancy. The easiest thing to do now is for them to sign the form themselves. If they drag a psychiatrist into the situation it can only complicate matters—at worst he might disagree that there *are* psychiatric grounds, and where would they be then?

So which cases get referred to the psychiatrist? Let us take the general practitioner's referrals to start with. When a G.P. has a patient who wants a termination of pregnancy, his obvious course of action is to refer the patient direct to a gynaecologist. Why, in a proportion of cases, send the patient first to a psychiatrist? I suspect that in some cases this is done when the G.P. feels strongly that the patient *should* have an abortion, and thinks that the gynaecologist is going to prove unsympathetic. If he can get a liberal minded, tender-hearted psychiatrist to drum up impressive sounding psychiatric grounds for termination, then he probably thinks that the gynaecologist will be more likely to give in. It is difficult to get confirmation or denial for my somewhat cynical supposition. Most of the G.P.s that I have asked deny that it refers to them, mainly on the grounds that they rarely send abortion cases to the psychiatrist anyway.

Why, now should the *gynaecologist* send these women to the psychiatrist? The most obvious reason is in those cases where the patient has a history of previous overt mental illness, and the gynaecologist wants the patient to be

treated by the psychiatrist, whatever happens to her pregnancy. Other occasions might be when the gynaecologist is seriously in doubt as to his correct course of action with a patient who *may* have psychiatric grounds. Sometimes he sends a patient across in the forlorn hope that the psychiatrist will deny that there are grounds.

I think that you will see that there is a motley selection of reasons for sending candidates for termination of pregnancy to see psychiatrists at present. It follows that the role of the psychiatrist will vary from case to case.

I should like to split the cases into three categories, and discuss the problems in treatment faced in each. The first type of case is that in which the patient does not want the pregnancy terminated. It may sound quite bizarre that we should have to consider such a case, but it is not uncommon. What happens is that a dominant mother or a cold boyfriend will insist when the girl finds that she is pregnant that, to use the euphemism, she will 'have to have something done about it'.

The passive patient, acting her part as the doormat, allows herself to be conducted up to the clinic to have her operation, when in fact she wants the child. Fortunately it is not too difficult to spot this category, provided one allows oneself the luxury of enough time to ask the woman if she herself *wants* to have the operation. If not, then she is usually very grateful for the support and advice that can be given by a skilled social worker—ostensibly support and advice for the purpose of coping with the pregnancy and later the child, but also no doubt in some cases support and advice for her problem of dealing with mother or boyfriend.

The second category of patient that we have to consider is the woman who is unequivocally adamant that come what may, she is going to have an abortion.

In a way this type of patient neither asks for nor requires psychotherapy. One problem she may run into is that if she has too much of a bull-at-a-gate approach, she may antagonise the gynaecologist, who hates being thought of as a plumber being called in to unblock the drain. Another problem is that if she is very sanguine about her outcome then she may have no depressive symptoms, little anxiety, and in fact none of the more conspicuous features of psychological distress which would facilitate undertaking the operation on psychiatric grounds. Certain that she is entitled to an abortion, she is in neither a state of fear nor a stage of hopelessness, and thus may to her chagrin find herself thwarted in her attempts to get her pregnancy terminated, or at least to have it done in her district hospital under the National Health Service. In Harley Street it can be done, it seems, on more slender evidence. However, the vast majority of women who say that they are sure they want the abortion are nevertheless probably depressed or anxious, or both, and then it is a relatively uncomplicated story (Priest, 1971)

We now come to the third category, and this is where the psychiatrist, in my opinion, comes into his own. This is where the patient is *ambivalent* about the operation. She may have come up at the instigation of a third party, as in the first group, although she really cannot see any alternative anyway. She may have solicited consideration for termination herself, but have serious reservations about it. Now this is a serious situation.

Patients in the first category will become happy mothers. Patients in the

second category will weather the operation well, and have no regrets afterwards. Patients in the third category are likely to produce the greatest proportion of the women with guilt and self-recrimination after the operation if their ambivalence is not resolved pre-operatively. It is in this group, too, that we may expect to find the greatest psychopathology. Women from the first group, we assume wanted a baby—not too unhealthy a desire in a woman, surely, even these days. Women in the second group mostly did not want to become pregnant, although clearly in a proportion the 'accident' of failure of contraception may have been the result of unconscious motivation. (Many of us make mistakes for motives that later change direction, and I suspect that women in the second category may sometimes have had reason for becoming pregnant at the time of the intercourse, but that the situation has now changed or their reaction to it has altered meanwhile.)

In the third group the case for bearing a child remains complex, partly for and partly against, partly conscious and partly unconscious, partly reflecting the present and partly rooted in the past.

What are the pathological drives that result in them presenting for termination of pregnancy? Undoubtedly many have a neurotic striving for affection. A fear of loneliness is commonly encountered, often volunteered spontaneously by the patients. Their need for affection and reassurance led them into promiscuity or into a relationship with a relatively anonymous partner. This by itself, although a real factor, is not adequate as an explanation for their behaviour.

Even if we add, what is true in many cases, that they have a neurotic submissiveness, then so far we have done little more than say why they have sexual intercourse. In fact, in these days it is redundant to have to drag in the idea of a submissive attitude to explain why intercourse is peremptory. Nowadays, what one does have to explain is why it took place without adequate contraception. I am aware that on many occasions this was because of intoxication (of which alcohol still seems to be a commoner cause than drugs) or because the act was spontaneous and impulsive, or for the reason that some young people do not arm themselves with contraceptives because they do not think of themselves as permissive sexually. Nevertheless I am sure you will agree that there is a necessity to explain, in some of the cases, some of the time, an irrational and motivated need to become pregnant. What is the nature of this need?

We may in our search be taken a little further along the path still by the striving for affection that we have noted. If we assume that this neurotic need is based on the fear of dislike or disapproval, then the conspicuous need for affection is a desire for reassurance. We have accepted that to this person sex is a way of purchasing the reassurance. We may now go further and think of conception as doing the same thing. It is as if the woman were trying to say 'If I conceive your baby, you will not want to hurt me'.

Allied to this is the use of pregnancy in a neurotic bid for power. It may be used to bind the sexual partner more permanently, even as a way of controlling him and forcing him into a marriage.

We can accept, then, that there may be unrealistic motives for becoming pregnant. If we link these forces with the familiar attribute of the

neurotic—the discrepancy between potential and achievement—then we have a satisfactory explanation for their conception of pregnancy. They have the intellectual ability to avoid pregnancy but not the will. The lack of will may result from the understandable reluctance of young single girls to take the 'pill' in cold blood, from refusal to recognise their own willingness to take part in impulsive sexual acts, or from more pathological drives.

You will recall that we are considering in particular women who ostensibly presenting for termination of pregnancy, are ambivalent about the operation. This ambivalence may be a theme running through their story. The patient in the first place apparently becomes pregnant 'against her will'. She attends a clinic for consideration for termination of pregnancy, but is half-hearted about it. The ambivalence may continue up to the last minute.

Mrs A.G. had a history of an unhappy childhood, and had seen me previously following a drug overdose. She failed follow-up on that occasion. She had had one pregnancy terminated on psychiatric grounds. Now she was asking for termination of another pregnancy. The gynaecologist required much persuasion. After he had agreed the patient changed her mind and decided to have the child anyway. Then she contracted rubella, and finally had the termination on general medical grounds.

Another patient, Miss M.A., showed a more extreme example of brinkmanship. She was a woman in her late twenties and had been living with a man five years younger than herself for nine months. She had her own hairstyling business and her boyfriend had a much smaller income being at an early stage of his photographic career. In the past she had consulted with anxiety symptoms—mainly excessive perspiration—and alcoholism. She had stopped drinking after meeting her boyfriend, and said she was very much in love with him. Her brother's marriage had broken up two years previously and he too had had psychiatric treatment.

She said that when she knew she was pregnant she panicked. Given the circumstances outlined above she felt she couldn't afford it. To have this baby would mean abandoning her own business, and trying to survive on the meagre salary of her boyfriend.

How had she become pregnant? She used no contraception. Despite years of promiscuity she had never conceived before—possibly the tubes had been damaged by salpingitis years earlier.

I was away at the time and one of my colleagues saw her and recommended termination. The consultant gynaecologist accepted his recommendation and the patient was admitted to the ward. The day before the operation was due the junior surgeon who was to carry it out saw the patient and pointed out that with her low fertility she might not have another chance to have a baby. Nevertheless she claimed that she still wanted an abortion. The day of the operation came and at 9 a.m. she was given her pre-medication. I was then asked to go over to the ward and I was told that she had changed her mind. It was true. She had phoned her boyfriend, they had decided to get married, and they were both very happy at the prospect.

The behaviour that candidates for termination display towards their medical attendants may often be construed as reflecting the behaviour that resulted in the predicament in which they find themselves. We have already seen how the theme of ambivalence runs like a thread through the story. Often, at interview, such women are sulky and taciturn. Despite the fact that their best chance of having a termination recommended lies in discussing, with a psychiatrist, what the pregnancy means to them, they clam up and play hard to get.

Clearly for one reason or another they feel hostile towards the psychiatrist. Maybe he represents the establishment that has made the rules for getting abortions. Maybe he represents men. Possibly they resent him because they have to depend on him.

At any rate, they frequently express their hostility in this passive way of refusing to open up. I am not going to talk about the interviewing problem that this poses—it is a familiar one to most of us. What I wish to indicate is that the woman that uses this method of cutting off her nose to spite her face is revealing something relevant about her psychopathology—relevant, that is, to the pregnancy. If not positively demanding rape, then this technique of interpersonal relationships is at least likely to make for trouble with her boyfriend. To put it plainly, then even more than with the average woman it is difficult to know if she really means it when she says 'no'.

Management

If we accept the foregoing observations then the principles of management are probably not controversial. The problem is that of the shortage of time in which to arrive at a correct recommendation. Under other circumstances the psychiatrist can allow himself the luxury of letting the patient discuss her problem fully before making a decision. His computer and her program can run until an optimal solution is worked out. Here, however, is a deadline—the gynaecologist will not wait indefinitely. To complete the analogy, the computer problem is on-line, in real time. In spite of this urgency, the mainstay of management is to allow the patient sufficient time to ventilate her problem for her to resolve her ambivalence.

The task of enabling the patient to do this is something for which the mental health professional is well trained. I have found a social worker to be invaluable in this situation. She is able to help the patient to consider the alternatives to abortion, the consequences of carrying through the pregnancy to term. At the same time the patient can talk to her without being confronted all the time with her reactions to the male therapist. In many of these women patients there is a conspicuous difference in the extent of the pathology that they reveal in the two situations. To use that telling phrase once more, they find it much easier to 'open up' with a woman.

So this is a concrete way of dealing with the problem of the woman who is sulky and silent with the male psychiatrist.

In my practice the patient is seen both by me and by the psychiatric social worker, and we compare notes. This comparison is a rich source of material

for understanding not only the patient's psychopathology but also for obtaining, with the aid of a parallax effect, a clear three-dimensional view of her current attitudes.

So we have altered our usual approach. Instead of one therapist, the patient is sandwiched between two. We have to be flexible in other ways. To reach our real-time solution we have to make appointments at short notice, and out of our usual routine. Here we are abandoning the advantages of regular consultation at equal time intervals. Again it pays off under these circumstances—the patient has tangible evidence of our concern and does not feel that we are merely cogs in the administrative machine. Conversely, it would be difficult to have too many of such patients at any one time, or one's timetable would become chaotic.

Conclusions

I am making the assumption that the psychiatric prognosis for the average woman having a termination of pregnancy is good (*Br. med. J.*, 1976). That is to say, we expect that any symptoms and signs of mental distress that she exhibits before the operation will dwindle and disappear subsequently. Follow-up certainly suggests that this is so at six months (Lask, 1975) and at two years (Greer *et al.*, 1976). McCance and his colleagues (McCance *et al.*, 1973) followed up 303 women who presented for termination of pregnancy in North-east Scotland. The Beck Depression Inventory and Fould's Hostility Scales were completed at follow-up as well as at referral (Olley, 1973). The interval varied from 13 to 43 months, the majority being less than 24 months. As measured by the questionnaires the highly disturbed and depressed scores found at the time of referral had been transformed into essentially normal scores approximately 18 months later. Aborted women showed a greater improvement than those that had continued the pregnancy.

Clinical assessment of the mental state at follow-up produced similar findings. Examination of the attitudes of the women towards the index pregnancy showed that the aborted women were generally more satisfied with the result than those who carried the pregnancy to term. This was true of both single and married women, but especially among the former. Longer term follow-up is extremely difficult with this population but the small series that Ruth Schmidt and I were able to trace three to six years after termination were showing an improvement that was even greater than the 12–17 months level (Schmidt *et al.*, unpublished) and their scores on psychometric tests by then were similar to a control series of young fertile women (Palmer and Evans, 1972).

If we sit back and ask ourselves what mistakes we are trying to avoid making, then I suppose one of the most important is that of recommending termination only to find that afterwards the patient is preoccupied with guilt and remorse (*Br. med. J.*, 1976). Luckily this seems to happen in only a minority of cases under current social conditions and attitudes, but it is in the small sub-population of *ambivalent* candidates that we have considered above that there is the highest risk. Of course, many women presenting for

termination have mixed feelings about the operation to some degree. The vast majority can be helped by counselling (*Br. med. J.*, 1976). I do not believe that they all require the skills of psychiatrists nor of psychiatric social workers. The best solution is probably to have counsellors trained especially for this task.

The psychiatric professionals come into their own when the ambivalence is persistent or marked, and I believe that nowadays this situation constitutes one of the main indications for referring the candidate for termination to a psychiatrist.

Generally the psychiatrist and social worker working as a team can resolve the ambivalence. What one hopes for all along is that the patient will finally make a positive statement about her feelings. Before the procedure is completed I find it useful to put the question, ingenuously if you like, to the patient: 'Do you think you will feel guilty if you have the operation?'. One can get quite helpful replies, especially where one is concerned about the patient's own value system—for instance with Roman Catholic women. Often the patient will present quite an enlightened reply, which balances the pros and cons. This is usually a very healthy sign.

One should not neglect to ask the patient at some time: 'Do you really *want* this termination?' Perhaps I may use this final illustration to show that, with the best will in the world, one does not always make the right decision.

After having expended a great deal of time and energy with Miss A.B., the time had come when a decision could be postponed no longer. I asked her whether she wanted the termination. After a long pause, she replied with undue vehemence 'Yes'. It seemed to me that verbally she was saying yes, but non-verbally she was saying no. Foolishly, I heeded the verbal message, and the termination was carried out. This resulted in one of the worst aftermaths that I have had, with months of depression and bitter regrets on the part of the patient.

I should have been (and will be in future) more wary of the exaggerated affirmation. After all, it is not a new psychological phenomenon. The philosopher, sage and student of human behaviour who was born nearly 300 years before Freud recognised the very mechanism. I am, of course, speaking of William Shakespeare, who makes one of the characters in Hamlet say sceptically:

'The lady protests too much, methinks' (*Hamlet*, Act III, scene II).

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2 The Psychiatry of Kidnapping and Hostage-Taking

the late Peter D. Scott

Helen was only 10 years old when she was taken for the first time; her history shows many of the characteristic features of hostage-taking and kidnapping: (1) the complex combination of personal and political motivation; she was a very beautiful child (her twin brother was not taken) and she had distinctly powerful parents; (2) she showed, especially in her second abduction, a great willingness to co-operate on the most intimate terms, with her captors (the so-called Stockholm phenomenon); (3) she was ultimately rescued after an exceptionally long siege by a variety of deception which is often practised, but is not recommended, in such situations. The fact that Helen is part of the mythology of ancient Sparta and Troy only indicates that the origin of kidnapping and hostage-taking is as old as recorded history and has its roots, together with piracy, banditry and political intrigue, in the selfish and lawless exploitation of the weak by the strong. Throughout European history treaties between states have contained hostage clauses, and even as recently as the Second World War hostages were taken to maintain the subjugation of occupied communities.

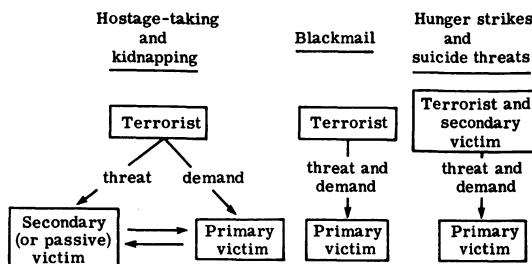
The Elements

There are three essential participants in all such situations: (1) the perpetrator whom we will call the terrorist; (2) the primary victim who delivers the ultimate prize be it money, release of prisoners, or guaranteed behaviour; (3) the secondary victim who is actually held by the terrorist and whose essential quality is his value to the primary victim.

In some situations the primary and secondary victims are one and the same person (the blackmail situation).

In the hunger-striker and the suicide-threatener the terrorist and the secondary victim are one and the same person, while the primary victim is often the psychiatrist.

Diagrammatically these three closely related situations may be represented thus:



Definition

The essential of each of these situations is the manipulation of an individual or individuals by use of threats in order to obtain an indirect advantage.

The primary victim

This is the person, or group, by whom the secondary victim is valued. The primary victim may have to pay in terms of material things, political activity, or loss of status or reputation. The hunger-striker, the suicide threatener, the special hospital patient, or the prisoner, holds power over the doctor or administrator because he knows it is the ethical and contractual responsibility of these authorities to keep him safe and well.

The negotiating authority (police or state) will be concerned to ensure that the primary victim does not act independently or clandestinely, thus spoiling their handling of the situation. Particularly in continental kidnappings the police sometimes only learn of the incident retrospectively after the ransom has been paid, which, of course, encourages further incidents. A difficult ethical situation arises in such situations as to whether the father is entitled to put what he regards as the best chance of regaining his child before what the police regard as the best way of apprehending the terrorist and protecting the public from further crimes; but such irreconcilable choices are almost the rule in the relationship between criminals and the public.

While psychiatrists should not take sides in these dilemmas, the intense suffering of the primary victim must obviously be their concern.

The secondary or passive victim

The hostages may be chosen: (1) *deliberately* in which case they will always be of some special value to the primary victim, by kinship, nationality, prominence, or royalty.

Or they may be taken: (2) *impersonally*, in that they happen to be passengers in the aircraft or train, or happen to be the officers on duty in the prison or hospital, or happen to be the employees present in the bank at the time of the raid. In one Canadian prison two psychiatrists and their families (14 persons) were taken, happily without casualty.

Or they may be taken: (3) *expeditiously* when an acquisitive crime goes wrong, as in the London sieges in the Spaghetti House and in Balcombe Street.

It will be important to determine at the earliest possible moment the identities and characteristics of the victims, for, if a siege develops, their survival may depend on their ability to relate to their captors. Differences of nationality, political affiliation, language, age, sex, capacity to resist, may all influence the process of mutual empathy which tends to arise between all persons who are facing hazards together, and which is the principal protection of victims. Even though differences may initially appear insuperable, if a siege lasts long enough, there is a good chance that identification might yet occur, for hardship and isolation strips away even fanatically held attitudes.

It will be a task of the attending doctor to determine if possible the physical and mental state of the victims in a siege. The victims will often be older and less fit than terrorists who are usually young and well; this is an additional reason why heroic action with drugs, gases or limitation of food or water, is contraindicated. A hostage freed after 30 hours from a hijacking at Charles de Gaulle airport was taken to hospital in diabetic coma!

The victims most at risk, once a siege is prolonged, will be those with whom the terrorist is least able to identify. This may be, at one end of the scale, the victim who shows hostility, and at the other, the victim who cowers in the corner.

The options open to victims are to risk a confrontation, to comply and aid the terrorists as far as possible, or to withdraw into illness or inactivity. Once the situation has reached the point at which this choice may be considered, it will almost certainly be best to comply, particularly as by then the victim will be looking at one or more guns or knives.

Very occasionally the victim turns the scales. In Frankfurt one of two hostages, after being held in a court office for more than 30 hours, grabbed the gun and shot his captor in the stomach; the police burst in and found the hostages dancing for joy (*The Times* 11.3.76).

As part of the Stockholm phenomenon (mutual identification of captors and captives in siege situations) it must be expected, and is in fact observed, that the hostages feel antagonistic towards the authorities outside, believing that nothing is being done, that they are being 'written off' or forgotten. Their co-operation cannot always be counted upon, and negotiators should make a special point of including the hostages in their inquiries and conversation. The morale of the hostages may be a crucial factor in the outcome of some cases.

Prevention

Clearly agreed international policy, special security arrangements, anticipation, rehearsing of action, training of police and state negotiators, all must be central in prevention. One or two other points need mention. 'Target hardening' is the process of identifying likely victims and instructing them how to protect themselves against being taken, and how to behave if taken. Jackson's book *Surviving the long night: an autobiographical account of a political kidnapping*, is an admirable lesson though many would doubt their

capacity to emulate so fine a character. In the United States several agencies now specialise in advising potential victims how to protect themselves and their families, though such measures are only likely to help deliberately selected victims.

In closed communities such as certain hospitals and prisons (in which hostage-taking either of other inmates or of staff members is sometimes common) the following additional measures have been tried; (1) training every member of the staff and (2) subjecting inmates to a screening process in order to identify the hostage takers. Concerning the first of these measures it must be remembered that experience shows that individuals under the stress of terrorist threats may not act on the approved plan or may warn the terrorist what to expect. And concerning screening processes, the question of what to do about it, if the potential miscreants can be identified, has to be considered; to tighten up security, or to isolate the dangerous individual may only ensure or hasten the eruption of trouble. The objective of many institutional hostage takings is not release but the correction of real or supposed wrongs or the winning of certain privileges. It may therefore be worth reviewing in advance the quality of the institutional regime particularly to remove unnecessary frustrations and especially to improve communications. Since hostage taking is often a means of forcing communication, it is logical to forestall this if possible by ensuring ample opportunity for talking at all levels of staff-inmate relationships. This in turn is facilitated by sufficiency of staff and stability of their postings and by dividing the inmates, at least for part of their day, into small groups in which free communication will offer no hazard. These are measures which should receive constant attention anyway, so that sufficient, friendly and observant staff are much to be preferred to screening devices and tightening of physical security.

Some prisoners who take hostages and some 'terrorists' seem to be only concerned to draw attention to their plight (the five Croatians who hijacked a Boeing 727 in September 1976 and demanded the publication in the American press of a pamphlet expressing their grievances); hijackers took over a Paris-Moscow train in October 1976, overpowered the driver and guard and then methodically set about plastering the entire train with slogans indicating their political objectives. If there were legitimate channels of communication such terrorism (with its occasional loss of life) would be pointless.

Sorts of Hostage Takers

Middendorf (1972, 1975) classifies them into: the politically motivated; the escapers; those bent on personal gain. Others rely less on motivation (which is always difficult to assess) than upon description. Thus the New York Crime Prevention Program classifies into: the professionals; the psychotics; the terrorists.

For practical purposes and with an eye to instruction of the negotiator the following classification seems most useful.

- (1) *Loner* (an individual operating on his own)
(a) *Rational*. These will be capable of communicating understandably with

the negotiator and are likely to be open to ordinary reasoning and persuasion. They will range from relatively normal persons, through those under great stress, to individuals with more or less disorder of personality, right up to grossly psychopathic personalities. They sometimes claim to be but are really never politically motivated.

(b) *Irrational*. With these the negotiator unless he has experience of mental disorder is likely to be at a loss. There is only one disorder which can produce this degree of irrationality and at the same time permit the sustained activity of the terrorist and that is paranoid illness. Of course paranoid states can be reached from a number of different directions (for example schizophrenia or heavy and prolonged drug taking) and such considerations will affect the course of the incident. In all varieties, however, the essential feature is the grandiosity of their fear. They are always massively afraid so that constantly repeated reassurance is the essential feature of their handling.

(2) *Group Operators*. These can always be expected to be rational, for mentally abnormal and unreliable individuals will have been eliminated as endangering the group and its objectives. The actual hostage taking will usually have been carefully planned, but sometimes it will be an unexpected and impulsive attempt to avoid arrest when another criminal project has failed. This group includes the professionals and terrorists of other writers, and acquisitiveness and political aims will often be inextricably mixed.

Rational loners vary from those whose only feature is their determination to exploit others for their own advantage, to those displaying profound disorders of personality. At the 'normal' end of this continuum would be the hoaxter; the famous Mr Brown persuaded Quantas airways to part with a quarter of a million dollars by virtually holding to ransom an already airborne plane, falsely claiming that he had planted a bomb therein.

Of the variety of personality disordered (yet still rational) terrorists there is no end. Examples from my own experience which come to mind, each vastly different in motivation, are Alan Ball, a deeply unhappy, isolated individual who made careful plans to kidnap Princess Anne; Bevan who planned with infinite care and preparation to kidnap the leader of a political party at gun point; Madjd, a hitherto gentle individual who, quite out of character, hijacked a plane from Manchester to Stanstead holding a (wooden) stick of dynamite and a (toy) gun; he only wanted to escape from his neurotically engendered life situation, and only demanded money as an afterthought almost at the suggestion of the negotiators; Nielson, the so-called Black Panther, ostensibly was bent on overcoming his sense of frustration by getting a great deal of money quickly, though there were, of course, predisposing features in his personality. The commonest of all terrorists, are those who, driven to distraction over a long period of time by their domestic failures, grab one or more of their children and, standing on a roof-top or in a discreetly gas-filled room, force attention. The danger in such cases is that they have often swallowed a variety of tablets and may have a bottle of whisky with them, so that accidents can occur, and a harmless neurotic demonstration may end fatally. Very similar are those who use themselves as the secondary victim, and

the social services as the primary victim, and, in effect, say 'look after me or I'll kill myself and then you will be sorry'.

Probably the most dangerous loners are those who project their low self regard, and comfort themselves by hating the world, and who try to set things right by kidnapping a child or girl; it is impossible for a single person to guard a hostage and conduct a lengthy negotiation for ransom alone; exhaustion, irritability, rashness and fear will supervene and lead to disaster of one sort or another.

One further point is that loners, though they may claim to be politically motivated and part of a political organisation, never are, for terrorists operate in groups and know the difficulties of the task and the advantages of mutual support.

It is also worth bearing in mind that hijackers never blow up the plane, or kill anyone while airborne. They wait till the plane is grounded!

Irrational loners. The need here is for an immediate diagnosis to distinguish the individual from the distracted attention seeker. The incident often happens in the individual's own home, so that enquiries from neighbours and relatives will give the clue, and confirmation may be had from the local general practitioner. Paranoid patients can be extremely dangerous. It must be assumed that they believe you are going to kill them, and that they will have armed themselves in some way. Elderly paranoid men sometimes barricade themselves in their houses together with a sister or wife. In such cases it is likely that this second individual will by now largely share the patient's delusions, for the folie-à-deux situation is only an example of the Stockholm phenomenon; people who are isolated and face the same danger will always come to share the same objectives and beliefs. These patients do not go through the same stages in their 'sieges' as rational terrorists and there may be nothing to negotiate. The objective should be to keep them talking, to reassure constantly, to provide food and comforts *ad libitum* (without exposing the vector to the shot-gun), never to argue about the delusions, and to wait patiently for sleep.

The Group Operators are sometimes subdivided into those who are political terrorists and those who are professional criminals; the latter, again, may be subdivided into those who planned a kidnapping for gain; and those who are expediently trying to avoid arrest after an acquisitive raid went wrong. Very often political and acquisitive motives are mixed. It is unusual in criminology to find a single motive for a crime. Political terrorists are likely to be young, mentally healthy, trained for the project, and conditioned from childhood in the political tradition. Thus the Price sisters (whose hunger strike was 'negotiated' in Brixton Prison) were intelligent, strong-minded, mentally quite normal young persons, exposed to political example and teaching throughout their lives. According to Clyne (1973) who made a detailed study of the Zurich attack by four Arabs on an El Al airliner in 1969, of the three surviving terrorists

Helga (24) was driven out of Palestine when 3 years old.

Youssef (34). His father was killed by Zionist extremists and in his youth the family had to abandon their home.

Amena (22). Her family was driven out of Palestine and she had been 'brainwashed from infancy'.

Females are often included in terrorist groups and, according to Midendorf (1972) are sometimes more cruel than men, and, in mixed groups, have nearly always been responsible for making the plan.

Some explanation needs to be offered as to why terrorists may sometimes callously endanger their own lives and those of innocent and totally uninvolved women and children, and yet when apprehended appear to be psychiatrically astonishingly normal. We have survived by our ability to work and to defend ourselves in groups; it is deeply part of our make-up to submit to, and sometimes to accept, leadership. Once allegiance is fully and willingly established, the individual's own standards and objectives (without being abolished) are displaced by those of the group. This has been well studied by Milgram (1974) who also devised laboratory experiments to demonstrate these facts. He was able to induce normal volunteers to administer what they believed to be dangerous electrical shocks to others, and they were not deterred by watching the effects, by cries of agony, by hearing pleas, statements of heart-trouble, nor by touch proximity; their apparently callous conduct had nothing to do with anger, frustration or personal abnormality.

Bearing in mind that individuals in such situations have not lost their personal standards, and are not devoid of altruism or sympathy, it must be the objective of the negotiator to suppress the fanatical phenomenon and to re-establish individuality. To this end it would seem logical when dealing with political terrorists to:

- (1) Emphasise individuality by every possible means. Avoid all mention or acknowledgement of the organisation to which they belong; state that they are going to be regarded as ordinary criminals not as 'soldiers of the liberation'; consider their individual, not their group, needs sympathetically; block all communication with their organisation; monitor the radio if they have one;
- (2) Do not expect offers of money, or pleas on grounds of illness in the hostages, to be very successful, for the terrorists (at least at first) will not have any guilt feelings in relation to this incident.
- (3) Later it may be diplomatic to suggest (if it is true as it probably will be) that their organisation is no longer interested in them, that they have done all that they could have been expected to do, that further resistance may damage their cause.

The longer the fanatical terrorist can be kept in isolation the more he will begin to resemble, and respond as, an ordinary person. Continued stress strips off most indoctrination in time.

So we have two sources of excessive violence: (1) that enacted by normal people as group activity (presumably the Melai massacre, in which 300 villagers were shot down, was a good example) and (2) a reparative or operationally conditioned childhood pattern, representing a development of personality in an individual. The really dangerous situation will be when these

two are combined, particularly when the psychopath becomes the leader.

Negotiation

From what has been said, it will be apparent that the negotiator will have many different roles to play. With the hoaxter, he should perhaps be a good poker player, with the barricaded paranoid patient a doctor or mental nurse, with the inadequate family man a social worker or comforter, with the sexually frustrated lone hijacker a mother figure, with the terrorist a diplomat.

What he is may be more important than what he does. He should perhaps be senior but not at the top so that he has someone to defer to. There should be more than one of him on the job so that a shift system can be worked to avoid fatigue and to discourage the terrorists. He must be able to accept insult, abuse and bluster without retaliating in kind. He must be able to see beyond what the terrorist deserves to what will be most effective. He must be able to empathise with the terrorist without becoming too much involved. He must steer a course between needless frustration (which sometimes leads to tragedy as at Bielen in Holland where two hostages were shot and flung out of the train because negotiation was too slow) and refusing to move on the main issue. He must be able to put himself across as a reasonable and dependable person, without losing his professionalism. This is quite a tall order for any man.

While the details of the negotiator's task are not for discussion here, it may be true that the outcome of most sieges and hostage takings are fixed from the start by factors outside the immediate situation, provided that no mistakes are made. The principal mistakes will be getting 'rattled' and thus losing contact, expressing hostility, imposing needless frustrations, forcing an issue by shooting it out or rushing in unnecessarily. To avoid mistakes may be more valuable than a very refined technique of negotiation.

It may be easy to win this particular contest by deception or violence and by so doing lose succeeding ones. We have been fortunate in that, through the Spaghetti House and Balcombe Street sieges, the police have been able to build up a tradition of non-violence and of carrying out promises, and this will have been noted by any future terrorists so that the negotiator, if there are any further incidents, will start with a great advantage.

The task of the psychiatrist in these incidents is secondary to that of the police. He should be unobtrusively there to give advice when needed. He has a very important part to play in assessing what sort of persons are involved and advising the negotiator accordingly. He must try to maintain both terrorists and hostages in as good a state of health as possible. He must resist attempts to starve them out and especially resist heroic measures with gases or drugged food or drink, which would not only be almost sure to add to the difficulties of the situation, but would also complicate the issue for any subsequent incident. A further important function is participating in training programmes to increase the effectiveness of team work in future.

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3 The Treatment of Psychopaths

John Gunn

Terminology

The term ‘psychopath’ is in common use, has a long history, and has a special legal meaning in the Mental Health Act (1959) of England and Wales. Nevertheless, as a forensic psychiatrist I find the term unhelpful and avoid it whenever possible. Craft (1966) has described the psychopath as being primarily an affectionless and impulsive person who frequently shows one or more of the characteristic secondary features of aggression, lack of remorse after a misdeed, lack of foresight, and social inadequacy. Like most observers Craft also added the exclusion clause that the patient under consideration must be free from psychosis. This last criterion always puzzles me a bit because in the days when I thought I knew what a psychopath was I was convinced that a significant number of them slipped in and out of psychosis, and are, for example, particularly prone to develop paranoid psychoses in prisons.

This point indicates the first problem with the clinical diagnosis ‘psychopath’, agreement between observers is low (for example Walton and Presly, 1973). This is not only because there are disagreements between psychiatrists about the criteria and definition of the term, but also because most of the commonly used criteria are difficult to measure. How does one measure affectionlessness? It is unfortunately a somewhat subjective criterion. Marks (1965) undertook a semantic differential study of ‘psychopaths’ and found that they have no less conscience and guilt than other patients. As he said, ‘Excellent documentation exists for criminals with no sense of wrongdoing or remorse, and psychopaths with both conscience and severe guilt at times. This discordance reflects the fact that antisocial behaviour can occur in individuals with varying degrees of conscience development and experience of guilt’. Quite so, and I suspect it also reflects the unreliability of the term psychopath.

Recently a colleague and I (Gunn and Robertson, 1976) had the opportunity to examine a group of prisoners, all deemed psychopathic, who had been sent to the special psychiatric prison at Grendon Underwood for treatment. We found two problems: firstly we could not get reliability when we tried to measure some of the psychopathic characteristics such as occupational instability; secondly, using the measures on which we could obtain reliability we failed to extract any general factor of psychopathy.

Diagnoses are useful in medicine because they transmit information quickly and succinctly. If doctor A tells doctor B that a patient has pernicious anaemia, then doctor B knows a great deal about the patient’s condition, his

appearance, the pathology, his prognosis, and the treatment required, before he sets eye on the sufferer. If doctor A tells doctor B that he has another patient who is a psychopath then doctor B will need to ask a lot of searching questions before he has a picture of the patient in his mind's eye. Would it not have been easier to give the diagnostic formulation in the first place and accept the limitations of our knowledge and skill at this stage?

A good historical review of the development of the term psychopath is given in the report of the Butler Committee on Mentally Abnormal Offenders (Home Office/D.H.S.S., 1975). They explain that the original concept of psychopathy has for the purposes of the English Law been broken down into 'subnormality' and 'psychopathic disorder'. In the English and Welsh Act psychopathic disorder has an almost circular definition and is called 'a persistent disorder or disability of the mind (whether or not including subnormality of intelligence) which results in abnormally aggressive and seriously irresponsible conduct on the part of the patient, and requires or is susceptible to medical treatment'. Lady Wootton (1959) has strongly criticised this definition . . . 'the psychopath makes nonsense of every attempt to distinguish the sick from the healthy delinquent by the presence or absence of a psychiatric syndrome, or by symptoms of mental disorder which are independent of his objectionable behaviour. . . . He is, in fact, the model of the circular process by which mental abnormality is inferred from anti-social behaviour while anti-social behaviour is explained by mental abnormality'. As Walker and McCabe (1972) have pointed out from their own survey of the use of the psychopathic disorder category of the Mental Health Act during 1963 and 1964, in practice psychiatrists rarely use the term unless neurotic symptoms are present. Certainly we found in our Grendon population that neurotic symptoms were not only present but prominent and responded to treatment (Gunn *et al.*, in press). Nevertheless, Walker and McCabe were not impressed with the use of the psychopathic disorder category in the Act, they considered that it is a pseudo-diagnosis and is simply a way of getting a particular offender into a hospital rather than a prison. Here they are tending to forget that labels in Acts of Parliament cannot be the same as a clinical diagnosis, but the point is well taken that the Scottish Act manages to achieve the same end without the use of the confusing term.

General Principles of Management

Everybody and every definition is agreed that the psychopath is not mentally ill in any strict sense of that term (although I would argue that he may be specially liable to mental illness). If the disorder can be delineated at all then it must be within that broad collection of problems we sometimes call personality disorders. Renaming the psychopath as personality disordered doesn't help us a great deal but it gets us away from the perjorative use of the term and from the circularity of the legal definition.*

* The Butler Committee also has recommended that the legal term be replaced by personality disorder. I think this would only lead to the same problems for the new term. The Committee omitted to mention one important function of the legal use of the term psychopath in the M.H.A.

At this point it may appear reasonable to suggest that as there is so much uncertainty about the terminology and as the only issue on which there is agreement is the absence of illness then psychiatrists should leave the problem alone. There is evidence that this is beginning to happen and the Butler Committee have recommended that new specialised training units for psychopaths be established within the prisons. However, we should perhaps remember that psychopathic disorder is closely associated with the concept of mental deficiency and that medicine is not exclusively concerned with illness. Furthermore there has been a curious notion abroad in psychiatry in recent years that chronic disorders are somehow the result of sub-optimal practice and that when they occur they are best dealt with by vague non-existent services like 'community care'.

Even if we disregard the unwilling personality-disordered patient because we believe that medicine must not be equated with social control it is surely unarguable that we must allow patients with demonstrable symptoms, deficiencies, handicaps and the like to obtain professional assistance from whatever sources are available. The problem is that resources are very limited and in any rationing procedure unpleasant people (however deserving in other respects) tend to get pushed to the back of the queue. This is particularly unfortunate if the unpleasantness is in some way related to the disorder which requires attention. More importantly it is not always easy to disregard unwilling, unmotivated psychopaths. Sometimes an overwhelming case for mental symptomatology can be established, and if they are to receive treatment it has to be compulsory or not at all. This is a familiar problem in psychiatry in respect of the psychotic but the psychopathic are by definition not mad, they may have diminished responsibility (to borrow a legal term) but they have a lot of resemblance to other troublesome people who are clearly not suffering from psychiatric symptoms. English law has made it clear that such people must not be treated compulsorily unless they have committed an offence for which they could be imprisoned. That may satisfy the legal conscience but it puts the doctor in a predicament when confronted with a neurotic but sane individual who has committed a nasty crime, who might benefit from treatment but who does not wish to have such treatment. (A compulsive fire setter may be such a person.)

My personal solution to this difficulty is to classify potential candidates for psychiatric treatment into 3 categories: (1) the normal; (2) the partially abnormal; and (3) the severely abnormal. The first, normal, category need concern us no further here. The severely abnormal category should not include patients about whom psychiatrists have reservations and disputes about their diagnoses and their degree of responsibility; it should be largely reserved for the clearly psychotic and the severely subnormal. The partially abnormal category will obviously contain all the people not otherwise classified. The severely abnormal need protection and I believe it is legitimate to deal with them paternalistically and, if necessary, compulsorily. The partially abnormal should, I believe, be given a choice. If psychiatric

1959. Such patients cannot be detained in hospital against their wishes unless a court has convicted them of a serious offence.

treatment is offered then I believe that they should be able to say that they would prefer to opt out and face the normal sanctions and control which confront us all. In other words they should be given full information about the penal control measures that can be invoked, and about the psychiatric treatment available together with its likelihood of success. Given such information an offender could realistically choose between two tough options. Clearly it would also be necessary for any change of mind about psychiatric treatment, after it had started, to be referred back to the court for reappraisal.

Treatment under Duress

Duress here is taken to include any form of compulsion such as imprisonment, hospital order or probation order. It follows from above that I am not much in favour of the idea of compulsory treatment for psychopaths, but it is only fair to point out that other experienced psychiatrists disagree. For example, between 1972 and 1974, 329 patients were admitted to our security or special hospitals suffering from psychopathic disorder. This was 32 per cent of the total admissions. Clearly psychiatrists are still prepared to use compulsory hospital treatment for non-psychotic offenders when some psychopathology can be demonstrated. To emphasise the opposite view to my own, I have heard a distinguished psychiatrist say that in his view psychopaths can be treated only by compulsion and if the patient has no complaints or symptoms then the environment must be adjusted (presumably by making it unpleasant) until he does have complaints which can then be worked upon.

If the psychopath is regarded as someone who is undisciplined and in need of external controls because his internal controls are weak then presumably a secure disciplined environment, such as may be found in a good training prison, is a useful means of management. It is not clear, however, whether a period in such an environment produces an increase in self discipline on a longer term basis, indeed there is a good theoretical argument that it could intensify the patient's problems by discouraging the development of self discipline. Furthermore it is not clear why a hospital should be particularly good at producing such a disciplined regime. No doubt all mental hospitals were structured and controlling when they were all security conscious, but the only hospitals of this kind now left are the Special Hospitals. It is difficult to argue that in hospitals of any kind a structured disciplined environment is a *medical strategy*; it is simply a prerequisite for making sure that patients stay where they are told to stay. It is interesting that Grendon prison, which has developed within the English prison system as a psychiatric prison for the treatment of psychopaths, has always operated on a voluntary basis. First the offender is given a prison sentence for his crime, no mention of treatment can be made at this stage, then if a prison doctor thinks he is suitable he is assessed for possible admission to Grendon. If accepted by Grendon doctors he then is transferred to the prison, *if he agrees to go*. The transfer to Grendon usually makes no difference to the length of his sentence and he can be sent back to an ordinary prison any time he wishes. In a recent study of Grendon prison (Gunn *et al.*, in press) we found that about one quarter of the men left

the psychiatric prison within one month of their arrival. Perhaps not surprisingly it is the less neurotic and the more professional man (in terms of crime) who leaves Grendon prematurely. The regime at Grendon is fascinating because it belies the authoritarian structured approach mentioned earlier. All prisons are authoritarian structured environments but Grendon is much less so than any other prison. As a result of this it is capable of managing in a satisfactory manner men who have given endless trouble and have been dangerously violent in other parts of the prison system. Further examples of this management principle are given by C Wing at Parkhurst prison and the special unit at Barlinnie gaol in Glasgow.

Our study at Grendon indicated that during the time they stayed at Grendon, prisoners improved in several important respects. They became less anxious and less neurotic, they gained self confidence and self-esteem, and they became more realistic in their views about authority figures. We were not convinced that they later committed any fewer offences than a comparable group of prisoners leaving other gaols, but then if one prison is in the business of crime prevention so are all prisons, so our comparison may not be meaningful. Furthermore it is difficult to see how a prison can influence the environment to which a man returns at the end of his sentence.

Personally I think the system of treatment under duress operated at Grendon is a good one for 'psychopaths'. The law prescribes the limits according to understandable legal criteria, the Home Office supplies the security arrangements, the prisoner has a choice, and the psychiatrist can set his sights on pure psychiatric goals. This arrangement of treatment under duress can also be provided by the probation order with a condition of medical treatment (under Section 3 of the Powers of Criminal Courts Act 1975). Here again the control is established by the court in the usual way for a particular offence. If the offender wishes, and again he has a choice, treatment can be added as a condition of the order. If after the order has been made the treatment fails or the patient declines to co-operate then the probation officer can exercise any of the usual sanctions of probation. For this system to work a great deal of preparatory work has to be done and discussions have to take place between all three parties involved, the offender, the doctor and the probation officer, so that everybody understands the plan and his role. The offender must give full-hearted consent and be aware of the sanctions that may befall if he withdraws that consent. Good communication between the doctor and the probation officer is essential during the operation of the order.

To summarise my views on treatment under duress: the best arrangement is where the ordinary penal arrangements operate the duress and the psychiatric treatment is offered, on a voluntary basis, within that framework. Special hospitals clearly have a place in this type of management for the psychopath but they are not entirely ideal because the same person has to act as custodian and physician in an area where there is doubt as to whether a medical disorder is present and where the criteria for custody may be quite different from the criteria for psychiatric treatment and response. Regional psychiatric hospitals which now have very few security arrangements obviously cannot be considered as suitable places for the treatment of the psychopath under duress.

Voluntary Treatment

Even although it is possible to argue about the concept of psychopathic disorder and the advisability of other terminology, there is no arguing that troublesome non-psychotic patients will present themselves at any psychiatric clinic and be referred between psychiatrists. My own clinic receives a significant number of cases labelled 'psychopathic disorder' referred from other psychiatrists. To slightly contradict something mentioned earlier, I do receive a small amount of information by the use of this terminology. I know that the patient is not psychotic at the time of the referral, but he may well have broken the law, is likely to present management difficulties and is probably disliked by the referring doctor. There's not a lot of medical information in all that but it's a start. The first task when the patient arrives is to take as detailed a history as possible. Such a history may take several hours and many interviews. It should certainly include, whenever possible, information from close friends and relations. Plainly such history taking is no different from history taking in any other branch of psychiatry and it should touch upon all the following areas at the very least.

- Parental and family history.
- The birth and its circumstances.
- The early years and family relationships.
- The sibship, its size and the patient's rank.
- Illnesses and disturbances in other members of the family.
- Significant medical events during development.
- School; achievements and problems.
- Juvenile history of antisocial behaviour, nervousness, truancy, bedwetting, etc.
- Sexual interests and the age of onset.
- A list of the significant sexual relationships.
- Habits, leisure interests and hobbies.
- Ambitions and frustrations.
- Work; the number and type of jobs, their duration and reason for change.
- Periods of unemployment with reasons.
- Marriages.
- Children and their development.
- Involvement with police; complete list of any offences, both known to authorities and others.
- Any institutional experience, for example children's home, approved school, borstal, or prison.
- Symptoms of anxiety, depression, or other affective disturbance.
- Surprising or abnormal beliefs, delusions.
- Hallucinations recorded in exact detail.
- Fits, blackouts, turns; again recorded in exact detail.

This list is by no means exhaustive but it is included to reinforce the point that a full history is a skilled and time consuming affair. It should be regarded as

stage 1 of any treatment. If only 30–45 minutes per week or even per fortnight can be spared this is no barrier as the picture can be built session by session. Whenever possible every apparently factual item is checked with a relative, or friend, or with previous data. For example all previous hospital files should be obtained and read if possible. The interview has several important functions. It does of course provide information. More than that it helps to build rapport between doctor and patient and very importantly it tests motivation. Any patient who is prepared to talk to a doctor in the detail outlined above is likely to be serious about seeking help. His idea of help may not be the doctor's but that comes later.

An important omission from that list and one I usually tackle early on is the explicit reason for the referral and the expectation from it. It is vital to know who referred the patient, why he was referred, and what he expects to happen as the result of the referral. This is the first step towards stage 2 in the treatment, a coherent understanding between the doctor and the patient.

A patient may come with many complaints about his work, his marriage, his fears, the neighbours, and so on, and he may expect all these difficulties to disappear after one or two treatment sessions. He may well think of treatment as a process in which the doctor does something to him, maybe like hypnosis, and he the patient is relieved of difficulties. The doctor on the other hand may see a patient who is in a mess because he has been stupid, irresponsible, and reckless, and the doctor may have a notion that if he gives some good advice the patient will be able to take it or reject it, and if he takes it then the problems will melt away. Put more simply there may be a wide gap between the patient's idea of what the treatment is about and the doctor's. It is an early essential to close this gap. I think the best approach is to make the views of the two participants as explicit as possible as soon as possible. The discussion which follows should be an attempt to reconcile the two sets of expectations. Such a discussion should be educational for the patient and should enable agreed aims to be established in agreed time scales. Furthermore the method of approaching each particular aim can sometimes be hammered out. It may, for example, be possible to agree that a particular phobia will be reduced to non-disabling proportions in twelve months, that an academic examination will be accomplished in 2 years, that a particular sort of job will be obtained in 6 months, and better accommodation will be found in 3 months. The phobia is to be tackled by behaviour therapy, the examination by evening classes, the job by referral to the D.R.O., and the accommodation by referral to a social worker.

As soon as the targets are established stage 3 is entered. This is the central phase during which the agreed programme is applied. Not all of the objectives will be achieved but there must be regular reviews to see how things are progressing. If the original objectives were mutually agreed as realistic then there should be a lot of discussion about missed objectives and the reasons for these failures. Regularly new targets should be established to take into account changing circumstances and the experience gained from previous failures. No form of psychological and psychiatric technique should be ruled out in stage 3. Special consideration should, however, be given to support, to directive psychotherapy, to group psychotherapy, and to crisis intervention.

Support is of course not something especially medical. Indeed it could be argued that doctors are not particularly good at it anyway. It sounds very unsophisticated, the kind of thing any goodhearted individual can provide. My view is that whilst it is by no means a medical skill it is basic to the kind of psychiatry we are considering here. Without it everything else becomes ineffective and it is by no means simple to supply to clients who are unlikely to improve much in the short run, and to clients who have a knack of making themselves objectionable. The main requirement on the part of the therapist is tolerance; tolerance of disruption in an orderly outpatient clinic, tolerance of repeated failure by the patient. In practical terms it means a flexible system so that patients can be seen reasonably quickly after they clamour for help. It means a long-term commitment, that is, a willingness to give further appointments when the patient has apparently stopped improving or been excruciatingly difficult. It means distinguishing between the non-acceptance of antisocial and objectionable behaviour and the acceptance of the patient who carries out such behaviour.

Directive psychotherapy is not often advocated in psychiatry. However, it probably has an important part to play in the management of the so-called psychopathic. Some of the people labelled in this way show characteristics which are sometimes referred to as 'immature'. Primitive or unrefined would be better descriptions, I think. The characteristics in question include impulsiveness, tantrums, attention seeking, demands for instant gratification of material needs. A surfeit of such characteristics would, no doubt, demote an individual to an 'immature' level on the I-level (Immaturity level) scale developed for the California Treatment Project for delinquents. In that study it has been suggested that people with such scores respond best to therapists who are slightly authoritarian. Certainly I find that they respond well to having limits established to their less desirable attributes and that they are frequently looking for direct advice which they will take with a certain amount of relief. It goes without saying that these things are done in the context of the supportive framework mentioned above.

Group psychotherapy has a traditional place in the management of the so-called psychopathic. The successful institutional programmes are built on it, whether with duress (for example Grendon) or on a voluntary basis as at Henderson Hospital. Once again modification from very traditional techniques may be necessary to suit the patients concerned, but free and open discussions between individuals each groping towards a new self understanding seems to be helpful in terms of the sense of self insight it brings and in terms of a lower level of undesirable and aggressive interactions.

Crisis intervention is a grand name for the special kind of supportive backup that a hospital can give and the patient will usually expect. It can only be done properly in the light of the detailed history already mentioned. A good history will give many clues about the kinds of stress that a particular patient cannot tolerate. Regular contact with a patient will help to give him advice as to which kinds of situation to avoid, and it will enable, at an early stage, an admission to be arranged, a directive to take leave from work, an interview with other members of the family, a call to the local Social Security office or whatever expedient seems necessary to circumvent a crisis. Acting quickly as a

crisis develops rather than waiting for the patient to present in the desperate predicament he has been in before may help a man to get comfortably through a year for the first time in his life. Such a new experience may provide powerful positive reinforcement.

Clearly some of these techniques are not specially medical, and they may be well done, for some patients (clients), outside the framework of the N.H.S. However, many patients will still present to the N.H.S. and quite reasonably so for the N.H.S. has a number of facilities not obtainable elsewhere, for example a medical opinion, hospital beds, psychiatric nurses. Medical care does not just imply physical, bodily manoeuvres. Furthermore team work is now the coming thing in psychiatry and if a good team including a social worker, a nurse and a psychologist works together with a particular patient then inappropriate use of any particular professional's time can be reduced to a minimum. Nevertheless patients will always prefer to relate to one individual rather than to a team and they will always make more use of one member of the team than the others. This should be acceptable provided they are aware that a team exists and are referred to the other members where necessary.

An important aspect of all this is of course the proper use of medical facilities. In the days when it was accepted that mental hospitals provided asylum, often on a long-term basis, then there was no problem. Nobody seems to have the responsibility to provide asylum nowadays and some would argue that it is not a medical service. In the longer term future this may be logical but in the shorter term it is not. The hospital has for hundreds of years been a place of refuge from mental and physical afflictions. If short-term admission to a hospital will prevent a death or long-term morbidity then the use of that hospital place must surely be justified. In 1974 I reported (Gunn, 1974) 2 cases from my clinic (both labelled psychopathic at some point in their careers) who could not be admitted to hospital although I felt they should and in fact constituted medical emergencies. The first man set fire to a nurses home when admission was refused, the second attacked an old woman in the street. In retrospect it was counterproductive to deny these men shelter and refuge from their internal agonies on grounds that their needs were social rather than medical, even if we measure productivity in crude public expenditure terms. We must husband our resources carefully but spurious certainty about the division between medical and social need will not necessarily help us to achieve the desired aim.

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4 Current Status of the Parental Causation Hypothesis in Schizophrenia

Steven R. Hirsch

The view that schizophrenia is somehow due to the way parents act with their children has had wide publicity in the media over the past 15 years. Concepts like 'the double-bind' have become part of our everyday language, and terms like 'schizophrenogenic mother' strike a familiar note in most of us.

R. D. Laing politicised the theory that parents are to blame and took it a stage further; he suggested that schizophrenia is due to a process of scapegoating by the family and is an inevitable consequence of a sick society—a point of view which has swept the United States with such fervour that he won himself that accolade of recognition rarely achieved by a medical scientist, a place on the cover of *Time* magazine!

But the theory that parents cause schizophrenia should not simply be taken at face value on its literary or philosophical merit as a not-so-comfortable reflection of societies' ills or disturbed family relationships. Given that about 1 per cent of the population suffers from schizophrenia at some time in their lives, over half a million parents in our population stand to suffer if they find themselves so accused. It is the nature of things that popular theorists rather than their more cautious self-critical scientific peers, are the main source of the ideas which are most avidly held by people working in fields allied to psychiatry, possibly because they need a theory to guide their work with clients and families. Thus, teachers, sociologists, social workers, psychologists and other health workers tend to be unaware of critical views of academic and research workers which might cast doubts on the current theory; caution never makes popular reading. Psychiatrists and social workers not infrequently find themselves in conflict over these issues, and parents of schizophrenics have found it necessary to form a society to cope with their problems, including the blame and censure they experience from the 'helping' professions.

There are many theories which attempt to explain how parents cause schizophrenia, very few workers have dealt with the more fundamental question—do parents cause schizophrenia? With so many theories, double-bind communication, marital interaction, schizophrenogenic mothers, etc., we may well ask what is the evidence supporting one theory over another? In

in this article we set out to answer this question by considering the evidence for the more widely known theories so we can determine which are supported by scientifically determined evidence. In over 200 serious systematic or scientific attempts to answer this question some hard facts have accumulated. We will therefore consider the way the more solid facts can be used to fit different explanatory or 'causal' models of schizophrenia. Finally we will offer our own understanding of how the numerous disparate theories can be reconciled with each other and with the evidence, such as it is.

Schizophrenia may show itself at almost any stage of life, and may occur in single or repeated episodes, or as a persistent and permanent condition. Our concern here is with those causal factors which act at a point in time well before the frank condition manifests itself, and therefore could more accurately be understood as being formative in their influence, causing individuals to be vulnerable or predisposed to developing schizophrenia in later life. Parental theories about the cause of schizophrenia largely confine themselves to the influence parents have had in the child's formative years. Possibly the most influential theory in the field, laying down a rationale which is basic to almost all subsequent theories, is the *double-bind hypothesis*. It was first formulated by Bateson, a British zoologist and his psychiatric colleagues working in California in a paper published in 1956. Because of its logical and immediately understandable nature, the double-bind theory has had considerable impact and appeal (Bateson *et al.*, 1956).

The Double-bind Hypothesis

Double-bind communications are said to occur in emotionally heightened situations when the child feels it is essential to understand what is being communicated and respond appropriately. The speaker, someone important to the child, conveys two or more messages which are mutually contradictory, incompatible, or conflicting. This creates an intolerable yet insoluble conflict if the family rules and social context prohibit the child from commenting on the situation or escaping. A further condition necessary to create the bind is that the child cannot try to resolve the conflict without receiving further condemnation, thereby finding himself in an even tighter bind. For example, in the presence of guests a mother welcomes her son with open arms when he comes in from the garden so that he feels called upon to embrace her; but as he reaches out mother's arms stiffen and her chin is drawn in rejectingly, while continuing to keep her arms in an open beckoning fashion. If the little boy comments on the inconsistency, she shrieks, "Don't you love your mother?" . . . he is left cringing with embarrassment. In the closed system of the family with its own inherent rules and prohibitions, schizophrenic behaviour, Bateson says, is the only strategy for escape. An important underlying assumption is made here; schizophrenia is understood to be a normalising reaction to cope with intolerable circumstances in the family environment. This assumption underlies the later theories of Theodore Lidz, R. D. Laing, and others, and probably arises from the more general psychoanalytic doctrine that our character and our neuroses are a natural

outcome of the ways we dealt with our primitive anxieties during development.

What evidence exists to support Bateson's hypothesis? No one has shown that double-bind communications occur more commonly in the family life of schizophrenics than other families. Though 20 years have gone by, there are only seven studies which set out to directly test some aspect of the double-bind hypothesis, and these are all limited to testing only part of the question, whether contradictions occur more frequently in the verbal and written communication of parents of schizophrenics than other parents, and whether such parents' communication is incomprehensible. Ringuette and Kennedy (1966) did a revealing piece of research. Judges were asked to examine and rate letters written by parents of 20 schizophrenics and 20 non-schizophrenics to their child in hospital, and 20 mock letters written by parents of normals. Rating each letter on a 1-7 scale according to the amount of double-bind present, the judges were unable to distinguish between parents of schizophrenics and non-schizophrenics. What is most interesting is that Bateson, Watzlawick and others closely involved in the original project were unable to agree whether double-bind contradictions were present or not (correlation only 0.19). If the experts who conceived the concept cannot agree what constitutes a double-bind, it raises serious questions about its reliability and value.

Haley's experiment (1968) is the best attempt to date to test the understandability of parental communication. He tested the ability of 12 schizophrenics, 12 neurotics and 20 normal persons to follow the instructions of their parents via a microphone as to how the child should arrange 24 Japanese playing cards in the way they were arranged before the parent in another room. The performance of the schizophrenic was much worse than the other groups, but it was not clear whether it was the parent's directions or the patient's inadequate comprehension which was at fault. In a further experiment, two groups of ten normal children listened to instructions from parents of normals and parents of schizophrenics (not their own parents). The children of both groups did equally well regardless of the parent group. Thus the parents of schizophrenics were able to communicate as effectively as the parents of normals, suggesting that the defect was in the schizophrenic offspring in the first experiment, rather than their parents. Unfortunately none of the research to date has tested this hypothesis when all the conditions for a double-bind were operating. Neither Ringuette and Kennedy, nor Haley, tested for conflicts between verbal and non-verbal communication when parents were speaking to their own child. The hypothesis has not been disproved, but it is alarming that after 20 years only such meagre evidence is available. Neither has anyone proved that there are no unicorns — one could be turned up any time. The obligation of the scientist is to provide supporting evidence for his theories, which cannot be attributed to other factors. We are left to conclude that there is no empirical evidence to support the double-bind hypothesis — it is just another as yet unproved theory.

R. D. Laing's work presents a similar problem, as do the theories of Cooper, Esterson and others, because we are unable to find any published work describing a systematic attempt to test their hypotheses. As the point of this

paper is to review the evidence, we are forced to abandon discussion of their work; interesting as the theories may be, evidence to support them does not exist.

Family Interaction Theory

Theodore Lidz and his colleagues (1965) at Yale performed a pioneering service by extending the methods of psychoanalytic observation at a personal and interactional level to their fullest extent in a psychoanalytic study of all the members of 17 families over a period of months and years. Their work had immense influence, particularly in the United States. Lidz argues that schizophrenia can be viewed as a deficiency state—the child having been deprived of essential experience including parental nurture, an adequate family structure, and clarity of communication between family members. Their research involved identifying and describing abnormalities within the family using psychoanalytic and interactional observations.

Unfortunately their sample of subjects was not representative—it comprised 14 wealthy social class 1 and 2 families able to afford very prolonged in-patient psychoanalytic treatment for the sick member, and therapy for all the rest. In some of their papers they also included three lower middle class families, none of whom was hospitalised. Lidz candidly admits they could not find a control group with the motivation and resources to undergo the sustained effort involved, thus suggesting the strong bias to include only very disturbed families, highly motivated for treatment.

To illustrate, we will consider one aspect of the Yale group's findings on Marital Schism and Marital Skew. They reported that marital 'schism' characterises the parental relationship of female schizophrenics—there is open bitter conflict between mother and father leading each to pursue his or her own needs to the exclusion of the other. Six of eight schismatic families had female patients. Mother's self-esteem was low because father denigrated her worth as a wife and mother (Fleck *et al.*, 1963). Mothers were anxious about raising their daughters and tended to be aloof, though not rejecting. Daughter sought father with affection and experienced conflict, feeling most important to father yet despising herself to the extent she felt identified with mother.

'Skewed' marriages were more common among the male patients. Here overt hostility did not occur, but one partner, usually father, kept the peace by yielding to the abnormalities and eccentricities of his spouse. Fathers were withdrawn and passive in relation to mother, therefore providing a poor masculine model for the son. In consequence, son and mother had a heightened emotional relationship and son found himself in a position analogous to the daughter in schismatic families. However, because of the small numbers in their study, their apparent finding of an association between the sex of the patient and the type of parental relationship, schismatic or skewed, could have occurred simply as a matter of chance, and there was no significant association between the child's sex and overinvolvement with the opposite sexed parent.

Abnormal Parents

A more systematic attempt to identify abnormality in the parents of schizophrenics and substantiate Lidz's theories was made by Alanen and his co-workers in Helsinki (Alanen, 1966). He interviewed mothers of 100 schizophrenics, 20 neurotics and 20 normals and assigned them to one of five diagnostic groups, ranked for severity. Disorder among mothers was commonest among mothers of 'process' (chronic) schizophrenics, who were found to be overprotective in a passive way in the case of male patients, and in a hostile way in the case of female patients. Thus more severe disorder among schizophrenics was associated with more severe personality disorder or frank psychosis in the mother. These findings were substantiated in Alanen's second study comparing the parents of 30 hospitalised schizophrenics with those of 30 hospitalised neurotics. Seventy-five per cent of parents of schizophrenics were thought to be psychotic or borderline, in contrast to 20 per cent of parents of neurotics. The prevalence of severe abnormality in the mothers of neurotics is much higher than that predicted by other studies and reflects Alanen's bias toward seeing parents of patients as psychiatrically ill. It emphasises the need for a control group and points to the difficulty of making unbiased observations when attempting to prove a hypothesis. Had Alanen not known which parent had a schizophrenic, neurotic or normal offspring, this bias would have been excluded. The most substantial finding in Alanen's study was that of greater marital disturbance among the parents of schizophrenics, two-thirds of whom were affected. This is consistent with the result of other studies described below.

A more convincing approach to our problem was taken by Waring and Ricks (1965) and Gardner (1967) who partly overcame the problem inherent in examining parents years after the time they may have had their effect on the child. From a cohort of 18 000 child guidance clinic patients, they identified from hospital records 50 patients who were subsequently hospitalised for schizophrenia. They were closely matched with a group of original clinic attenders who did not become schizophrenic, so both groups had approximately the same age, I.Q., sex, social class, ethnic background and presenting symptoms. Clients were divided by outcome into three groups: chronic schizophrenics still in hospital, recovered schizophrenics who had been discharged, and child guidance attenders not subsequently hospitalised for schizophrenia. Abstracts of the original case notes were compared. 55 per cent of mothers of chronic schizophrenics were rated as having been schizoid or borderline character disorders, a significantly greater proportion than mothers of released schizophrenics (16 per cent) and controls (22 per cent).

In an enlarged sample from the same material, mothers of female schizophrenics were noted to be shy, inadequate and withdrawn, worrying, incoherent and suspicious. This bears directly on another popular notion in the field, the 'schizophrenogenic mother' referred to in an aside in a paper by Freida Fromm-Reichman (1948). She said schizophrenic mothers were dominant, and threatening, almost the antithesis of Waring and Rick's findings. Fromm-Reichman's type of 'schizophrenic' mothers were, in fact,

more common among the parents of non-schizophrenic controls.

Two other results of this study are worth mentioning. They found a significant excess of over-dependence of the child on the mother, who was deemed over-protective, but this only held for chronic schizophrenics (65 per cent), not those who had been released (23 per cent). And like Alanen, they found a significantly higher rate of marital disharmony in parents of schizophrenics, most marked in the chronically hospitalised group.

Experimental Studies

An innovative experimental strategy for examining families of schizophrenics was developed by American social psychologists who directly measured family interaction under controlled conditions. Members of the family were brought together after independently answering a questionnaire, and were required to reach a joint decision for items on which, when answering independently, they had disagreed. Tape recordings of the session were transcribed and scored by raters ignorant of the patient's diagnosis. The transcripts were scored on such parameters as:

- (1) *Dominance* Whose original decisions most often became the group one.
- (2) *Support* The number of supportive statements made by one member to another.
- (3) *Disagreement* The number or proportion of questions on which family members fail to reach a consensus decision.
- (4) *Yielding* Who yields most to the other.
- (5) *Spontaneous agreement* The proportion of agreements when the questionnaire was originally answered independently.

We found 21 such investigations, carried out at 12 centres, all in the United States. Some of the most interesting results are as follows:

- (1) Lidz's hypothesis that there was a positive association between the sex of the schizophrenic and dominance by the opposite sexed parent was not confirmed in the better controlled studies with larger samples, for example, in Winter and Ferreira's study (1965) of 120 families.
- (2) There was less spontaneous agreement within families with a schizophrenic when the questionnaires were answered separately.
- (3) Seven studies showed significantly more marital disharmony, hostility, difficulty reaching agreement and open aggression between parents of schizophrenics than controls.

Most of these studies separated the schizophrenics into good and poor premorbid personality; other studies have shown that poor premorbid personality predicts chronicity. Since the non-schizophrenic control cases were not separated into good and poor premorbid personality, we cannot tell from these studies whether the excess of abnormality noted among parents of poor premorbid schizophrenics may not be due to a small number of

controls with a poor premorbid personality. Thus the abnormality in the parents may be related to poor premorbid personality in the offspring without having any aetiologic role in schizophrenia.

Speech Disorder in Parents

None of the work discussed so far has focused on a measurable trait which specifically characterises parents of schizophrenics. Wynne and Singer working at the National Institute of Mental Health in the United States have produced results of a different order. In a series of studies of parent's speech carried out over 10 years, they produced consistent results using increasingly specific and objective measures which enabled them to pick out transcripts of recordings of parents of schizophrenics from other parental groups.

The speech of parents of schizophrenics is identified by its disruptive vague, inconsistent character which, they reason, makes it difficult for the listener to focus attention on what is being communicated or appreciate its meaning—this, they believe, can have enduring consequences on the child's thought processes and way of relating to others, predisposing to a schizophrenic breakdown (Wynne, 1968).

Singer and Wynne developed a manual for scoring 41 different kinds of communication 'defects and deviances' and used this to score samples of speech elicited during a Rorscharch test (see Hirsch and Leff, 1975). These were scored blindly without knowledge of diagnosis of the offspring of the parent being tested. Testing 89 pairs of parents of normal, neurotic, and schizophrenic offspring, only one couple was unclassified. There was almost complete quantitative separation between the scores of parents of schizophrenics compared with parents of normals and controls. Their mean score for parents of schizophrenics was four times higher than the mean score of normals and neurotics and twice the score of parents of borderline schizophrenics. In order to replicate this important finding in England we tested the parents of 20 consecutive admissions to the Maudsley Hospital who had unequivocal signs of schizophrenia and 20 with neurosis or depression (Hirsch and Leff, 1975). There was no significant difference between the groups on social class, age, education or the I.Q. of the parents or the patients. Our results were much less impressive than the U.S. group. Only a marginal difference between the two groups was observed: 60 per cent of the parents of schizophrenics scored above the median compared with 40 per cent of neurotics scoring above the median. The overlap between the two groups was considerable and a further analysis revealed that the parents of schizophrenics spoke considerably more than the parents of neurotics, thereby having a greater opportunity to produce defective speech. Moreover, when the scores were calculated as the number of speech defects and deviances per number of words spoken, there was no difference between the parents of schizophrenics and neurotics. When Singer scored our transcripts, she got the same result.

One explanation for the difference between ours and the American study may be the differences in our source of patients. Their patients were referred from other hospitals over a number of years. A more detailed inspection of the

case records suggested their patients may have been referred to Wynne and Singer because of their interest in abnormal parents. The parents of our schizophrenics had much lower scores than theirs but our sample was less open to bias because it depended on a continuous sample of all patients who met the criteria for the study. Without a further attempt to replicate their study giving greater attention to diagnosis and degree of chronicity of the patients, the question whether parents of some schizophrenics have abnormal speech remains unanswered.

This review has been selective, choosing the most well known theories and examining the evidence that supports them, but it is representative of the state of the field today. We have omitted any discussion of the psychological testing of parents—in particular work on the object sorting test and word association test, which suggests that parents of schizophrenics have allusive thinking i.e. looser associations between words and concepts than other groups, but that the abnormal factor has been shown to be inherited and is not confined to parents of schizophrenics (McConaghy 1959, 1968).

We can now profitably summarise the theories and facts which have some supporting evidence and then consider what they tell us about the cause of schizophrenia. It is generally accepted, even by those most committed to the theory that schizophrenia is transmitted by the effect of parents on their children, that there is, as well, a biologically inherited factor in schizophrenia. Equally, geneticists accept that genes by themselves only partly account for the cause of schizophrenia. There is an additional body of evidence, equally well substantiated, that once someone has schizophrenia, he or she relapses if exposed to emotionally stressful events (Birley and Brown, 1968) or returns to live in a household where the quality of emotion is intense and critical (Brown, Birley and Wing, 1972; Leff and Vaughn, 1976). Both those factors lead to florid relapse and as such must be considered to be *precipitating* factors acting just prior to relapse, rather than formative, predisposing ones acting during development.

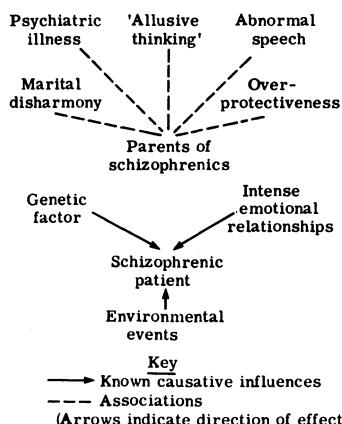


Figure 4.1 Established facts about schizophrenics and their parents

We can summarise the evidence that parents of schizophrenics are different from other parents as follows (see tables 4.1 and 4.2 and figure 4.1):

- (1) There is more psychiatric disturbance among the parents of schizophrenics, whether the patient is raised with the parent or apart. Mothers are withdrawn, aloof or 'schizoid'. This is particularly true for chronically ill patients (Alanen, 1966; Waring and Ricks, 1965).
- (2) There may be a connection between 'allusive thinking' in the parent and schizophrenia in the child (McConaghy, 1959; McConaghy and Clancy, 1968).
- (3) Parents of schizophrenics use language abnormally (Wynne, 1968; Hirsch and Leff, 1975).
- (4) Mothers of prospective schizophrenics tend to be more over-involved and protective than parents of non-schizophrenics who had been to the same child guidance clinics (Waring and Ricks, 1965; Gardner, 1967).
- (5) Parents of schizophrenics have more conflicting and disharmonious interaction than parents of other psychiatric patients. This is the most consistent finding to emerge from a number of studies.

If parents of schizophrenics are abnormal in these ways, how are these abnormalities linked to schizophrenia in the child? We can consider the number of ways the different facts listed above may be integrated into different causal models (figures 4.1–4.5).

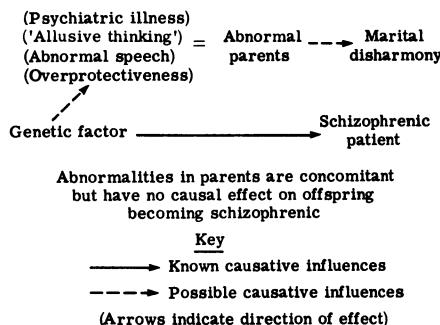


Figure 4.2 The strict genetic model

1. *The strict genetic model*

The fact that parents show abnormal traits may simply reflect a genetic inheritance they share with the child, evident to a different degree in the two generations. In this case the apparent importance of an abnormal parent in the rearing environment may be spurious. All the evidence existing to date suggesting that parents of schizophrenics are abnormal (and falsely concluding that they therefore adversely affected the child) can be explained by this genetic model.

2. *The child to parent model* (figure 4.3)

In addition to abnormality due to common inheritance of parents and child, the parents may be responding to their child's abnormal behaviour. Over-

protectiveness is one example. The increased incidence of divorce among parents of subnormals is another.

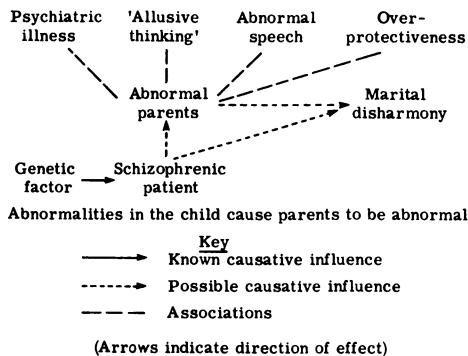


Figure 4.3 The child to parent model

3. *The early environment model* (figure 4.4)

This is the traditional psychiatric model as compared with the genetic model and it involves the additional assumption that one or more of the parents' abnormalities exert a specific schizophrenic effect during the patient's formative years, a time remote from the onset of symptoms. There has not been a single study to date which provides evidence to support this additional assumption.

4. *The recent environment model* (figure 4.5)

While there is no evidence that parents have formative effects on the child, there is a considerable body of hard evidence, not reviewed here, which has repeatedly demonstrated that *recent* life events precipitate schizophrenic illness in otherwise vulnerable individuals (Birley and Brown, 1968) and that patients exposed to close relatives who excessively express intense negative emotion are very likely to relapse. In the most recent series (Leff and Vaughn,

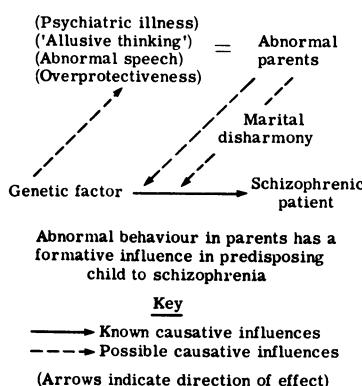


Figure 4.4 The early environment model

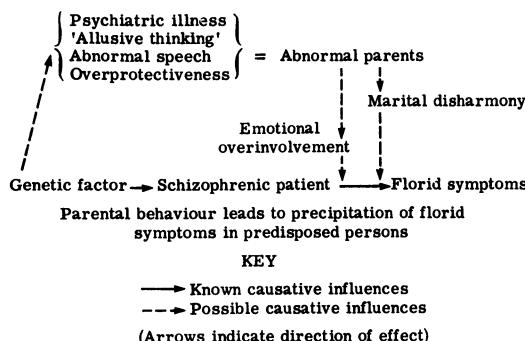


Figure 4.5 The recent environment model

1976) only about half the patients discharged to their home were likely to have overinvolved relatives. If they did they had over 90 per cent chance of relapse unless the hours of contact with the relative were reduced and they were on medication. Thus there is a demonstrated effect of environmental stress among certain types of relatives (not necessarily parents) in precipitating schizophrenic symptoms, hence the 'recent environmental model'. However, Leff and Vaughn have shown that this is equally true for depressive illness, so the effect is not specific for schizophrenia.

Can the Theories and the Evidence be Reconciled?

I think so. It is true that the early formulations of the importance of schizophrenogenic mothers, double-bind communication, skewed and schismatic marriages have not been supported by carefully controlled investigations and have not been shown to be generally applicable to most schizophrenics, yet the observations of the original observers, who were astute and experienced clinicians, has struck a note of acknowledgement in any of us who deal with schizophrenics and their parents. I would suggest that these early reports are valid if taken as the writer's description of how a small group of abnormal personalities presented themselves and the way the interaction of such individuals appeared to the observer. Bateson's double bind represents one way in which intense, overinvolved relationships, high in stress for the potential schizophrenic, may be manifest. Lidz's marital schism and skew certainly characterises another different but equally real form of parental hostility and discord. There are, however, a multitude of such observations possible according to how the interaction of a small sample of subjects catches the observer's eye. Such observations, I would suggest, are not specific for parents of schizophrenics, and probably have the common denominator that they characterise environments high in stress for the vulnerable patient. This, as I have mentioned, has been shown to precipitate symptoms but not to have a long term effect increasing vulnerability to the illness before it is manifest. There is as yet no evidence to support the view that parents bring about, in the formative years, the tendency for their children to become schizophrenic in later life.

Table 4.1
Theories—evidence—shortcomings. Do parents cause schizophrenia?

The concept	Protagonist	Comments
<i>Double-bind hypothesis</i> Parent gives conflicting message which child cannot avoid or resolve	Bateson, Jackson, Haley and Weakland (1956)	Ringuette and Kennedy (1966) Double-bind is unreliable—but study limited to written communication Haley (1968)—Schizophrenics respond abnormally to their parents, who can be understood by normal children (but double-bind may be specific to the parent–child understanding).
<i>Scapegoating</i> Schizophrenia is a normal reaction to otherwise intolerable family interaction	R. D. Laing (1960)	Evidence anecdotal. Never systematically researched
<i>Marital schism and skew</i> Analytic study of common denominators among 17 families with schizophrenic member	Lidz, Fleck, Cornelison, Terry, (1957, 1958, 1965)	Biased sample, non-blind evaluation, not controlled
<i>Schizophrenogenic mother</i> Cold, domineering, rejecting	Fromm-Reichmann (1948)	Anecdotal observation disconfirmed by systematic studies
<i>Mothers of schizophrenics are sick</i> Schizoid, borderline psychotic 2 large samples	Alanen <i>et al.</i> (1956, 1958, 1966)	High rates of abnormality among controls suggest bias
<i>Mothers are schizoid</i> Shy, withdrawn, nervous, overprotective	Waring and Ricks (1965), Gardner (1967)	Based on prospective observation with well matched controls, but not evaluated blindly. Source of sample biased to include abnormal families
<i>Marital disharmony</i> More marital disharmony, lack of agreement, hostility, etc.	Seven experimental studies by social psychologists support this Farina, 1963, 1966, 1967; Ferreira and Winter, 1965, 1966; also Alanen, McGhie, 1961 and others.	Reflects parents current functioning, not when patient was weaned May be related to patient's personality
<i>Communication defects and deviances</i>	Wynne and Singer, 1963–1971	Not confirmed by U.K. replication (Hirsch and Leff, 1971). May apply to poor outcome 'process' schizophrenics

Table 4.2
Parents of Schizophrenics, the evidence suggests:

(1)	More psychiatric disturbance in parents (and relatives)	Wender <i>et al.</i> , 1968
(2)	Mothers tend to be abnormal, schizoid, shy, withdrawn, especially among poor outcome patients	Alanen, 1958, 1966; Waring and Ricks, 1965; Gardner, 1967.
(3)	Mothers of schizophrenics are over protective, even before the illness	Kasanin 1934 Waring and Ricks, 1965; and others
(4)	'Allusive thinking' is more common among parents of schizophrenics and their offspring but also occurs among normals	McConaghy, 1958, 1960, 1971
(5)	Parents of schizophrenics show more marital discord/disharmony than normals, especially for patients with poor premorbid personality. Possibly no more than some other groups of psychiatric patients.	Alanen, 1958, 1966; McGhie, 1961; Ferreira <i>et al.</i> , 1960, 1963, 1967, 1968
(6)	Parents of schizophrenics have abnormal speech.	Wynne and Singer, 1966, 1967, 1968
(7)	Schizophrenics returning to overinvolved or hostile parents tend to relapse	Brown <i>et al.</i> , 1972; Vaughn and Leff, 1976

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5 Mental Health Policy: Pros and Cons

Alan R. Norton

The emphasis on custody and segregation of the mentally ill which was the result, if not the intention, of legislation in the nineteenth century has been amply documented in the works of Professor Kathleen Jones (1955, 1960, 1972). Our present policy, now that because of advances in treatment other possibilities have opened up, must be viewed as in part a reaction against this segregation (Hoenig and Hamilton, 1969).

For over a hundred years, apart from two brief spells when major war raged, the number of patients in mental illness hospitals in Britain increased. The policy that was inaugurated by the County Asylums Act of 1808, which enabled the English counties for the first time to build asylums, was benign. The aim was to build small hospitals, to run them humanely in the best tradition of 'the moral treatment of the insane' and to protect the patients from robbery, cruelty and neglect. These aims continued to inspire reformers, notably Anthony Ashley Cooper, the 7th Earl of Shaftesbury, whose Lunatics Bill of 1845 was a landmark.

Where did the patients come from to fill these newly built hospitals? The list, as complete as possible, follows:

- (1) Their own homes where they had willingly or unwillingly been looked after by their relatives or paid attendants.
- (2) From private madhouses of varying repute which many could ill afford.
- (3) From lodgings.
- (4) From general hospitals.
- (5) From workhouses and their infirmaries run as cheaply as possible under the Poor Law.
- (6) From prisons.

In the second half of the century the zealous reformers were succeeded by lesser men and custodialism became the fashion. Huge hospitals, some with 3000 beds, were built. These were cheaper and allegedly safer for patients and the public, but individuality could hardly survive. Out of sight out of mind was the maxim, as indeed it was later with the Street Offences Act, 1959.

Segregation of the mentally ill from the rest of the community remained a main plank of policy till well into the 1950s. The main effect of both the Mental Treatment Act of 1930, which legalised voluntary treatment, and the beginning of physical treatment in the 1930s was to increase overcrowding in mental hospitals. Out-patient treatment mitigated this trend only a little because it mainly catered for a different kind of patient and disorder.

Until 1955, therefore, everyone expected the number in hospital to go on increasing by 2500 a year, overcrowding to get steadily worse and the consequent need to build new hospitals. We well know that none of this happened and that within a few years mental health policy underwent a revolution and was turned upside down. From lock 'em up' it changed to 'everybody out' or at least to getting as many patients as possible out, back into the community. There can still be disagreement about the reasons for this change or more reasonably about their relative importance. But there is something perverse in denying the overwhelmingly important role of phenothiazine drugs; they controlled schizophrenic symptoms, greatly reduced disturbed behaviour, enabled a certain number of patients to be discharged free of symptoms and transformed the atmosphere inside wards and psychiatric hospitals. They also enabled policy to return with success to methods of non-restraint. Some say, with some justice, that non-restraint preceded the use of phenothiazines. Even so, this statement is true of only a few places. In that heyday there was a ferment of new ideas—Maxwell Jones and the therapeutic community (Jones, M., 1952), Talcott Parsons and his studies of institutions (Parsons, 1957), Russell Barton and his concept of institutional neurosis (Barton, 1959), Erving Goffman (1961) and his anatomy of asylums and the iconoclastic views of Laing and Szasz. Would any of these, one wonders, have had much influence had not the phenothiazines, by offering the possibility of control of psychotic behaviour and violence, made other diverse policies possible?

The maximum number of in-patients was reached in England and Wales in 1954–5 though the highest rate was reached as far back as 1913 (see figure 5.1).

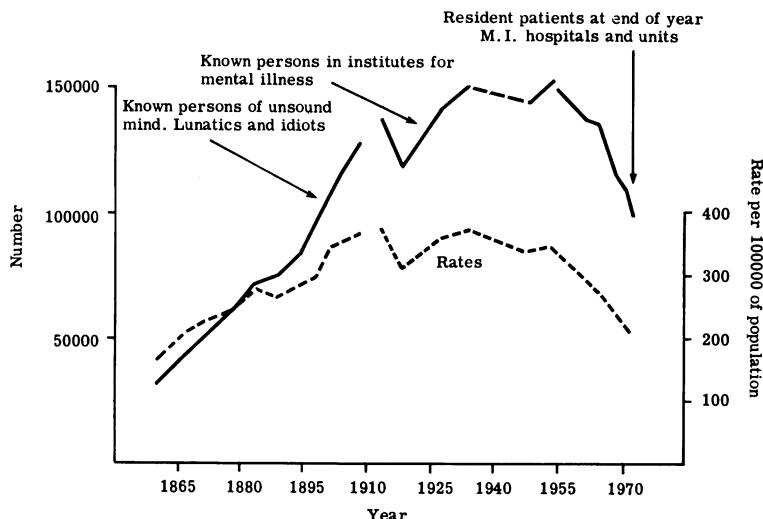


Figure 5.1 (The author is indebted to Dr Kathleen Jones for the tables in Jones, K. (1972) on which the early part of this figure is based; and to the D.H.S.S. and *Psychiatric Hospitals and Units in England and Wales* (Statistical and Research Report Series No. 6, 1971) H.M.S.O., London, 1973 for the latter part of this figure)

Although both here and in the United States the corner was turned in 1954, in neither country was this noticed for some time and publications recording the change were slow to appear (Brill and Patton, 1957; Norton, 1961; Tooth and Brooke, 1961; Cross and Yates, 1961).

The fall in numbers of resident patients had several obvious advantages: a reduction in overcrowding; smaller wards; space for the treatment of other groups of patients previously ignored (those with neurosis and alcoholism, for example); and elbow room for the development of the firm system. But looking back, one cannot fail to be surprised by the speed of the change in policy as soon as it was recognised that the number of patients in hospitals was likely to continue to fall.

The new policy dates from 1961 and was expressed in terms of buildings in the Hospital Plan of 1962. It has been elaborated in a number of official publications since then (Ministry of Health, 1966; D.H.S.S. 1971, 1972, 1975, 1976a).

The gist of the changed policy brought up to date can be summarised as follows:

- (1) The run down of beds in psychiatric hospitals will continue.
- (2) Most acute and medium-term work, and some long-term work, will be done in psychiatric units in general hospitals, in day hospitals and in out-patient clinics.
- (3) Some acute work will remain with psychiatric hospitals, but particularly in special units: neurosis units; units for alcohol and drug dependence; adolescent units; and, though in some places only as a temporary measure, security units.
- (4) The norm for beds for the mentally ill is 50 per 100 000 total population and, in addition, a norm for the elderly (apart from short-term patients) of 35 beds per 100 000 total population.
- (5) The residual long-term patients in psychiatric hospitals should be looked after by the same multi-disciplinary team as looks after acute patients from a particular area.
- (6) As few as possible new chronic patients should be admitted.
- (7) Great efforts should be made to rehabilitate residual long-term patients, aiming at reintegration into the community via psychiatric hostels, group homes, supervised lodgings, and the use of local authority day centres and sheltered workshops.
- (8) The elderly should be kept out of hospital for as long as possible and should remain the responsibility of the local authorities and voluntary organisations. Facilities for helping the elderly to stay out of hospital include: home helps, meals on wheels, lunch clubs, home visiting, laundry services, geriatric and psychogeriatric day centres and residential homes.

The good merges with the sound and the wholesome and to write about good points in policy sails perilously close to the goody-goody. But to ignore or to neglect the very real benefits the new policy hands out would be much less than fair not only to those who thought it out but also to those whose discoveries made such progress possible. In brief, policy now looks forward to the treatment of the majority of patients near their own homes in psychiatric

units, day hospitals or out-patient clinics. Visiting will be easier for relatives and the lack of segregation from the community should lead to at least partial removal of the stigma still attached to mental illness. The risk of institutionalism for patients should be largely avoided and the risk for staff should be prevented by the siting of psychiatric units within a general hospital.

Nevertheless such fundamental changes happen only slowly. In the ten years 1964–73 the percentage of all hospital admissions to psychiatric beds going into psychiatric units in England has only increased from 15 to 23 per cent. It has taken seven years for the number of patients resident in English hospitals for two years or more to fall from 79 000 to 54 000 (D.H.S.S., 1976b). There is still therefore a long way to go.

The virtues of this fresh policy are obvious and therefore can be stated quite briefly. The criticisms on the other hand are more numerous and need to be set out at greater length.

- (1) Anybody who finds working in a multidisciplinary team difficult and distasteful is swimming against the tide. To the regret of many, the main stream of psychiatry has passed him by. There may be some backwater, perhaps in an out-patient department, where it is still possible to interview a patient without several other people in the room, but privacy and what we must now learn to call dyadic interaction are hard to come by nowadays.
- (2) Many criticisms have been made of sectorisation. This means the division of a hospital's catchment area into sections each the responsibility of one or perhaps two consultant teams. Each sector would have a multi-disciplinary team (or perhaps two) and the use of a specific group of wards—admission, medium-stay, long-stay, infirmary, geriatric—as well as out-patient facilities and perhaps an in-patient psychiatric unit. This policy favours a coherent ward policy and implies, for example, that one or at the most two teams will work in any one ward, a great advance for psychiatric nursing.
The policy does, however, mean that all and sundry are treated in one admission ward, a mild elderly depressive in the same ward as a rather disturbed chronic schizophrenic in his tenth relapse. If rigidly applied, as it often is, the policy of sectorisation limits the freedom of choice of both patients and general practitioners. Such a consequence has been criticised in an official report (D.H.S.S., 1973)—‘doctors and patients in the service area concerned should have more consumer choice’.
- (3) The emphasis on the rehabilitation and discharge of chronic schizophrenic patients to avoid institutionalism may have ill-effects on relatives, who are made unwillingly to act as nurses. These difficulties are made worse if readmission is made difficult (Brown *et al.*, 1962; Creer and Wing, 1974).
- (4) Centrally supported policy, which has encouraged the discharge of many long-term schizophrenic patients, has failed to see to it that alternatives are available. Too little money has been provided for local authorities to be able to develop adequate back up services. In 1975 it is said that there were

4500 residential places for those under 65 who are mentally ill against a need for 12 000.

- (5) The effect of the policy of discharging so-called rehabilitated patients, often homeless, into the community with quite inadequate social back up services has been scandalous. Large numbers have ended up in prison for minor crime; increasing numbers have been remanded to prison for medical reports; and more people have become homeless wanderers either sleeping rough or housed in the dwindling number of common lodging houses (Rollin, 1965, 1966; Bowden, 1975).
- (6) The building required to implement the official policy for the elderly severely demented but without physical disease—small hospitals near their homes—has barely begun. In the absence of such buildings the patients inevitably go to where the beds are, to psychiatric hospitals.
- (7) The allowance of 50 beds per 100 000 population with an additional 35 beds per 100 000 to serve the elderly demented is regarded by many authors as too low. The new chronic mentally sick (variously defined) will, it is often said, require on their own 50 beds per 100 000 (Wing, 1974; Letemendia and Harris, 1973). But the official estimate has been stoutly defended (D.H.S.S., 1976c).
- (8) There is a danger of two standards of care emerging: the one in short-term units for the young and middle aged, the easy to treat, the not too disturbed or too uncouth; the other standard obtains for the remainder. Mental hospitals would therefore contain a strange assortment of people: perhaps acute patients from an area near the hospital; the long-stay whose numbers would be running down; the elderly demented; those patients in a variety of special units; those not manageable or not wanted in psychiatric units. Nurses could be difficult to find for this mixture of functions; particularly now that the attractions of nurse therapy and extramural nursing are opening up.

I want neither the number of criticisms, nor their length, to lead to the impression that I am a revanchist running dog or a capitalist roader. The new policy has obvious merits—at least for the great majority of psychiatric casualties. But for the rest, a substantial minority, the criticisms have much force. Is this minority who fail to fit into the tidy arrangements in danger of being looked after, not in hospital, but in their homes where they are not wanted, in seedy lodgings or Homes, in prisons or in the remaining common lodging houses? Or, are they sleeping rough and not being cared for at all? Which is where we all came in 150 years ago.

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SECTION 2

SPECIFIC ISSUES

6 Laterality in Relation to Psychiatry: An Introduction

John J. Fleminger

Bilateral asymmetry is relevant to both the theory and practice of psychiatry. Awareness of this has been growing rapidly in recent years, and a large volume of published work has accumulated. Much of this has derived from psychological and neuropsychological studies of normal subjects and neurological patients. The interest of investigators, however, has turned increasingly to psychiatric disorders and the advent and implications of unilateral ECT have brought the subject squarely within the province of the clinician.

A wide diversity of data concerning laterality impinges on the study of both normal and abnormal states of mind. This review is concerned with the latter. It is not critical; its aim is to offer a brief, synoptic introduction to an aspect of psychiatry that has grown sufficiently in importance to deserve more general attention.

The beliefs of ancient folklore, which are enshrined in such words as *sinister*, and *righteous*, may be reflected in the bizarre ideas about the attributes of the right and left side of the body which are often expressed by psychotic patients. There seems to have been little study of these attitudes towards the two sides of the body among patients with mental illness but among normal subjects the topic has not been neglected. One of the leading investigators in this field has been Seymore Fisher (1966), who included the right – left dimension in his studies of *body image* and of how the direction of awareness to different body parts may be related to psychosexual and other personality attributes. Thus, using his Body Focus Questionnaire, he felt able to conclude that ‘the greater a man’s focus of attention upon the right side of the body, the less active he is heterosexually as defined by his own self-reports . . .’.

Early students of the psychogenic component in *physical complaints* were much interested in the mechanisms that underlay the selection of body site for symptoms. ‘Organ language’ and the significance of such terms as ‘stiff-necked’ and ‘broken-hearted’, was much invoked. It was Halliday (1937a; 1937b) who drew attention to lateral differences in the prevalence of rheumatic symptoms. He noted a preponderance of left-sided pain in the arm and shoulder. He related these to symbolic associations of the left side with misfortune. He also cited Purves-Stewart (1924), who had recorded that tender spots in ‘hysteria’, if lateralised, were generally left-sided ‘except in left-handed patients when they are right-sided’.

More recent studies have given support to these earlier hints. Thus, in their

book on *pain*, Merskey and Spear (1967) refer to Spear's finding that when psychogenic pains were lateralised the majority were left-sided. They also note that there is experimental evidence to show that, in contrast, the right hand is usually more sensitive to painful stimuli than the left hand. They remark that 'psychogenic pain, internally derived, appears more often on the side of the body which has been found to be less sensitive to external stimuli'.

A closely related finding was that of Kenyon in his study of *hypochondriasis* (1964). Of patients with lateralised symptoms 80 per cent with secondary and 65 per cent with primary hypochondriasis had these on the left side. He raised the possibility that this could be related to functional differences between the cerebral hemispheres.

Conversion Hysteria was reported (Fallik and Sigal, 1971) to occur mainly on the right in right-handed and on the left in left-handed patients. Subsequent workers have not confirmed this: conversion symptoms have been found both by Galin, Diamond and Braff (1977) and by Stern (1977) to be more frequent on the left side both in left-handed and in right-handed patients. When we come to consider the question of cerebral dominance in relation to psychiatric disorder, these findings of a left-sided preponderance of psychogenic pain, hypochondriasis and conversion symptoms may be seen as support for the suggestion that the right-hemisphere has particular involvement in the mediation of bodily states of psychological origin.

Handedness, of course, is the best known aspect of our lateral asymmetry. The use of different criteria for its classification has presented a problem throughout its study. The relative advantages and disadvantages of two of the best handedness preference questionnaires (Annett, 1970; Oldfield, 1971) have been studied and defined by McMeekan and Lishman (1975). Investigators within the psychiatric field have been mainly interested in the proportion of left-handedness in various clinical groups. Early reports of an excess of sinistrality in epilepsy and subnormality have received critical review by Hecaen and de Ajuriaguerra (1964). In a report of a study of school children, which includes extensive review of the literature, Hardyck, Petrinovich and Goldman (1976) conclude that the weight of the evidence strongly suggests that there is no difference in intellectual and cognitive performance between right-handers and left-handers. A high proportion of left-handedness has been reported in psychopathy (Quinan, 1930), delinquency (Fitzhugh, 1973), alcoholism (Bakan, 1973), in relation to emotional instability (Orme, 1970) and to psychiatric patients in general and to psychotics in particular (Lishman and McMeekan, 1976).

Lack of concordance between handedness and other lateral functions such as footedness and eyedness has also been studied in patients. Oddy and Lobstein (1972) reported a significant difference in the interaction between the major hand and eye in schizophrenia compared with normal subjects. The validity of this, however, has been questioned by Clyma (1972) and, so far, crossed-laterality studies have not been a fruitful source of useful data bearing on psychiatric disorder.

A recent study (Fleminger *et al.*, 1977a) of 800 psychiatric patients found no significant difference in patterns of handedness between patients as a whole and controls, or between neurotics and controls. A high proportion of left-

handers among psychotics in general was not found but among schizophrenics there was a significantly higher proportion of male than female left-handed writers. Thus, the reports of Oddy and Lobstein (1972) and of Wahl (1976) that the handedness of schizophrenics is no different from other psychiatric patients or normal subjects was not confirmed. Left-handed writers, however, were relatively few among affective psychotics of both sexes. This was by contrast with fully right-handed subjects who, compared with controls, were over-represented in all functional psychoses. The tentative conclusion drawn from these results was that the tendency for handedness to be strongly right or left sided in functional psychoses may reflect some degree of dysfunction in one or other cerebral hemisphere or some functional imbalance between them. Likewise, the finding of a significantly high proportion of mixed handedness in patients with personality disorder may be a case of poorly differentiated handedness representing poor lateralisation of cerebral dominance of some kind in subjects with maturational insufficiency. The fact that this finding was confined to females has not been explained. Relevant to this was Palmer's report (1963) that poor lateralisation of handedness may be associated with 'poor ego-strength', also, Zangwill's suggestion (1960) that inadequately established cerebral dominance for language might render an individual more psychologically vulnerable.

Until recently, for the clinical psychiatrist, as indeed for most physicians and surgeons, the main source and need for awareness of *cerebral dominance* was the association between dysphasia and right hemiplegia when left hemisphere pathology occurs in right-handed people. The discovery, over 100 years ago that what is known as Broca's area, in the third left frontal gyrus, had a specific relation to speech, led to the ideas about asymmetry of brain function that have since been referred to as 'dominance'. Thus, while the left or 'major' hemisphere came to be thought of as dominant for language function the right or 'minor' hemisphere was virtually neglected, except that it was recognised that it 'controlled' motor and sensory functions of the left side of the body and that some left-handed people acquire dysphasia when that half of the brain is damaged. A simple association of brain asymmetry reflected by an opposite asymmetry of bodily functions, coupled with the special relationship of the left hemisphere with language, has remained ingrained in the medical mind to the present day. For many years, however, this model has been crumbling under the impact of a steadily growing body of knowledge. Much of this has derived from clinico-pathological, neurophysiological, psychological and EEG sources.

Perhaps the most dramatic findings have proceeded from the psychological investigation of '*split-brain*' patients following commisurotomy for the treatment of epilepsy (Gazzaniga, Bogen and Sperry, 1962). It has become possible to discover how each hemisphere separately deals with similar or different visual or verbal stimuli; also, some glimpse has been gained of how they may interact. In particular, a vivid new light has been shed on the role of the right hemisphere, 'the other side of the brain' (Bogen, 1969). The results of tachistoscopic experiments with schizophrenic patients led Beaumont and Dimond (1973) to postulate some degree of aetiological kinship between schizophrenia and the 'disconnection syndrome' which follows commissure

section. Moreover, further support for the idea that interhemispheric relations may be anomalous in schizophrenia comes from the finding of Rosenthal and Bigelow (1972) that, in chronic patients with this illness, the thickness of the corpus callosum is significantly increased.

The results of 'split-brain' studies have created a fertile field for speculation. They have given rise to such hypotheses as that which invests the left hemisphere with logico-analytic properties and the right hemisphere as the repository of global, image-laden and more primitive mental content and equipment. The implications of such ideas for both phenomenological and psychodynamic aspects of psychiatry has been most ably discussed by Galin (1974), and the whole range of work in this area has received excellent review by Hecaen and de Ajuriaguerra (1964), Giannitrapani (1967) and Dimond and Beaumont (1974). All that needs to be said here is that while the concept of 'dominance' remains, it is now recognised that the role of the cerebral hemispheres and their parts in relation to somatic, emotional and behavioural functions is infinitely complex. Thus, it is no longer universally assumed that dominance for certain functions remains a static entity. Brown and Jaffe (1975), for example, have suggested that there may be a continuous process of *shift of dominance* across the hemispheres throughout life. If this were correct it might contribute somewhat to the shift towards dexterity that has been found to increase with age in adults (Fleminger *et al.*, 1977b).

Intracarotid sodium amytal has been the most radical approach to the problem of assessing dominance. The technique was devised by Wada (Wada and Rasmussen, 1960), whereby amylobarbitone is injected into the internal carotid artery causing contralateral hemiparesis and dysphasia, too, if the injection has been on the dominant side for speech.

Using this technique, an observation of fundamental importance was that of Serafitinides, Hoare and Driver (1965) who noted that loss of consciousness occurred almost invariably when the speech-dominant hemisphere was injected, but not when the opposite hemisphere received the drug. This suggested a 'dominance for consciousness'. Although this finding was not confirmed by Rosadini and Rossi (1967) a later clinico-pathological report by Schwarz (1967) and a clinical study by Albert *et al.* (1976) have tended to confirm the view that control of the level of consciousness may be unequally shared by the hemispheres; the 'major' one, in this respect, being that which is the more involved in the control of speech.

In the course of investigating patients by this means, certain other investigators have found that, depending upon which hemisphere received the drug, consistent *affective changes* occurred. Thus, Terzian and Cecotto (1959) described euphoria when the non-dominant hemisphere for speech was injected and a 'depressive catastrophic' reaction when the drug was given to the dominant hemisphere. Alema and Donini (1960) found similar experiences in their patients but interpreted them with caution. Another report (Perria *et al.*, 1961) of the same specific relation between the emotional change and the hemisphere involved noted that a change was not invariable. Later Milner (1967) reported that she had not observed these findings but Rossi and Rosadini (1967) confirmed them.

It has been suggested (Geschwind, 1967) that these results are akin to the

emotional changes often found in patients with unilateral cerebral lesions. Thus, a patient with acute left hemiplegia may be 'euphoric' or unconcerned about it, this, perhaps, being related to lateral inattention. Right hemiplegics with aphasia are more commonly depressed. A relevant report came from Gainotti (1972) who did neuropsychological tests on right and left brain damaged patients and examined their emotional reactions. There was significantly more anxious-depressive mood change in left-damaged patients. He interpreted these findings as a catastrophic reaction to failure of verbal communication in dysphasic patients.

These lateral differences in mood in the course of Wada's test for assessing dominance had all occurred in neurological patients. The first to apply this technique to psychiatric patients were Hommes and Panhuysen (1971), who investigated the effects of right and left sided intracarotid injections of amylobarbitone in eleven patients suffering from depression. They felt able to conclude from their results that depression may have been associated in their patients with a change in degree of dominance which affected both hemispheres and, especially, that the greater the depth of depression the less strongly dominant for speech was the left hemisphere. This contributes to a concept of dominance as a fluid entity which, as reflected by handedness, changes during infancy (Seth, 1973) and later in childhood, and may continue to do so in some individuals during certain types of illness as well as in the process of ageing.

Some of the most impressive data relating affective and other mental disorders to one or other hemisphere have come from *clinico-pathological studies*. Bingley (1958), from his own study of temporal lobe gliomas, and from the literature, concluded that lesions of the dominant temporal lobe were more likely to produce mental symptoms. Hillbom (1960), reporting on the after-effects of brain injuries, found that, of all types of mental disorder 52 per cent followed left- and 30 per cent followed right-sided injuries; moreover, among psychoses, 63 per cent had left- and 26 per cent had right-sided lesions.

Patients with *temporal lobe epilepsy* have been another valuable source of information about possible associations between psychosis and cerebral laterality. Flor-Henry (1969a and b) in a study of temporal lobe epileptics, 50 patients with psychosis and 50 without psychosis, showed that epilepsy originating in the dominant hemisphere predisposed to psychosis. Furthermore, there was an association of affective disorder with non-dominant and of schizopreniform psychosis with dominant hemisphere seizures. The increased risk of schizophrenia-like psychosis occurring if the lesion underlying temporal lobe epilepsy is on the left side was reinforced by Taylor (1975) in a study of patients who had received temporal lobectomies. He also drew attention to the interesting fact that this risk is particularly high when 'alien-tissue' lesions are present in left-handed females.

This draws our attention to *sex differences* in various aspects of laterality. Taylor (1969), for example, had been able to argue, from the study of juvenile epilepsy, that there is a differential rate of brain development between the sexes and cerebral hemispheres, with a tendency for females to develop left dominance for speech at an earlier age. Buffery and Gray (1972) provided a comprehensive review of the data that is available on both structural and

functional differences between the sexes in respect of the two cerebral hemispheres. It seems possible that interhemispheric differences between the sexes may be one parameter, together with genetic and other factors, that is involved in the different prevalence in males and females in certain clinical conditions; such as the preponderance of males in infantile autism and early-onset schizophrenia, and of affective psychosis in females as age advances (Flor-Henry, 1974).

Cerebral laterality has also received attention in its relation to *specific psychological symptoms*. Serafinitides (1965) reported overt physical aggressiveness in patients with temporal lobe epilepsy. The majority of these were young males with left-sided foci. In an extensive review of the literature on schizophrenia-like psychoses associated with organic conditions Davison and Bagley (1969) could find no significant correlation between the psychotic symptoms and the right hemisphere. There was, however, a highly significant correlation between primary delusions and the left hemisphere, which also had a significant association with catatonic features and flat incongruous affect. Auditory hallucinations have also been related to dysfunction of the temporal lobe on the dominant side in schizophrenia. This was supported by a laboratory study of schizophrenic patients which demonstrated asymmetry of thresholds for brief tone signals (Bazhin *et al.*, 1975).

The implications of lateral asymmetry for *diagnosis* have been raised by some investigators. Bodog (1970) reported that when Haloperidol was given to schizophrenics and to other psychotic patients it was only in schizophrenic patients that *extrapyramidal signs* were found on the left side of the body. In a later paper (1976) he compared the response to Haloperidol in schizophrenic and manic-depressive patients. In the former, extrapyramidal rigidity developed more rapidly and to a greater degree in the left limb in right-handed patients and on the right side in left-handed patients. In manic-depressive patients rigidity was confined to the right side and came on more slowly. He suggested that this could form the basis of a Haloperidol Test to clarify problems of differential diagnosis between these conditions.

Speculation is naturally aroused about the possible connection between these findings and those of Reynolds and Locke (1971) who observed a significant difference between post-encephalitic and degenerative Parkinsonism in respect of the side on which symptoms begin. In the post-viral form of the disease, the onset is likely to be on the side of the preferred or 'dominant' hand, but no such association exists for paralysis-agitans. The question of *neurochemical asymmetry* is also raised. As dopamine has been implicated in the aetiology of Parkinsonism, schizophrenia and depression and in the action of phenothiazines, it is interesting to note the work of Zimmerberg, Glick and Jerussi (1974). They reported a significant relationship between the striatal dopamine level of rats and the direction, to left or right, that they preferred to turn in a maze. The preferred side was associated with less dopamine. They postulate an inherent, rather than acquired, cerebro-chemical asymmetry. This is intimately related to recent ideas linking interhemispheric asymmetry to *drug action*. Myslobodsky and Weiner (1976) have recently reviewed the evidence bearing on this. They suggest that drugs may influence the hemispheres unequally. Reasons for this may include neurochemical and

other physiological asymmetry due to the functional state of each hemisphere at the time of drug action. They suggest, too, that this may account for individual differences in response to drugs. This hints at the need for studying what may be the appropriate type of mental activity for optimal drug action to take place at any given time.

There have been detailed studies of responses of *skin conductance* to auditory stimuli in schizophrenic and other categories of patients. Lateral asymmetry of response has been shown, which is in opposite direction for schizophrenic and depressive patients. Thus, Gruzilier and Venables (1974) reported that the amplitude of response was higher in the right than the left hand in schizophrenics and lower in the right hand in depressive patients. They suggested that these findings reflected corresponding but opposite cerebral hemisphere function and, together with other quoted experimental results, tended to support involvement of the dominant hemisphere with schizophrenic illness and the non-dominant hemisphere with affective disorder.

More recently, lateral asymmetry has been held to distinguish two types of depressive disorder: unipolar and bipolar (Metzig *et al.*, 1976). Conclusions were based on whether handedness preference and thumb opposition ability were concordant. Bipolar cases were significantly more often concordant or 'pure-dominant' than controls, whereas the majority of unipolar patients were 'cross-dominant' or discordant. Controls were equally divided. The authors suggest that their results support the view that uni- and bipolar depression are separate disease entities.

Certain aspects of *treatment* in psychiatry have become concerned with laterality. Susceptibility to *hypnosis* has been related to handedness by Bakan (1970). He found that left-handers were significantly more likely than right-handers to be very hypnotisable or very unresponsive to hypnotic induction. This finding was not confirmed by Gur and Gur (1974).

Both Bakan (1969) and Gur and Gur (1974) used another measure of lateral and presumably cerebral asymmetry: reflective or *lateral eye movements*. This phenomenon was first reported by Merle Day (1964). It is the conjugate deviation of the eyes to left or right which occurs when someone is asked to cogitate, to direct attention to answering a question that requires a degree of sustained thought. People whose eyes turn first or predominantly to the left or right have been termed left- or right-responders, representing opposite, that is, right or left cerebral activation. The direction of response has been correlated with several personality attributes (Etaugh, 1972). Bakan's study (1969) associated left responders with greater susceptibility to hypnosis. This was confirmed by Gur and Gur (1974) but was only significant in right-handed and male subjects. It has been shown (Kocel *et al.*, 1972) that questions demanding a verbal response are more likely to provoke an eye shift to the right, whereas 'spatial' questions tend to provoke deviation of eyes to the left; each reflecting activation of the 'appropriate' cerebral hemisphere. Kinsbourne (1972) confirmed that this was the case for right handers but found that left handers are less influenced by the type of question. Gur (1975), however, has demonstrated that these responses are maximal when the questioner is placed behind the subject. Confrontation with eye contact is

more likely to produce the subject's characteristic lateral eye movement, regardless of the type of question. The finding that left-movers had significantly more 'psychosomatic' symptoms than right-movers (Gur and Gur, 1975) hints at the potential of this technique for investigating interhemispheric relationships in different clinical states.

Probably the first explicit message that psychiatric treatment should take account of laterality came from Frost in a letter to the *Lancet* (1957). He wrote that, in order to avoid damage to the speech area, he had been giving *electroconvulsive therapy* by applying the electrodes to only one side of the head: the non-dominant side. He was, nevertheless, producing bilateral convulsions. This report was soon succeeded by detailed accounts of the use of unilateral ECT (Lancaster *et al.*, 1958; Cannicott, 1962), in which it was reported to have the advantage over the traditional bifrontal electrode placement, because it produced less memory impairment. Later, more critical, comparative studies were done (Martin *et al.*, 1965; Halliday *et al.*, 1968; Fleminger *et al.*, 1970a). These mostly showed that unilateral ECT was not only preferable to the bilateral mode of treatment because verbal memory was spared, but also, that it was virtually equivalent in therapeutic effect. These reports did not go without challenge: Levy (1968) and Strain *et al.*, (1968) were less impressed. The trend, however, was to accept the advantage of the unilateral treatment with certain reservations, such as the possibility that more unilateral than bilateral treatment might be needed in an individual course of treatment. This controversy has been well reviewed by Stromgren in her monograph *Unilateral versus Bilateral Electro-Convulsive Therapy* (1973) and by D'Elia (1974). Reichert and colleagues (1976a and b) while confirming that unilateral treatment conserves cognitive performance, drew attention to the fact that, whereas clinicians may rate the two modes of treatment as equivalent in efficacy, patients may consider bilateral ECT to be more effective. This, of course, does not contradict the finding that patients nearly always find the bilateral treatment less pleasant and more productive of side-effects (Fleminger *et al.*, 1970a).

An investigation by Cohen, Penick and Tarter (1974) showed that right-sided ECT was significantly more antidepressant in effect than either left-sided or bilateral modes of treatment when dextral patients rated their own mood before and after two treatments. Two other studies had shown a similar tendency after longer courses of treatment (Halliday *et al.*, 1968; Cronin *et al.*, 1970). These findings are consistent with those intracarotid amylobarbitone studies which indicated that injection of the non-dominant hemisphere raised the level of mood. It is also relevant that Flor-Henry (1973), using a battery of psychometric tests, found that depressed patients were characterised by non-dominant hemisphere dysfunction.

In view of the association between psychotic symptoms and the left hemisphere that was referred to earlier, it is surprising that the effect of different electrode placements on specific symptoms has received so little attention. An attempt, however, was made by El-Islam, Ahmed and Erfan (1970), to investigate the effects of unilateral and bilateral ECT on delusions and hallucinations in 'schizophrenics'. No difference in efficacy could be found; but only non-dominant unilateral ECT was used.

It is important to keep in mind that unilateral ECT was introduced in order to take account of cerebral dominance; especially the importance of the left hemisphere for verbal functions including memory in dextral subjects. Many investigators have given attention to this aspect of the treatment, and the general result has confirmed expectation so far as verbal memory and learning and their relation to the non-dominant hemisphere are concerned. Unilateral ECT to that side of the brain protects the patient from impairment of these functions. Recently D'Elia and his colleagues (1976) have been able to extend this finding. They have established a 'double dissociation' in a study of the effects on verbal and non-verbal memory of unilateral dominant and non-dominant ECT. They draw attention to the possibility that non-dominant electrode placement may be disadvantageous to those patients, such as artists, who depend heavily on non-verbal, visual skills. They suggest that, for them, unilateral ECT to the dominant hemisphere may be preferred.

All the observations on unilateral ECT that have been given so far have referred to dominant or non-dominant electrode placement. This might be taken to imply that the appropriate side is clearly evident. This is far from the case. The left hemisphere is dominant for language in only the great majority of strongly right-handed people; it is also dominant in a substantial proportion of people with mixed or left handedness.

In 1965 Gottlieb and Wilson paved the way to the *use of ECT for assessing dominance*. They gave bilateral, right- and left-sided ECT to groups of dextral patients and found from post-ictal testing that verbal memory was more impaired in the group receiving left-sided treatment. It still remained to solve *the problem in the individual patient*. This has received much study. First, dextral depressives were given either unilateral ECT to the right or left side for the first, and to the opposite side for the second treatment. The difference between the scores of a post-ictal paired associate word learning test were used to indicate the dominant side. Results of this investigation (Fleminger *et al.*, 1970b) encouraged the use of this technique for assessing the side for treatment in individual cases. Pratt, Warrington and Halliday (1971) then introduced a brief method of post-ictal testing which lent itself to practical clinical use. The test consisted of naming common objects from verbal description (for example, 'what is the hard outside edge of bread?'). The value of this technique has since been confirmed (Pratt and Warrington, 1972; Annet, Hudson and Turner, 1974; Clyma, 1975). Warrington and Pratt (1973) using this technique considered that, from their findings, about 70 per cent of 'left-handers' have language represented predominantly in the left hemisphere. Subsequently, Fleminger and Bunce (1975) reported the result of investigating 12 right-handed and 12 left-handed writers by the same procedure using a word associate learning test. Two of the right-handed writers had scores suggesting right-sided dominance; both of these had changed from left to right-handed writing early in life. This study found that 67 per cent of all patients who were not fully right-handed were left-dominant. It drew attention to the importance of establishing the appropriate side for treatment even in 'right-handers'. Clyma (1975) reinforced this point.

Electroencephalographic studies of ECT have shown greater EEG changes, mainly slow waves, over the left than over the right hemisphere

following bilateral ECT (Volavka *et al.*, 1972; Abrams *et al.*, 1972; Stromgren and Juul-Jensen, 1975; Marjerrison *et al.*, 1975). Another instance of lateralised EEG change in psychiatric patients was the finding that in chronic schizophrenics receiving a course of chlorpromazine over 24 weeks, those who improved showed significantly higher voltage on the left than on the right side. Those who deteriorated showed no such change (Serafetinides, 1972). Galin and Ornstein (1972) reported that the direction of EEG asymmetry was related to whether subjects were engaged in a verbal task such as composing a letter or a spatial task such as a test with Koh's blocks. The extent to which speech function is involved or impaired may account for some EEG findings in depression. D'Elia and Perris (1973) found that lateral EEG asymmetry was related to depth of depression in a way that implicated the dominant hemisphere. Perris (1975) confirmed this with a larger sample and suggested that the degree of involvement of the dominant hemisphere may be related to retardation and speech disturbance.

Finally, the study of dermal ridges, *dermatoglyphics*, should be noted. These ridges are laid down by halfway through foetal life and are therefore culture-free markers of early development. Using a finger-print method in normal people it has been shown (Holt, 1953) that the number of finger-tip ridges tends to be greater in the right than the left hand. Dermatoglyphics are sensitive indicators of chromosomal abnormalities. Polani and Polani (1969) found that mosaicism is particularly associated with bilateral asymmetry of this measure and Mellor (1968) drew attention to the similarity of dermatoglyphic findings in mongol and catatonic schizophrenic patients.

To conclude: this review has presented some of the work that has shown the relevance of laterality to the form, content, aetiology and treatment of certain symptoms and syndromes. It is a heterogeneous assortment that, so far, offers more questions than answers. Taken together, however, it provides a clear statement: we now need to recognise that lateral differences or interactions may comprise a significant factor in any aspect of psychiatric disorder that we care to consider.

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7 Some Psychophysiological Aspects of Anxiety

Malcolm Lader

It is impossible to review all areas of such an enormous topic as anxiety. This article will concentrate on the bodily aspects of anxiety, both clinical and theoretical implications. In particular, the relationship between psychophysiological factors, somatic symptoms and theories of anxiety will be explored. This is not to gainsay or belittle the immense contributions made by clinical psychiatrists, psychologists and psychoanalysts who have concentrated on other approaches.

Theoretical Problems

It is not meaningful scientifically to ask, 'What is anxiety?' as the ultimate characteristic being an intra-psychic subjective state (a 'noumenon') is both irreducible and unverifiable. Fruitful questions have mostly related to its antecedents, concomitants and consequences. Thus, it is more appropriate to investigate the mechanisms relating to anxiety rather than anxiety itself. Even attempting to define anxiety may be inopportune heuristically and culminate in an unrealistic narrowing of the concept or an unmanageable broadening to include marginal areas and philosophical and even metaphysical aspects. The most useful studies have evaluated anxiety in operational terms as scores on a schedule, assessments on a standardised psychiatric interview, and so on.

Even here, difficulties obtrude because of semantic problems. Emotions are everyday experiences described in everyday language. Such common experiences can provide the starting point for scientific research but if lay terms are borrowed they must be refined and defined not only in semantic terms but in parametric terms. Thus, although it is not justifiable to claim that rating scales, objective or subjective, can measure anxiety, they can be developed and refined to quantify behavioural concomitants which appear closely related to the phenomenon of anxiety.

Another caveat concerns the 'reductionist' approach in biology. The analysis of a problem in physical sciences into a series of component units has led to major advances. This approach has also been productive in most areas of biology. However, in behavioural studies, especially those involving complex feeling states, important insights may reside not so much in the constituent elements of the problem but rather in the relationships between these elements. Thus, anxiety is best characterised by the consonance between subjective, behavioural and physiological variables. Many research advances

have followed the careful definition of types of anxiety: state and trait, normal and pathological, phobic and 'free-floating' (Lader, 1972). Although an increasing proportion of studies have investigated the problem in these terms, anxiety is still most economically viewed as a single entity.

Some Psychophysiological Studies

Researchers who employ autonomic and somatic measures as indicators of 'arousal' have concentrated on the emotion of anxiety for several reasons. First, anxiety is an emotion which we all frequently experience. Consequently, the study of anxiety, unlike that of schizophrenia, can be seen to have immediate relevance to normal psychology. Second, anxiety-proneness varies among individuals and some theories of personality highlight the influence of trait anxiety on behavioural responses. Third, pathological or morbid anxiety—that which is more severe, more persistent or more pervasive than the individual is accustomed to and can tolerate—is presumed to be quantitatively but not qualitatively different from 'normal' anxiety, i.e. that affect experienced by everybody at some time or another. Consequently, study of anxiety states should elucidate mechanisms of normal anxiety and vice versa. Fourth, anxiety is relatively simple to induce in normal individuals and then usually subsides quickly, providing a convenient tool for the researcher. And fifth, anxiety has been conceptualised as a state of arousal or over-arousal, thus affording a firm theoretical framework within which to relate experimental data.

Feelings of anxiety are accompanied by physical signs and symptoms: palpitations, a sense of constriction in the chest, tightness in the throat, difficulty in breathing, epigastric discomfort or pain, dizziness and weakness in the legs, dryness of the mouth, sweating, vomiting, tremor, screaming, running in panic and sudden micturition or defaecation. The detailed evaluation and precise measurement of the concomitant physiological changes is the particular interest of the psychophysiologist (Lader, 1975). However, other emotions such as rage and ecstasy also produce physiological changes and it is not easy to differentiate patterns of changes pertaining to each emotion. Thus, these indicators of anxiety need continuous concurrent validation by reference to other indicators of anxiety, such as subjective reports and observation of facial expression.

Normal Subjects

Anticipation of a painful stimulus such as an electric shock has been used as a 'model' of anxiety: during the anticipatory period sweat-gland activity increases. Katkin (1966) instructed half his subjects to expect a shock and the others merely to rest. Neither group was shocked but the expectation group had greater sweat-gland activity. The subjects were designated as high or low in affect according to their scores on the Affect Adjective Check List. The high-affect subjects in the expectation group were slower to recover to resting

levels of sweating after the stress period than were the low-affect individuals.

Another anxiety-inducing procedure is to infuse adrenaline intravenously. Such an infusion in medical students produced tachycardia, a rise in systolic and a drop in diastolic blood pressure. There was no clear relation between the intensities of the physiological and the subjective reactions. Subjective estimates of effects declined steadily during the period of each infusion (Frankenhaeuser and Järpe, 1963).

Adrenaline is released in states of effort and emotional arousal and this fact is now so well known as to be a cliché of the advertising copywriter: 'this film will set the adrenaline rushing through your body'. The estimation of plasma catecholamines is not technically easy so resort is often made to the urinary excretion, a semi-quantitative index. For example, Levi (1963) used as a stressful task the sorting of steel ballbearings of four very similar sizes in the presence of a loud noise and variations in the intensity of a bright light. The experimental subjects were soldiers, 20 rated as able to cope with stress, 20 with low tolerance to stress. Both adrenaline and noradrenaline excretion increased during the task period, the rise in adrenaline being especially pronounced. Catecholamine excretion was not related to supposed stress tolerance.

Physiological concomitants of anxiety in sport parachutists were extensively evaluated by Fenz and Epstein (1967). Skin conductance levels (sweating) and heart rate were recorded in ten novices and ten experienced parachutists throughout the day before the jump, in the aircraft before the jump, and on landing. With respect to all measures, novices and veterans were initially similar, when arriving at the airport and during take-off. Then the curves diverged, the novices' heart rates rising rapidly to an average 145 beats per minute just before the jump, while those of the experienced parachutists showed a drop at this point to rise again immediately prior to landing. The latter pattern coincides closely with the real times of physical danger.

The relationship between anxiety-proneness (trait anxiety) and psychophysiological measures has been the focus of several studies. High scorers on the IPAT anxiety scale showed slower habituation of the finger blood volume response measured photoplethysmographically (pulse beat) than did low scorers (McGuinness, 1973). Similarly, high scorers on a Test Anxiety Questionnaire had higher skin conductance levels than low scorers and subjects with high neuroticism scores on the Eysenck Personality Inventory were more reactive with respect to sweat-gland activity than were low neuroticism subjects.

Anxious Patients

Electromyographic activity in anxious women was surveyed by Goldstein (1964) by recording potentials from seven bodily sites. At rest the patients had significantly higher levels than normals with respect to masseter and forearm extensor EMG. An auditory stimulus induced greater responses in the patients at the sternomastoid, frontalis, forearm extensor and gastrocnemius

muscle sites. Anxious subjects seemed more easily differentiated from calm subjects during stimulation procedures than at rest.

An early finding, replicated several times, is that anxious patients have much higher plasma cortisol concentrations than normals. Also, the cortisol levels seem related to the intensity of anxiety, panicking patients having the highest concentrations. Psychiatric patients rated as calm are indistinguishable endocrinologically from normal controls. In a group of 13 hospitalised patients with anxiety and depression, plasma catecholamine concentrations correlated with anxiety ratings but not with ratings of depressive affect.

Not only do anxious patients have high levels of activity but they adapt very slowly to the changing exigencies of an experimental situation and habituate only gradually to a series of repeated, identical, discrete stimuli. Impaired habituation of the skin conductance response in anxious patients was noted ten years ago (Lader and Wing, 1966) and this observation has been replicated several times (for example, Raskin, 1975); however, there is less agreement on the mechanisms of abnormal physiology underlying the lack of response habituation.

Chronically anxious patients have high 'resting' levels of forearm blood flow, react *less* than normals to a difficult performance task and adapt more slowly. Other findings in this area include impairment of adaptation of pupillary responses in anxious patients and inefficient respiratory functions.

Most EEG studies using simple, visual methods of analysis have reported consistent findings in patients with anxiety states, almost all results being predictable. Thus, alpha activity, which accompanies a relaxed state, is less abundant in amplitude and occupies a lower proportion of time in anxious patients than in controls. Any alpha activity which is present tends to run at an abnormally high frequency.

The CNV (contingent negative variation, expectancy wave) is a negative-going potential which develops in the EEG in the interval between a warning and an action signal. For example, a light may come on to warn the subject, followed a few seconds later by a tone to which the subject has to respond by pressing a key. The main findings have been that the CNV was less easily discerned than normal in anxious patients, suggesting that a state of expectancy to an external stimulus is not readily maintained. Also, patients were much more distractible so that the CNV could be easily attenuated. It also habituates more slowly than normal in the anxious patient. Replication of these studies is needed but, like the EEG, the physiological basis for the CNV is not firmly established so interpretation of the data must be cautious.

Symptom Mechanisms

One area where physiological research has a direct clinical application is in the symptoms of anxious patients. For example, in an early study, Sainsbury and Gibson (1954) constructed an inventory for 30 anxious and tense patients, recording their symptoms, feelings and bodily complaints attributable to muscular overactivity (head sensations, backache, etc.). Electromyographs were recorded from the frontalis and forearm extensor muscles. The patients

were divided into two groups according to whether their symptom scores were above or below the median on the inventory. The high symptom scorers had higher EMGs at both sites than the less anxious and tense patients. Seven patients complained of headache or head sensations at the time of recording: they displayed higher frontalis EMG levels than the remainder of the patients but forearm levels were not different. Conversely, 14 patients complaining of stiffness, 'rheumatics' (without joint pains), and aching in the arms had higher forearm muscle potentials than the remainder.

Symptom Patterns

Using the standard psychophysiology of anxiety as a basis, it is interesting to return to the clinical syndromes which form a diffuse constellation in this area. Because of the many somatic symptoms, a variety of syndromes have been delineated relating to one or other of the symptoms which the patient emphasises. Nevertheless, such syndromes may be artificial in that these various conditions merge with one another. To illustrate this, cardiovascular and psychological symptom clusters will be compared and contrasted.

Cardiovascular Syndromes

The cardiovascular symptoms have been considered as distinct syndromes which masquerade under several synonyms such as 'muscular exhaustion of the heart' (Hartshorne, 1864), 'irritable heart' (Da Costa, 1871) and the eponymous Da Costa's Syndrome (Wood, 1941). 'Cardiac neurosis' (Schnur, 1939) was also popular as a term as was vasomotor neurosis, while in World War I 'neurocirculatory asthenia' came into vogue (Oppenheimer *et al.*, 1918; Friedlander and Freyhof, 1918). The supposition that the symptoms were precipitated by exercise led to the term 'effort syndrome' (Lewis, 1919; Grant, 1925). The chief symptoms were dyspnoea, palpitations and fatigue, and patients underwent graded exercises to try and increase their effort tolerance. The similarity of such conditions to anxiety neurosis was not always appreciated. As Wood (1941) commented, in civilian life 'the change of sex, plus the lack of khaki uniform, seems to have proved an effective disguise. Effort syndrome in the male soldier becomes cardiac, respiratory or other neurosis in a female civilian'.

Psychological Syndromes

Other names have emphasised the psychological symptoms. Neurasthenia or nervous exhaustion was an early term (Beard, 1869; Hecker, 1893; Savill, 1899) but the most widely applied is the label introduced by Freud (1894), namely, 'anxiety neurosis'. The French school of psychiatry employs the similar term 'névrose d'angoisse' (Hartenberg, 1902).

Symptom Frequencies

These two groups of somatic, mainly cardiovascular symptoms, and psychological symptoms are also apparent in the way that surveys of symptom frequency depend on the setting. Two studies carried out 25 years ago illustrate this point. In the first (Wheeler *et al.*, 1950), patients from the cardiac clinic, Massachusetts General Hospital, were included who had two of the following three groups of symptoms:

(1) palpitations or chest pain; (2) nervousness, dizziness, faintness, attacks or spells, and (3) feelings of fatigue or tiredness or limitation of activity. Table 7.1 lists the frequency of the main symptoms of the 173 patients. Almost all patients complained of palpitations, tiring easily, breathlessness and nervousness, less than half of shakiness, constant fatigue or sweating.

Table 7.1
Percentage of patients who showed particular symptoms

	Cardiology patients	Anxiety neurotics
Palpitations	97	90
Tires easily	95	78
Breathlessness	90	75
Nervousness	88	99
Sighing	79	20
Dizziness	78	55
Faintness	70	20
Apprehension	61	80
Headache	58	65
Paraesthesiae	58	25
Weakness	56	65
Trembling	54	70
Breath unsatisfactory	53	75
Insomnia	53	48
Shakiness	47	70
Fatigued all the time	45	76
Sweating	45	62

In the other study (Miles *et al.*, 1951), the patients had been admitted to the psychiatric ward of the Massachusetts General Hospital, the diagnosis being anxiety neurosis. Nervousness is the most frequent complaint but palpitations are also very common (table 7.1). Indeed apart from sighing, faintness and paraesthesiae, the percentage frequencies in the two groups are fairly similar.

It might be argued that there were indeed two distinct groups of patients and the similarity in symptom frequencies a mere coincidence. However, Wheeler *et al.* state categorically that the psychiatrist in their team was 'unable to distinguish between patients with neurocirculatory asthenia as diagnosed by cardiologists and anxiety neurosis and neurasthenia as diagnosed by psychiatrists'.

These studies illustrate that groups of patients with functional cardiovascular complaints and those with nervous complaints are not distinguishable from each other with respect to symptom patterns. Somatic and psychic symptoms are equally common in both groups, although the emphasis placed on one or other symptom varies greatly among patients.

A Symptom Continuum?

The bulk of the evidence suggests that a continuum exists with patients emphasising somatic symptoms on one part of the continuum, patients complaining mostly of psychological symptoms on another part (figure 7.1). Some patients have a preponderance of psychological symptoms and tend to have polyneurotic complaints such as obsessions, phobias, depressive symptoms and depersonalisation. At one extreme of the scale are patients with anxiety symptoms who recognise that their bodily feelings are reflecting psychological problems such as difficulties with interpersonal relations.

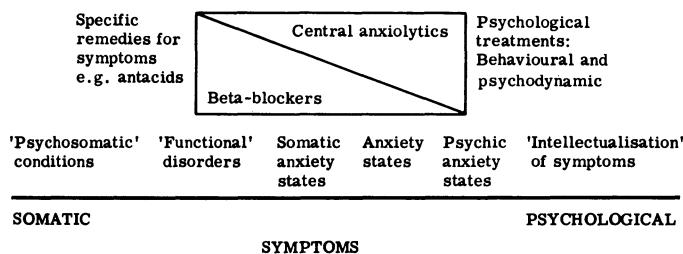


Figure 7.1 A theoretical continuum of anxiety and somatic syndromes

Towards the other end of the continuum are the modern successors to Da Costa's syndrome, effort syndrome, etc. Clinicians and investigators still claim the discovery of supposedly new syndromes. During the past 20 years the following have been described: 'vasoregulatory asthenia' (Holmgren *et al.*, 1957), 'hyperventilation syndrome' (Suzman, 1968), and 'nervous heart complaint' (Nordenfelt *et al.*, 1968). All have in common functional cardiovascular disorders, that is, without 'organic' pathology. Equivalent conditions have been noted by gastro-enterologists, dermatologists and rheumatologists. Thus, many patients referred to general hospitals with complaints of flatulence, chronic diarrhoea, persistent sweating, joint pains, etc., for which no organic pathology can be found are suffering from anxiety, tension and depression and are emphasising one or other somatic symptom.

A recent assertion has been that a syndrome exists of which one of the hallmarks is response to a β -adrenoceptor-blocking agent. Frohlich *et al.* (1966) described two female patients with complaints of anxiety and palpitations. Both patients had tachycardia especially on standing and with exertion. The abnormality was postulated to be increased β -adrenoceptor

activity, especially as the tachycardia and the anxiety were relieved by giving propranolol. A further 14 patients were described as suffering from this 'hyperdynamic β -adrenergic state', as this condition was named (Frohlich *et al.*, 1969). The criteria for the syndrome were stated to be: (1) increase of heart rate when isoprenaline was administered which reproduced the patient's symptoms, even to the extent of panics; (2) complaints of cardiac awareness and tachycardia at rest; (3) circulatory hyperkinesis; (4) specific benefit conferred by β -adrenoceptor blocking agents.

All these criteria occur commonly in patients with anxiety states presenting to the psychiatrist. There seems no justification for perpetuating the historical dichotomy between patients with anxiety complaining predominantly of somatic symptoms and presenting to the cardiologist or gastroenterologist and those with mainly psychic symptoms who are seen by the psychiatrist. The general practitioner encounters all presentations of anxiety and doctors sensitive to psychological problems are always alert to patients with such problems presenting with somatic rather than psychological symptoms.

Theories of Anxiety

Although Descartes (1648) had intimated that emotions had antecedents in mind and body, most philosophers were primarily concerned with the consequences of emotions such as anxiety. Elemental ideas and feelings were taken for granted as the property of rational conscious human beings. William James (1884) and C. Lange (1887) independently propounded the notion that emotions were secondary to the perception of bodily changes. Thus, James asserted that 'emotion dissociated from all bodily feeling is inconceivable'. The hypothesis, however, is untestable in scientific terms as it refers to the subjective *experience* of behaviour. Dana (1921) and Cannon (1927) argued convincingly that emotional *behaviour* does not depend on bodily changes.

The Concept of Arousal

This has been extensively used in psychophysiology to refer to a continuum defined in operational terms as ranging from sleep (non-REM), drowsiness, an inalert state and normal waking through heightened emotional awareness and uneasiness to states of emotion culminating in extreme emotions such as rage, panic and revulsion. The peripheral physiological changes are held to reflect the level of arousal rather than the intensity of the emotion directly.

Over the past decade, the concept has been further refined. The level of arousal of an individual is viewed as comprising two components. First a general level of arousal reflects the on-going activity of the central nervous system, its general activation level. Superimposed on this are arousals specific to the emotions experienced by the subject, for example sexual arousal. The physiological pattern reflects both the general and the specific arousal levels. For example, penile erection is most commonly associated with sexual arousal, horripilation with terror.

Cognitive Aspects

Thus far, emotion has emerged as a global concept without distinctions among the various types of emotion. The ingenious experiments of Schachter (1966) elucidated the interactions between cognitive factors and physiological arousal. He injected small doses of adrenaline, some subjects knowing what effects to expect, others remaining in ignorance. The subjects were then placed with a stooge who acted either in a euphoric manner or angrily. Both observation of the subject and his self-reports indicated that subjects ignorant of the effects of the injection showed and felt more emotion (euphoria or anger) than informed subjects. Thus, although other interpretations of this study exist, a reasonable conclusion is that physiological arousal is the substrate on which cognitive clues induce a specific emotion.

Overview: A Model of Anxiety

All these threads can be drawn together into a schema based on those proposed by Spielberger *et al.* (1971), Lazarus (1966), Schachter (1966) and Epstein (1967) (figure 7.2). In this formulation, external stimuli impinge on the

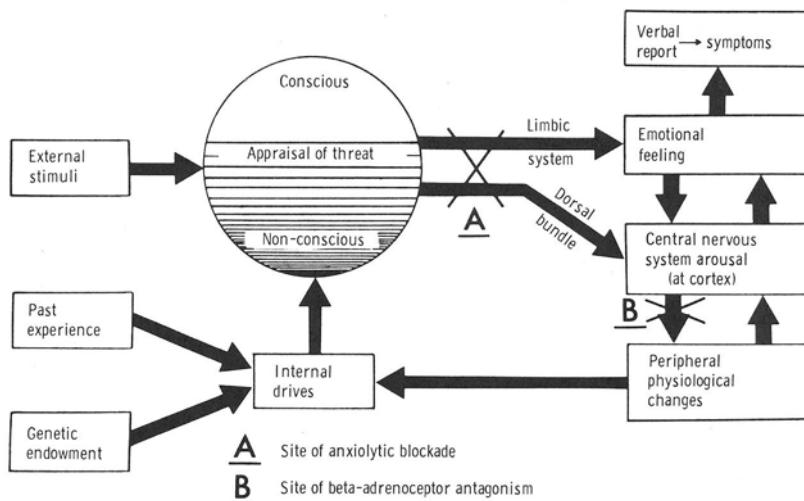


Figure 7.2 A hypothetical model of anxiety mechanisms

organism. The stimuli can be physical, such as trauma and noise, or social, such as poor living conditions and unemployment, or psychosocial, such as marital discord and problems at work. Internal stimuli are also important but they are better labelled 'drives' and consist of thoughts, needs, aspirations, and so on. Both external and internal stimuli are evaluated for possible threats to the organism or individual. The internal stimuli are modified by genetic

endowment and past experience, nature and nurture, which themselves interact. The internal stimuli modify the appraisal of both themselves and the external stimuli.

If either a potential advantage or potential disadvantage is detected, two processes follow. First, the activity of certain parts of the CNS increases but remains co-ordinated and integrated. Second, an affect is experienced which is appropriate to the stimulus in both qualitative and quantitative terms. Thus, a dangerous stimulus would result in fear, a noisome one in disgust.

The CNS arousal is accompanied by widespread physiological changes which in turn are relayed back to the CNS by proprioceptive pathways but can also be consciously perceived by the subject. These may reinforce the emotion by acting as internal stimuli thereby constituting a positive feedback loop.

Can such a model explain persisting, severe morbid anxiety? First, pathological trait anxiety can be regarded as an extreme deviation, as the upper end of a normally distributed continuum of personality anxiety. A second possibility involves the transactions between stimuli and cognitive processes taking place outside consciousness. The emotional response may then seem excessive or inappropriate or both. Because of previously acquired irrational associations, the interaction becomes critical and produces unconscious affect-formations and conscious emotions.

Another mechanism relates to the interaction between arousal level and adaptation. Many studies (Lader, 1975; Raskin, 1975) have shown that anxious patients adapt slowly to changing experimental situations. Thus, if the level of activity rises, adaptation will be impaired, and above a critical level of activity adaptation will be absent. In clinical terms, chronic or repeated stimuli, so-called 'life-stresses', will eventually precipitate an acute emotional reaction which because of impaired adaptation might become chronic.

How might different symptom patterns be explained by this model? First, it must be emphasised that symptoms, being subjective reports, are subject to many biases. The patient may stress one symptom rather than another because it has greater significance to him rather than being the more intense. For example, a patient may be troubled by a marked tremor and mild palpitations. However, if he is particularly worried about cardiac symptoms, perhaps because of a family history of heart attacks, he will exaggerate the palpitations and dismiss the tremor. The patient's family may reinforce such bias in the reporting of symptoms by their attitudes to particular symptom complexes. Psychological symptoms require more verbal ability to detail than do somatic symptoms. Consequently, the less intelligent the patient, the more likely he is to present with somatic symptoms.

The general practitioner exerts a powerful influence here. If he is unsympathetic towards psychological symptoms or more relevantly if the patient believes him unsympathetic, then he will be presented with somatic complaints. In other words, the patient proffers him symptoms he deems will be acceptable, that is, taken seriously.

Having allowed for these 'reporting' biases, there are still several ways in which genuinely different symptom patterns could arise. There is much evidence (reviewed by Lader, 1975) that individual subjects show characteristic patterns of response to stimuli: one subject may evidence marked heart-

rate changes, another increased sweating. Thus, in chronic stimulation conditions, one patient may have sustained tachycardia and palpitations, another hyperhidrosis. Also, awareness of physiological changes may vary from system to system. Finally, secondary conditioning processes may occur and affect one system more than another. For all these reasons, a great variety of symptom patterns is only to be expected. Nevertheless, these patterns are part of a larger design and do not constitute independent entities.

Summary

Anxiety is a large, complex topic with many difficult theoretical implications. The relationships between the elements of anxiety may be more important heuristically than the elements themselves. Anxiety can be normal or abnormal but the physiological accompaniments are similar. Many studies have demonstrated general patterns of physiological change with anxiety but there is marked variation among individuals. Anxious patients adapt slowly and their symptom patterns have underlying appropriate physiological alterations.

Anxiety syndromes cover a range of conditions and probably also subsume functional disorders of various bodily systems, especially the cardiovascular. Theories of anxiety often include the physiological aspects but usually as a secondary, peripheral issue. Mechanisms exist to explain different symptom patterns among patients.

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8 Sleep and its Disorders

Robert G. Priest

Our knowledge of sleep has grown a great deal lately, and we are now in a better position to understand and treat the disorders that go with it (Kleitman, 1963; Kales, 1969; Priest, 1973; Freeman, 1973; Oswald, 1975; *Psych. Med.*, 1975). In the course of this chapter I shall deal with such varied matters as night terrors, sleepwalking, cataplexy, hypnagogic hallucinations, drug dependence, delirium tremens and the action of psychotropic drugs.

Much of our new knowledge comes from the use of the all night electroencephalograph (EEG). It may be recalled that in the waking state the wave frequency runs at about 10 cycles per second (cps), varying from 8 to 13 cps in health. It is only with frank brain disease that the rates sink below 4 cps. In sleep the characteristic wave form is the *sleep spindle*. This is a burst of activity at about 14 cps that waxes and wanes, hence the figurative name which suggests a resemblance to yarn wound round a shaft and heaped in the centre. As sleep becomes deep the background waves get slower, into the 1–4 cps range, with the sleep spindles superimposed. By looking at the EEG it is thus possible to gauge the depth of sleep. During the first hour or so we usually pass into very deep sleep which then becomes much lighter again. This cycle repeats itself half a dozen times during the night. This much has been known for some time (Kleitman, 1963). It was then discovered that from time to time a different physiological state intervenes. One marked feature is a profound loss of muscle tone. Along with this the blood pressure and respirations become irregular, and erections of the penis occur. The eyes, at other times still, now make rapid side to side movements. This state is called *paradoxical sleep* or, because of the last feature, *rapid eye movement* (REM) sleep. The REM stage makes up 20 per cent or more of the total amount of sleep, the remainder being referred to as *orthodox* sleep.

When the subject is woken from REM sleep it is found that he usually reports that he was actively dreaming. This caused a radical revision of our ideas about dreams. Beforehand it had been supposed that dreaming was a sporadic affair, not necessarily occurring every night, and over in a flash when it did happen. Some people even thought that they rarely dreamed. It is now known that we all dream, every night, and that we spend a fifth of the night in dreams (Priest, 1973; Oswald, 1966).

The pattern is that we always start the night in orthodox sleep. After an hour or more we have the first burst of REM sleep lasting a few minutes and then resume the orthodox stage. The spells of REM sleep recur at intervals, becoming longer as the night goes on. Infants spend a much higher proportion of the night in REM sleep, and old people rather less than 20 per cent.

Night Happenings

We can now place the various events that occur during sleep. The common *nightmare* takes place in the REM stage, as might be expected from the fact that dreams happen then. This is true, at least, if by nightmares we mean those frightening dreams that wake up the subject, leaving him with a vivid recollection of the fearsome scenes that scared him. There is a different condition called a *night terror* or *pavor nocturnus* that occurs mainly in children. The child wakes up with a scream, and is found sitting upright staring into space. He pays no heed to attempts to comfort him, and does not seem to listen to what is said to him. He goes back to sleep in his own time. In the morning, if you ask him about his nasty dream, he does not know what you are talking about. He does not remember the episode at all. These two features, inaccessibility at the time and subsequent lack of recall, mark out the night terror from the more familiar nightmare. It is found that night terrors occur in deep orthodox sleep.

There is an old wives' tale about *sleep walking* to the effect that it is very dangerous to wake up the somnambulist. I know of no truth in this saying, but it is certainly the case that it is often *difficult* to wake up someone who is walking in his sleep, or at least difficult to get him to respond intelligently to what is said to him. If he does not wake up at the time, then he is likely not to remember the incident in the morning. Thus he too suffers from inaccessibility during the event and subsequent amnesia for it. It comes as no surprise to find that episodes of sleepwalking take place during deep orthodox sleep. Indeed it is difficult to see how they could take place at all in REM sleep. The profoundly low muscle tone that is a feature of REM sleep would make the subject quite floppy if not semi-paralysed.

Orthodox sleep is also the setting for enuresis (Freeman, 1973, pp. 128–130). The attack of bedwetting usually takes place during the first cycle of the night, typically just after the deepest part of the trough has been passed.

Narcolepsy

Narcolepsy is a pathological tendency to fall asleep (Leckman and Gershon, 1976). By this I do not mean the ability to fall asleep in a stuffy lecture theatre or reading a dull chapter in a book, or even after a meal. The narcoleptic patient may fall asleep while actually eating the meal, or while walking along the street.

Doctors have long known that certain other clinical features frequently accompany narcolepsy. In *cataplexy* the patient collapses to the floor in a weak and wobbly state when under the influence of extreme sudden emotion, which can be merriment or triumph as easily as anger (Oswald, 1975). This occasionally occurs in normal subjects, and may be the origin of the expression 'rolling in the aisles' with laughter. *Hypnagogic hallucinations* are known to be benign. When a patient complains of hearing voices or seeing visions as he drops off to sleep no sinister psychiatric interpretation is made,

but these experiences are particularly common in narcolepsy. The third phenomenon that is common is *sleep paralysis*. Here the patient wakes up in the middle of the night feeling that he is unable to move. Presumably he is breathing, and in fact after a few minutes he goes off to sleep again. There is a special version of this known as 'night nurse's paralysis'. The nurse is in the ward sitting with elbows on her desk, her head cupped in her hands and all is peaceful. Suddenly she looks up to see night sister coming through the door. Unfortunately nurse is unable to move and feels pressed down on to her hands and into her chair.

The clue to this collection of symptoms and signs (sometimes known as Gelineau's syndrome) is found in a peculiarity of sleep onset (Freeman, 1973). Normal sleep is started in the orthodox phase. Most of us spend an hour or more (rarely less than 45 minutes) in orthodox sleep before going into our first REM episode. It is found that narcoleptics sometimes actually *start* the night with a period of REM sleep (Leckman and Gershon, 1976; Roth *et al.*, 1969).

We can now link up the various components of the syndrome. The hypnagogic hallucinations are immediately understandable. If we remember strange fantastic experiences happening in the middle of the night we can readily identify the adventure as being a dream. For the average dream we have *already been asleep* when it started, and we either slept again afterwards or woke up directly from it. The nature of the experience is easy to pin down. Going straight from consciousness *into* a dream, on the other hand, is something that might easily be misconstrued afterwards.

It looks as if in the narcoleptic subject there is something unstable about that physiological state that we call REM sleep. One of the remarkable features of this phase is the profound drop in muscle tone. Consider what happens if, during the night, we go into a state in which we get the *muscle tone* of REM sleep, but we actually regain consciousness. This may well be what is happening in 'sleep paralysis'. The low tone would account for the subjective sensation of the night nurse that she is pressed downwards.

If the physiological arousal associated with sudden emotion were to precipitate this isolated fragment of 'REM sleep' during the day, in full consciousness, we would have a model for cataplexy.

Finally it is possible that some of the narcoleptic attacks themselves are attacks not of orthodox sleep but of REM sleep. This might explain why the patient ends up with his head *in* the food—again the result of the onset of low muscle tone.

The Effect of Drugs on Sleep

We know that REM sleep normally makes up about 20 per cent of the night's sleep in a young adult. This proportion remains fairly steady from night to night in any individual and it is possible to use it as a sensitive indicator for examining the effect of drugs. If the subject is given a course of barbiturate sleeping tablets a predictable pattern of events occurs. First the proportion of REM sleep is reduced on the first night of administration, maybe down to half the baseline level. This effect is maintained for a night or two but then begins

to wane. After 10 days or so, despite regular administration of a constant dose each night, the proportion of REM sleep returns to its original level. Tolerance has taken place. At this stage an increase in the dose will cause a further depression of REM sleep, which will be as temporary as the original one, so that after a further ten days the REM sleep proportion will again be back to normal levels.

If sleeping tablets are suddenly withdrawn, then on subsequent nights the proportion of REM sleep shows a sharp rise, up to levels of about double the original baseline value (for example up to 40 per cent of the night). This excessive proportion of REM sleep gradually subsides, but it may take five or six weeks before the pattern of sleep reverts entirely back to normal (Oswald and Priest, 1965).

During the early days of the withdrawal period the nights may be characterised not only by excessive quantities of dreaming but also by unusually *intense* dreams. Subjects complain that their dreams are vivid and even that sleep is disturbed by nightmares. This is particularly evident in the first few days of the REM rebound.

Dependence on Hypnotic Drugs

There are a number of drugs, including the barbiturates, that are given in small doses as sedatives by day, and in larger doses as hypnotics at night. The term 'sedative' causes confusion. As used above, as a noun, it usually means 'an anti-anxiety drug' and was so intended there. Used as an adjective it is more ambiguous. When a drug is described as having a sedative action it may mean that it relieves anxiety, or it may mean that it causes drowsiness. Drugs like barbiturates certainly relieve anxiety in small doses, and can always produce drowsiness if enough of the drug is given. In fact in increasing doses they will proceed to put the patient through the stages of general anaesthesia, eventually producing coma and finally death.

Other drugs, relieving anxiety but not *necessarily* producing drowsiness, are known as tranquillisers. The phenothiazine group is a good example. In small doses they can relieve anxiety and they *may* produce drowsiness. In extremely large doses they can relieve anxiety and they *may* produce drowsiness. They do not cause the patient to progress inexorably through the stages of anaesthesia. If they cause sleep the patient is usually readily woken. Many patients walk around in full consciousness after very big doses indeed. In fact if the patient is not rousable after an enormous dose of phenothiazines one suspects a cardiovascular catastrophe as a result of autonomic side effects (for example hypotension).

There is, then, this fundamental difference between hypnotics of the barbiturate class and tranquillisers of the phenothiazine type. Both are used for treating anxiety, but *the sleep inducing effects of the tranquillisers are not directly dependent on the size of the dose*.

There are other differences. When a subject is given large doses of barbiturates and encouraged to stay awake he will show the neurological triad of ataxia, dysarthria and diplopia. This classical triad does not characteristi-

cally occur with the neuroleptic tranquillisers (again provided that severe side effects like hypotension are avoided).

The third very important difference is that addiction is a recognised hazard with hypnotics of the barbiturate group (Ewart and Priest, 1967). Physical dependence on a drug may be shown by demonstration of *tolerance* to the action of the drug, so that much higher doses of the drug become necessary to produce the desired effect. Another way it may be revealed is by the development of a physical (as opposed to merely psychological) withdrawal syndrome. When barbiturates are suddenly withdrawn the addicted patient may suffer from seizures identical to those of *grand mal* epilepsy. Alternatively the patient may develop *delirium tremens*.

Delirium Tremens

The clinical picture of *delirium tremens* (DTs) is a well recognised one, and the condition is usually associated with alcoholism. It is now acknowledged that it typically occurs in the *withdrawal* phase of alcohol dependence. The syndrome shares the features common to all forms of delirium (acute organic brain syndrome, confusional state), that is to say a diminished level of consciousness or awareness and disorientation in time, place or person. In addition the patient with DTs has the tremor that is in the title, he usually complains of visual hallucinations, and the typical affect is one of extreme fear. The affect may colour the hallucinations, and although pink elephants seem to have had their day the patient may complain of seeing small frightening animals such as rats or snakes.

This clinical picture has now been described not only with barbiturates and alcohol, but also as the withdrawal syndrome to a variety of hypnotic drugs including methaqualone (Melsedin, Quaalud or—in combination with diphenhydramine—Mandrax), paraldehyde, chloral, glutethimide (Doriden), methyprylone (Noludar), meprobamate (Milton, Equanil) and ethchlorvynol (Arvynol) (Ewart and Priest, 1967; Priest, 1973). Interestingly meprobamate was used for a long time as a 'tranquilliser' until gradually all the features described above for the barbiturate type of hypnotic were recognised clinically. These drugs are now all grouped together as causing what is referred to as the barbiturate-alcohol type of dependence.

Relationship of Drug Dependence to DTs

What happens when a patient dependent on one of these drugs gives it up? Since he has developed tolerance he will have been taking vast quantities of the drug. On the first night of abstinence the REM proportion will soar up, maybe reaching 100 per cent. What does this mean? Proportions can be deceptive unless the absolute value is considered. In fact after giving up his hypnotic the patient will not sleep much anyway, and what little sleep he has will be fitful, disturbed and interrupted by periods of wakefulness. To sum up, he will be passing in and out of episodes of REM sleep, always going from consciousness

straight into REM sleep. This is reminiscent of the narcoleptic subject, and it is small wonder that the dreams are perceived as visual hallucinations. If our experimental subjects with 40 per cent of REM sleep had frightening dreams, we may imagine how much more nightmarish will be the visions in DTs. The whole process of going in and out of REM sleep will be enough to cause disorientation, and so we can see that many of the features of DTs are explained by what we already know of the action of drugs on the paradoxical phase of sleep.

It should be pointed out that there is no suggestion that other forms of delirium are associated with abnormalities in the proportion of the REM phase. This matter has yet to be investigated fully, but it does not seem that delirium from other origins is caused by a dominance of paradoxical sleep.

The Action of Other Drugs on Sleep

Many drugs are found to have the effect of causing a temporary suppression of REM sleep. The only drugs that have consistently been found to produce an increase in REM sleep are the rauwolfia alkaloids (for example, reserpine). The most potent suppressors of REM sleep are the antidepressant drugs. Since reserpine is known to produce depression, occasionally of suicidal intensity, this raises intriguing (but as yet unanswered) questions of the relationship of REM sleep to affective state.

Tricyclic antidepressants can produce a complete suppression of REM sleep for a day or two before tolerance takes place. Interestingly, physical dependence to tricyclics occurs rarely if at all, and DTs has not been described on withdrawal. The reason why tricyclics are so free from addictive potential is not entirely clear, but it may be that the half-life of these drugs is so great that a gentle prolonged withdrawal period is produced by natural forces.

A different pattern has been described with phenelzine (Nardil), one of the monoamine oxidase inhibitor (MAOI) antidepressants. Given in adequate dosage (60 mg a day or more) this drug will gradually suppress REM sleep until it is abolished. Then it is found that tolerance *does not take place*, and the proportion of REM sleep remains at zero for as long as the drug is given, with no apparent ill effects (Akindale *et al.*, 1970).

The Action of the Benzodiazepines

Drugs of the benzodiazepine group are used clinically sometimes as minor tranquillisers (for example, diazepam, chlordiazepoxide) and sometimes as sleep-inducing agents (such as nitrazepam). Some drugs are used under both categories (for example temazepam) (Priest and Rizvi, 1976) and probably most benzodiazepines in common use could be used for either function.

Their administration has sometimes been shown to be associated with REM sleep suppression with withdrawal rebound (Oswald and Priest, 1965). Clinically the tendency towards developing physical dependence has seemed to be much less than that of the barbiturates, and in other respects their

actions seem to be somewhere between those of the barbiturate and those of the neuroleptic tranquillisers as they were contrasted earlier (pp. 86–87). Experimental evidence suggests that the benzodiazepines are not entirely free of addictive potential. In some studies (Hollister *et al.*, 1961; Isbell and Chrusciel, 1970) the experimental administration of very large doses has resulted in convulsions in the withdrawal period. In one report two patients developed a delirious syndrome after high doses of diazepam had been given in the treatment of tetanus (Malatinsky *et al.*, 1975). It would seem that the benzodiazepines are not entirely free of the tendency for producing physical dependence, but to keep this in perspective one has to bear in mind that clinical reports of addiction have been scarce in relation to the enormous quantities prescribed.

Function of Sleep

The question of the function of sleep can be considered in several ways. It is remarkably difficult to demonstrate impaired intellectual function after the loss of a complete night's sleep. Deprived persons can still perform calculations and other tasks without objectively measurable deficit. We all know that the reaction to such a stress will vary, but the most likely *subjective* consequence is a feeling of sleepiness. One objective test that demonstrates impairment is a type of vigilance task in which the subject is required to count very brief intermittent events, such as flashes of light on a television screen. The count is lower in sleep deprived subjects. This has been interpreted as suggesting that the person suffers from occasional very brief episodes of unconsciousness or 'microsleeps'.

The output of growth hormone is maximal during deep orthodox sleep. This hormone is responsible in adults for facilitating repair and restitution of tissues. This evidence may be considered as the scientific parallel to the layman's notion that sleep has a restorative function.

A rumour has circulated to the effect that deprivation of REM sleep leads to insanity. This is not, so far as we know, true. In a sense deprivation of *global* sleep will eventually lead to insanity. It is very difficult to keep subjects awake for more than 48 hours, but if a determined effort is made then a delirious clinical picture supervenes, and this acute organic brain syndrome (confusional state) could be described as a psychosis.

The basic work on REM sleep deprivation was carried out by Dement (Dement, 1968). He used the fact, referred to earlier, that on going to sleep we normally go straight into orthodox sleep. He woke his subjects each time they entered the REM phase. When they returned to sleep, they naturally went back into orthodox sleep. On succeeding nights they entered REM phases with increasing frequency, so that it became necessary to wake the subject 20 or 30 times. After four or five nights the procedure was halted. During the ensuing recovery nights an excessive amount of REM sleep was observed in most subjects.

Dement did *not* describe psychosis as supervening. He described 'psychological disturbances such as anxiety, irritability and difficulty in

concentrating' but goes on to add that 'these were not catastrophic'. Earlier I referred to the finding (Akindele *et al.*, 1970) that phenelzine can abolish REM sleep. This was observed during the course of treating patients for depressive illness. In fact no untoward sequelae were observed that could be attributed to the lack of REM sleep (Oswald, 1976).

It has been postulated that while orthodox sleep, with its surges of growth hormone, is connected with restitution of the body, REM sleep is more related to brain nutrition (Oswald, 1970). This is supported by the findings of the high proportion of paradoxical sleep in neonates (when brain growth is maximal) and of greatly increased blood flow to the brain in REM sleep, as well as more indirect evidence.

The Treatment of Sleep Disorders

It has been found empirically that *enuresis* is helped by tricyclic anti-depressants. The reason for this is still not absolutely clear. Enuresis can occur during REM sleep (*Br. med. J.*, 1968) but it usually occurs during orthodox sleep, typically in the first cycle of the night. It could be that in some sense enuresis is a depressive equivalent, or it could be that it is the parasympathetic blockade produced as a 'side-effect' by tricyclics that is important here.

Night terrors and sleepwalking characteristically are found in the deeper stages of orthodox sleep, and this deep sleep tends to be inhibited by minor tranquillisers of the benzodiazepine group (Fisher *et al.*, 1973). These drugs may be used to treat night terrors and sleep walking, but in general such disorders are benign and the institution of long-term drug therapy would not be warranted. Because of the subsequent amnesia after the episodes it is generally the parents and relatives that need reassurance rather than the patient. The affected child tends to improve with age, and in the case of somnambulism steps must be taken to make sure that the patient does not harm himself during his nightly sorties, especially if he lives in a tall building.

Narcolepsy has been treated traditionally with amphetamine. It is now known that amphetamine can suppress REM sleep. This is not necessarily the source of its benefit in narcolepsy, which may depend in a much more straightforward way on the well-known alerting properties of the drug. Since phenelzine has such a powerful and enduring action on REM sleep it would seem logical to try it in narcoleptic patients. This practice is not widespread though, possibly because in view of the potential toxicity of the MAOIs it would be using a sledgehammer to crack a nut. Most patients with narcolepsy can get by without continuous medication, merely taking amphetamine on exceptional occasions when it is of crucial importance to remain awake. The daily use of amphetamine has the drawback that the drug is potentially addicting. Tolerance is a marked feature, and patients taking large doses are liable to a paranoid psychosis indistinguishable in symptoms and signs from paranoid schizophrenia.

Delirium tremens can be treated in the light of being seen as a state of REM sleep rebound. The administration of barbiturates or paraldehyde may be expected to damp down the REM rebound by a direct suppressant action. The

use of a long acting barbiturate, such as phenobarbitone, will have the added advantage of diminishing the likelihood of convulsions, which is also a hazard during the withdrawal phase. Present knowledge, then, provides a rationale for the established practice of giving patients in DTs large amounts of phenobarbitone and tailing off the dosage to zero in the course of ten to fourteen days.

The administration of phenothiazines has also been found useful. This was unremarkable, since neuroleptic drugs have a high reputation in the treatment of delirious states of a variety of origins. It may be that their benefit in DTs is for an unusual reason. It has been found that the REM sleep rebound that follows drug withdrawal can be prevented (Evans and Lewis, 1968; Lewis and Evans, 1969) to a large extent by the *prior administration of chlorpromazine*. This effect of damping out the rebound curve may help explain how phenothiazines work in the treatment of DTs. A disadvantage of their use in this condition is their tendency to exacerbate any likelihood of seizures. For this reason they should be prescribed in combination with phenobarbitone or another anti-epileptic drug.

The benzodiazepines have also proved to be of value in DTs. Not only do they directly suppress REM sleep but they also have some inherent anti-epileptic property. Another drug commonly used in the treatment of alcohol withdrawal states is chlormethiazole, and it has been demonstrated that this drug too has the effect of suppressing REM sleep (Evans *et al.*, 1972).

Insomnia is a common complaint and a troublesome accompaniment of many acute psychiatric disorders. Ideally treatment should be directed at its cause.

For many people the occasional sleepless night can be brought about by a strong emotion (for example, resentment) that is incompatible with sleep. You or I may lie awake furious at a confrontation that took place during the day, irritated by the outcome and going over in the mind what one should have said or what one will do tomorrow. In the physiological state of arousal that accompanies these strong feelings there is clearly no place for sleep. The answer here may be either to get up and do something active that will distract the attention from this frustrating topic, or to lie in bed and accept that it will be a long time before sleep comes.

Insomnia may prove to be a distressing problem when the causes of resentment are persistent day by day. In this case the aim should be to tackle the sources of conflict, whether they are in the domestic situation, at work or where-ever. If the causes cannot be removed then maybe psychotherapy will at least allow the patient to make a better emotional adjustment to them.

It has to be faced in many cases in medical practice that advice to treat the cause is a counsel of perfection and the doctor may feel that symptomatic relief with drugs is justified. What drug should he use?

There is no doubt that barbiturates are effective. However, they are a frequent cause of death in overdose and they may cause physical dependence. They are sometimes recommended when it is known that the patient will need them for only a night or two (for example, over a brief crisis), since prescribed in small quantities they are unlikely to be abused. At present in the United Kingdom there is a campaign for a more limited use of these drugs organised

by C.U.R.B. (Campaign on the Use and Restriction of Barbiturates) and the plea is made for a voluntary ban on the use of barbiturates as hypnotics. If this were done, and stocks of barbiturates in pharmacies were low, this would greatly curtail the system in which drugs are stolen and sold to young misusers, who take them not only orally but by injection. This pattern of misuse is associated with lack of sterile precautions, multiple drug use, abscesses, sloughing scars, peripheral ischaemia, gangrene, septicaemia, hepatitis and a high fatality rate from physical complications or from overdose. At present 30 per cent or more of deaths from overdose involve barbiturates.

While the barbiturates have their dangers some of the alternatives are not much better. It was seen earlier that most of the older non-barbiturate hypnotics are liable to produce the barbiturate-alcohol type of dependence (pp. 86-87). Even chloral is not immune. It was a great advance when the benzodiazepine group of tranquillisers was introduced as sleep inducing drugs. Although they may not be entirely free of risk (pp. 88-89) the safety factor for both overdose and physical dependence seems to be very much higher than that of the other group. Nitrazepam and flurazepam have been marketed as sleep inducing drugs, but there seems to be little reason why *they* should not be used as tranquillisers nor why diazepam and chlordiazepoxide should not be used as hypnotics. Some of the more recent benzodiazepines (for example, temazepam) have been used as both (Priest and Rizvi, 1976).

Though safer than the barbiturates, and to be preferred for that reason, the benzodiazepines are not ideal. Apart from their effects on REM sleep, they greatly reduce the amount of deep orthodox sleep. What alternatives are there? One device is to use tricyclic antidepressants. Some tricyclics produce drowsiness as a side effect, which may be sufficient to commend the drug as a potential sleep inducer. The antidepressant action of the drug can be expected to help many patients in whom the insomnia is a feature of their depressive illness. It is possible, but yet to be proved, that some cases of monosymptomatic insomnia are illnesses of the same nature as depression, and which therefore might be helped directly by the antidepressant action itself. Compared with the benzodiazepines the tricyclics would seem to have less potential for dependence (if any at all) but to be much more sinister in overdose, where death from cardiac arrhythmia is common. A tragic sequence occurs when the tricyclic antidepressant prescribed for the adult is mistaken for sweets by a child, with fatal results.

A further alternative to prescribing benzodiazepines is to give phenothiazines. At present they do not seem to be widely used as sleep inducing agents, but in the experience of the author and of others (Oswald, 1975; Priest, 1976) they often prove to be very acceptable (for example thioridazine 25-100 mg at night). They have less effect on REM sleep or deep orthodox sleep than benzodiazepines, they are less dangerous in overdose than the tricyclics, and they have a remarkable freedom from producing dependence.

Finally one should consider the use of food as a sleep inducer. It has been established (Lacey *et al.*, 1975; *Br. med. J.*, 1972) that patients on a low caloric diet for obesity sleep poorly, especially in the second half of the night; that patients with anorexia nervosa are similarly impaired while at low weights,

and that mentally ill patients who lose weight also sleep less. A snack or a beverage at night-time is therefore a logical step. In the case of a patient who needs to be on a reducing diet it is recommended that some of the day's carbohydrate ration should be saved for bedtime.

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9 Relevance of Research in Parkinson's Disease to Psychiatry

Richard H. S. Mindham

The neuropathological changes associated with Parkinson's disease were established in the early part of the present century. The biochemical changes now known to be associated with the disease were not known until much later. The distribution of amines in the brains of animals was widely explored in the 1950s and the presence of dopamine in the brains of many animals was described by Montagu in 1957. From the time of its discovery it was suggested that dopamine might be a neurotransmitter in its own right, but it was Carlsson who, in 1959, put forward the view that dopamine has an important role in the regulation of motor function.

The basic information on the distribution of amines in the brain was followed by reports of Ehringer and Hornykiewicz that the brains of patients who had suffered from Parkinson's disease contained lower levels of dopamine in some areas of the brain than in patients dying from other causes (Ehringer and Hornykiewicz, 1960). This finding was confirmed by other workers. An interesting case supporting the role of dopamine deficiency in parkinsonism was provided by an example of unilateral parkinsonism where the amine deficiency was also found to be unilateral (Barolin *et al.*, 1964).

Homovanillic acid, a metabolite of dopamine, is found to be reduced in concentration in the brains of patients who have suffered from Parkinson's disease. More recently, it has been shown that homovanillic acid is reduced in concentration in the cerebrospinal fluid of patients suffering from Parkinson's disease, so relating post-mortem findings to those in life (Bernheimer *et al.*, 1963).

The discovery that the concentration of dopamine in the basal ganglia of patients with Parkinson's disease is reduced, led to attempts to replace the deficiency by the administration of a precursor of dopamine either orally or by injection. The results of these efforts were variable and inconclusive.

In 1967 Cotzias and his colleagues reported good results in patients suffering from Parkinson's disease who were treated with L-DOPA administered orally. What distinguishes their work from that of their predecessors was that the substance was given in very much larger dosage than before, and this was achieved by gradually increasing the dosage over a period of weeks, thereby avoiding some of the most troublesome of its unwanted effects. Unlike other treatments then available, DOPA improved akinesia most, followed by an improvement in rigidity and then tremor. It is hard to exaggerate the importance of these original clinical investigations by Cotzias

and his team which led to the widespread clinical use of L-DOPA in the treatment of Parkinson's disease. A leading article in the *New England Journal of Medicine* commented that the story of the development of this treatment was one of the few examples of the rational and successful application of basic scientific knowledge to the clinical situation; almost all other treatments have been discovered by accident (Poskanzer, 1969).

Many further studies have amply confirmed the efficacy of L-DOPA in the treatment of Parkinson's disease.

A number of studies have since shown that the administration of L-DOPA causes an increase in cerebrospinal fluid levels of homovanillic acid suggesting that brain dopamine stores have been replenished. A study of the brains of patients who have been treated with L-DOPA showed increased levels of brain dopamine but no evidence of repigmentation in the substantia nigra (Yahr *et al.*, 1972). This finding is held to suggest that the underlying pathological process continues in spite of treatment, and that the relief of symptoms from treatment might be temporary.

A later development in the treatment of Parkinson's disease with L-DOPA has been the introduction of substances which inhibit its breakdown by the inhibition of decarboxylase, and because they do not pass into the brain, have this effect only in peripheral tissues. This type of substance has the important advantage that it reduces the amount of L-DOPA required to give a particular clinical effect and, possibly more important, reduces some of the very unpleasant peripheral effects of the drug.

Some of the biochemical pathways involved in the metabolism of L-DOPA are shown in figure 9.1

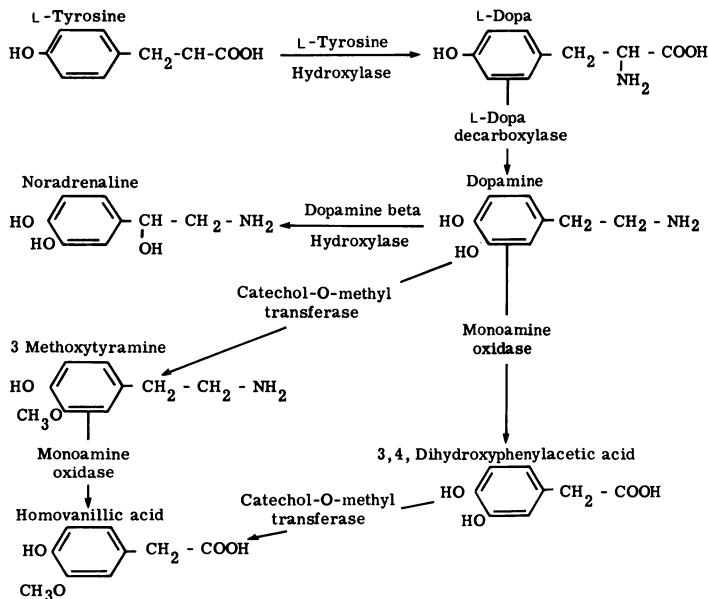


Figure 9.1 Metabolic pathways of dopamine biosynthesis and catabolism (after Hornykiewicz)

Psychiatric Symptoms in Parkinson's Disease

In his original paper of 1817 James Parkinson specifically excluded changes in cognitive function from the syndrome which he described. This is not surprising when one recognises that of the six cases he described, only three had he examined personally; the others he had simply observed walking in the street. In the many years which have now passed since the first description, all manner of psychiatric symptoms have been described in patients suffering from Parkinson's disease.

Several factors make patients with Parkinson's disease particularly likely to show psychiatric symptoms. In the first place, a variety of pathological processes can produce the syndrome and many of these may be associated with more generalised brain disease leading to a decline in cognitive processes. James Parkinson was, of course, unaware of the neuropathological changes underlying the syndrome he described, but it is usual to refer to idiopathic parkinsonism, with a degenerative process of unknown cause as 'Parkinson's disease'; and to regard other forms of parkinsonism as distinct both clinically and pathologically. Secondly, Parkinson's disease is essentially a disease of late middle and old age, when patients are increasingly susceptible to both affective disorders, and degenerative processes leading to a decline in cognitive functions. Thirdly, Parkinson's disease is a disorder which may lead to serious disability with consequent changes in the pattern of life which might be expected to distress the sufferers and lead to depressive symptoms. Fourthly, many of the treatments available for Parkinson's disease may themselves cause mental symptoms and this is particularly true of the more recent ones.

Before discussing the effects of treatment, I will briefly review the psychiatric disorders which occur in untreated Parkinson's disease.

Cognitive Functions

In spite of very early reports of a decline in cognitive functions in patients suffering from Parkinson's disease, there has been a good deal of controversy as to whether these actually occur and whether they are attributable to the same pathological processes which underlie Parkinson's disease. There are a number of reasons for this controversy; first, the difficulty in distinguishing between signs and symptoms of a dementing disorder and the psychomotor slowing so frequently seen in the disease; secondly, in this age group some patients would be expected to have cognitive impairment by chance association with a generalised degenerative disorder of the central nervous system; thirdly, some patients might have parkinsonism caused by a pathological process likely to cause dementia also.

A number of clinical studies have shown dementia in a proportion of patients varying from 14 to 40 per cent (Pollack and Hornabrook, 1966; Hoehn and Yahr, 1967; Mindham, 1970; Celestia and Wanamaker, 1972). Variations in studies clearly depend on patient selection and methods of assessment as well as possible differences between the patients themselves. A

number of recent studies have employed rigorous standardised methods of assessment and have shown that patients with Parkinson's disease perform less well than a matched control group (Reitan and Ball, 1971; Garron *et al.*, 1972; Loranger *et al.*, 1972).

On balance, it seems likely that a dementing process can be part of the Parkinson syndrome in a proportion of patients.

Affective Symptoms

Many affective symptoms have been described as occurring occasionally in Parkinson's disease. Of these, depressive symptoms are very common, anxiety fairly common, but elation rare. Naville (1922) suggested that some of the affective symptoms seen, namely: loss of spontaneity, impairment of attention, fatigability, slowness, and lack of concentration, form an affective syndrome characteristic of Parkinson's disease, and proposed that this be called 'Bradyphrenie'. Others have not felt that the affective symptoms seen in patients with Parkinson's disease were in any way specific to the disease (Mjönes, 1949), and this notion has been generally abandoned. The liability to affective symptoms does not seem to depend on the underlying cause (Mindham, 1970), but to be equally common in parkinsonism with differing pathological causes.

Occasionally, as in many other disorders, patients give a history which suggests that the onset of physical symptoms was precipitated by emotional stress. Claims of this kind are always difficult to evaluate, and frequently a more likely explanation of an apparent association between the onset of symptoms and the psychological shock, is that the latter simply drew attention to the physical symptoms. Psychological factors can undoubtedly aggravate existing symptoms but there seems to be no good evidence that they can actually cause them.

Miscellaneous Mental Symptoms

Among the many cases of post-encephalitic parkinsonism which followed the Great War, behaviour disorders and changes in personality are frequently described. Some of those affected were children and were labelled the 'Apache' type, with behaviour ranging from 'mischiefousness to crime' (McCowan and Cook, 1928). Changes in personality are often described with irritability, suspiciousness and excitability being particularly commonplace. These changes might well be more properly regarded as a manifestation of a dementing disorder, although this is not always clear.

Delusional states also occur in Parkinson's disease, and these are generally associated with a dementing process, or can be attributed to the toxic effects of medication.

Obsessional symptoms have often been regarded as typical of post-encephalitic parkinsonism. Of 89 cases of parkinsonism I studied retrospectively, 19 had suffered from post-encephalitic parkinsonism, and of these, 4 suffered from obsessional symptoms; among the remaining 70 patients suffering from parkinsonism of various etiologies, a further 4 had

obsessional symptoms (Mindham, 1970). On this evidence, obsessional symptoms cannot be regarded as common even in the post-encephalitic parkinson group.

Psychiatric Symptoms Occurring as Unwanted Effects of Treatment

Psychiatric symptoms are occasionally seen in patients treated with anti-cholinergic drugs and in patients treated by neurosurgical methods. In the case of anticholinergic drugs, toxic confusional states may occur, and these may be quite florid and involve troublesome over-excitement and even violence. Fortunately, the patients usually respond promptly to the withdrawal of the drugs (Schwab *et al.*, 1951; Porteous and Ross, 1956; Stephens, 1967). In the case of neurosurgical treatment it is no surprise that patients occasionally show some residual cognitive impairment after operation (Asso, 1969).

Psychiatric Complications of L-DOPA Therapy

The introduction of L-DOPA therapy for Parkinson's disease has brought with it reports of many disturbances of mental processes. In their original paper Cotzias and his colleagues (1967), report a tendency to euphoria on L-DOPA, in contrast to the confusional states sometimes associated with the administration of anticholinergic drugs. Subsequent reports were less favourable and many cases of frank elation, depression with suicidal behaviour, delusional states and confusional states appeared. A number of systematic studies showed depressive states to be the most frequent type of disturbance of mood during L-DOPA therapy, but an activating effect or occasionally frank elation are also reported (Jenkins and Groh, 1970; Celesia and Barr, 1970; Damásio *et al.*, 1971). Disturbances of mood occur in up to thirty per cent of the patients treated, although it should be said that one study found no psychiatric complications of treatment at all and a low initial psychiatric morbidity among the patients studied (Coppen *et al.*, 1972). A general finding in the reported studies is that the psychiatric symptoms were dose dependent and responded well to the withdrawal of L-DOPA and that, contrary to what might have been expected, tricyclic antidepressants could be given without serious complications, and were often effective. A difficulty in interpreting many reports is that L-DOPA was frequently given with a variety of antiparkinsonian agents.

In a recent study carried out at King's College Hospital, London, 50 patients attending a neurological outpatient clinic for Parkinson's disease were assessed by standardised methods for both physical and psychiatric symptoms. The patients then received treatment with L-DOPA, L-DOPA with carbidopa, or anticholinergic drugs and/or amantadine. During the following six month period the subjects were assessed at intervals, both physically and psychiatrically. Forty patients were followed up for the full six month period. Initially, the patients showed a high psychiatric morbidity. During treatment 22 patients developed a depressive disorder, 12 of whom had a history of

previous depressive episodes. By contrast, of the 11 patients who showed very few affective symptoms during follow up, none had a history of depression. Of the 22 patients with a depressive disorder, only two were in the anticholinergic/amantadine group, compared with 9 and 11 in the other groups. L-DOPA was not found to be an effective antidepressant agent (Mindham *et al.*, 1976).

The Relationship between Mood Changes in Parkinson's Disease and Amine Theories of Affective Disorders

The occurrence of disturbances of mood in a substantial proportion of patients known to have a depletion of dopamine in parts of the brain, raises the possibility that motor symptoms and mood changes in these patients arise from related biochemical causes. There is an extensive literature on the possible roles of brain amines in the control of mood (Schildkraut, 1965; Schildkraut, 1969; Mendels, 1974). Sometimes the importance of the catecholamines has been stressed (Carlsson, 1968) and at other times the role of indole amines has been held to be more important (Brodie *et al.*, 1966), but other substances, such as acetylcholine, may also play some part in the biochemical systems involved. The matter is by no means clear and a recent review stresses the uncertainty and complexity of the situation (Baldessarini, 1975).

The evidence which supports the various amine theories of the control of affect comes from a variety of sources, all of them indirect and open to objection and qualification. First, there is the effect of reserpine and related drugs, in causing a depletion of all kinds of brain amines; this effect may give rise to a syndrome which closely resembles naturally occurring depressive illness. Secondly, there is some evidence of disturbed brain amine metabolism in patients suffering from depressive disorders; largely from post-mortem material (Shaw *et al.*, 1967; Bourne *et al.*, 1968), but also from the study of amine metabolites, which are thought to reflect the levels of their precursors in the brain, in the cerebral spinal fluid of living subjects (Ashcroft *et al.*, 1968; Eccleston *et al.*, 1968). Thirdly, there have been claims that the administration of a variety of amines or their precursors is helpful in the treatment of depressive states. The drugs given include both the catecholamine and indole amine series, but the results do not suggest that these substances have an antidepressant effect (Carroll, 1971; Herrington *et al.*, 1974), although tryptophan has been reported to potentiate the effects of the monoamine oxidase inhibiting drugs (Coppen *et al.*, 1963). Finally, most of the drugs thought to have antidepressant effects in patients are known to affect the metabolism of amines in the nerve cell in various ways, although it is less certain that this effect is directly linked with their antidepressive effects (Mindham and Shepherd, 1973). It will be evident that these sources of information are very similar to those which led to the discovery of the effect of L-DOPA in the treatment of Parkinson's disease.

A number of studies of the effects of administering L-DOPA to depressed patients have been reported, but many of these used what would now be regarded as a very small dosage of the drug. In one study, patients given L-DOPA showed increased motor activity without a relief of depressive

symptoms (Goodwin *et al.*, 1971). Another study has claimed a reduced incidence of depressive symptoms in patients with Parkinson's disease treated with L-DOPA as compared with a control group (Celsius and Wanamaker, 1972). The findings in our study do not suggest that L-DOPA has an antidepressant effect in patients with Parkinson's disease; a few patients became elated but a much greater proportion became depressed. These apparently contradictory findings may be explained in a variety of ways. In the first place, catecholamines may indeed be less important in the control of mood than indole amines. Secondly, the administration of L-DOPA may interfere with the metabolism of other amines, themselves more important in the control of mood, and this has been shown to be possible experimentally (Bartholini *et al.*, 1967). A third possibility is that the frequent occurrence of depressive symptoms in patients with Parkinson's disease is due to the impairment of synthesis of a variety of amines, including L-DOPA, by neuronal cells (Yahr *et al.*, 1972). Finally, there is the important possibility that substances and mechanisms are involved which are not yet known. Sandler (1972) has commented that attention is directed to the study of substances only when methods become available for their detection and measurement.

Relationship between Drug-induced Parkinsonism and Parkinson's Disease

The effect of the phenothiazine drugs and other major tranquillisers on the extra-pyramidal nervous system is one of the most striking of their many pharmacological effects. In the case of chlorpromazine the action of the drug on the extra-pyramidal system has been known almost from the time of the discovery of its therapeutic action in the early 1950s. In fact, Delay and Deniker (1952) suggested that the effect of chlorpromazine in controlling agitation and violence might be due to the induction of a Parkinson state. As new drugs have been developed and found to be effective in the treatment of schizophrenia, they have all been found to share the property of inducing extra-pyramidal syndromes, although their potency in this respect is not necessarily proportional to their therapeutic effect (Herman and Pleasure, 1963). The notion that the effect on the extra-pyramidal system is essential to their therapeutic effect has received some support; notably from Haase (1961), who regarded extra-pyramidal effects as a 'conditio sine qua non' for therapeutic effectiveness. Later opinion tended to move away from this view and the extra-pyramidal effects came to be regarded more as an unfortunate unwanted effect than as an indication that drugs were entering appropriate parts of the nervous system in adequate concentration for them to be therapeutic (Cole and Clyde, 1961). Drug induced extra-pyramidal syndromes have continued to attract attention, largely through the problems they cause in clinical management, but more recently for heuristic reasons. Although acute and chronic dyskinesias and akathisia may appear as unwanted effects of the major tranquillisers, parkinsonism is the most frequently observed syndrome.

A number of recent studies suggest that abnormalities of biogenic amines underlie some of the disorders of the extra-pyramidal nervous system (Snyder *et al.*, 1974; Stimmel, 1976). In the drug-induced syndromes it is suggested that

dopaminergic systems are blocked by the drugs, many of which are known to exert this pharmacological effect. Other hypotheses suggest that in the normal state a dynamic balance exists between various neurological systems and neuro-transmitter substances, for example, between serotonergic and dopaminergic systems, or between acetylcholine and dopaminergic systems, and these can be disturbed by altering the concentration of one of these substances, through the administration of drugs.

Relationship between Parkinson's Disease and other Disorders of Movement

Although the biochemical abnormalities underlying Parkinson's disease are the best understood there is evidence that abnormalities of the metabolism of the biogenic amines may also occur in other disorders of movement. Sometimes patients receiving L-DOPA for Parkinson's disease develop movements resembling those seen in Huntington's chorea and tardive dyskinesia (Marsden and Parkes, 1973). These movements disappear when the dosage of L-DOPA is reduced, suggesting that the movements have been caused by overactivity in dopamine dependent systems. Similarly, it is possible to replace choreiform movements by parkinsonism in patients by the prolonged administration of a substance which depletes brain amines, such as reserpine or tetrabenazine. Observations of this kind have led to suggestions that the pharmacological abnormality in Huntington's chorea and in the tardive dyskinesias is an oversensitivity of dopamine receptors to dopamine (Carlsson, 1970; Klawans, 1970a). In tardive dyskinesia, which clinically resembles chorea, it is suggested that when a dopaminergic system is suppressed by drugs administered over a long period of time, systems which oppose the action of dopamine undergo a decline in activity. When the blocking effect of the drugs is removed, the dopaminergic systems recover and are not opposed in the normal way, giving rise to signs of dopaminergic overactivity in choreiform movements.

The problem of movement disorder is made more complicated by the discovery that some substances occurring naturally may inhibit nervous transmission. Gamma aminobutyric acid (GABA) is a substance with this effect. The concentration of GABA and of enzymes concerned in its synthesis have been found to be reduced in the basal ganglia of the brains of patients who have suffered from Huntington's chorea (Perry *et al.*, 1973; Bird and Iversen, 1974). Findings of this kind are more in keeping with a hypothesis of reduced inhibition of normal dopaminergic activity in Huntington's chorea rather one of excessive sensitivity to dopamine.

The Relationship between Parkinson's Disease and Schizophrenia

Studies of the brain amines have led to the recognition of the importance of dopamine in the brain, and it now seems very likely that drugs which induce parkinsonism and other disturbances of the extra-pyramidal nervous system do so by effects on dopaminergic nervous transmission. As many of these drugs have been shown to be effective in the treatment of schizophrenia, the possibility arises that the clinical manifestations of this disorder also arise

from changes in dopaminergic pathways in the brain. A number of dopaminergic pathways have been discovered in recent years and these do not seem to be limited to pathways subserving motor function (Crow, 1972; Crow, 1973). There is experimental evidence that both the phenothiazine and the butyrophenones increase catecholamine turnover and that dopamine metabolism is most affected (Snyder *et al.*, 1974).

An alternative suggestion is that cyclic adenosine monophosphate is an intermediary in neurotransmission, being activated by dopamine, and itself modifying neurotransmission at the synapse by an effect on membrane permeability. Changes in the concentration of adenosine monophosphate are catalysed by the enzyme adenylate cyclase which is inhibited by a wide range of tranquillising drugs. It has been shown that the potency of drugs in inhibiting the enzyme adenylate cyclase closely corresponds with their potency in suppressing schizophrenic symptoms (Iversen, 1975). Additional evidence supporting the notion that dopamine is involved in the appearance of schizophrenic symptoms, comes from the observation that the psychosis occasionally seen when amphetamines are taken in large quantities is accompanied by the release of dopamine (Snyder *et al.*, 1974). The symptoms of amphetamine psychosis are readily controlled by chlorpromazine and related drugs. There is also evidence that the administration of L-DOPA to schizophrenic patients makes them clinically worse (Yaryura-Tobias *et al.*, 1970).

Objections have been raised to the suggestion that abnormalities of dopamine metabolism are involved in schizophrenia. For instance, if Parkinson's disease and schizophrenia were in a sense opposites, one being associated with deficient dopaminergic activity and the other with excessive dopaminergic activity, it might be expected that the two would rarely occur in the same patient. However, a number of cases in which a schizophrenic illness occurred in patients with long-standing Parkinson's disease have been described (Crow, Johnstone and McClelland, 1976). Furthermore, experiments in animals do not suggest a simple relationship between the effects of the tranquillising drugs and dopamine turnover (Crow and Gillbe, 1972). Workers in the field have taken pains to stress that even if drugs effective in controlling symptoms in schizophrenia do act by blocking dopaminergic nervous transmission, this does not necessarily mean that a change in dopamine metabolism is the fundamental abnormality in schizophrenia (Crow, Deakin, Johnstone and Longden, 1976).

Summary

The research discussed clearly has implications for the treatment and management of patients with Parkinson's disease. The frequent occurrence of psychiatric symptoms in the disorder is an important part of the syndrome. Further study of disturbance in amine metabolism in patients with Parkinson's disease may, in due course, cast light on the roles of amines in psychiatric disorders generally. The study of Parkinson's disease, Huntington's chorea and drug-induced extra-pyramidal syndromes has

clarified some aspects of the neuropharmacological changes underlying these conditions and of the effects of drugs in the central nervous system; there are hopes that some of these discoveries will be relevant to the mechanisms underlying schizophrenic symptoms.

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10 Is the Term 'Psychosomatic' Still of any Value?

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While philosophers and psychologists continue to argue about the possible interactions of body and mind, practical doctors have to get on and treat patients in most of whom somatic disease and psychological states affect each other. Three separate situations can be described. There is, first, the influence of somatic diseases on the mind, as in cerebral disease and toxic-confusional states. These are universally recognised by all doctors and need no further discussion. Secondly, there are the somatic symptoms of anxiety, hysteria and depression such as, respectively, palpitations, paralyses and anorexia. Their reality cannot be denied, although, in the absence of any underlying structural lesion, they are often dismissed as 'functional'. It is not clear whether the word 'functional' is always used as it should be in both the physiological and the psychological senses.

There is, thirdly, the more controversial area to which the term 'psychosomatic' is properly applied. This concerns the influence of psychological factors on somatic diseases. For some writers, however, the relationship is between certain psychological experiences or traits and particular somatic diseases which are often regarded as especially 'psychosomatic'; for example, asthma, rheumatoid arthritis, peptic ulcer, ulcerative colitis, thyrotoxicosis, hypertension, neuro-dermatitis. The following brief review is not confined to such diseases only but refers, at any rate by implication, to all somatic illnesses (what is meant by disease and illness is discussed further below).

We may deal first with the easiest and best documented aspect, which is the precipitation of illness episodes by what are now generally called 'life events'; that is, happenings, such as bereavement, which are stressful psychologically to the individual. Prospective longitudinal studies would clearly be the most satisfactory ones scientifically, but are methodologically difficult to organise save in small closed communities studied over relatively short periods of time. A microcosm, such as a ship's crew on a long tour of duty did, however, provide the start to one of the better known such studies by Holmes and Rahe (1967). More common are retrospective and immediate onset studies, usually starting with a particular somatic disease (for example, peptic ulcer) but sometimes with a common event such as bereavement, almost universally accepted as a 'stress'. Reviews, such as the recent one of Luborsky *et al.* (1973) show that moderate correlations exist between 'stress' and episodes of a wide variety of illnesses. The affect or drive involved in most of these theories is of

aggression or hostility rather than sexuality, and the former is notoriously less well understood than the latter both physiologically and psychologically. Aggression does not have as clear-cut a cerebral or humoral basis as sexuality. There is even less evidence than in the case of sexuality that there can be a metabolic substance or an electrical charge that builds up and needs release. The orderly development of sexuality through oral, anal and phallic and genital stages has no counterpart in aggression. Hostile affects, like those of fear and anxiety, are often thought to be experienceable as 'free-floating' or contentless, but the current trend of psychological theory and experiment is against such an idea. 'Free-floating anxiety' would suggest that patients in that state have either no cognitive activity going on at the time or else that it is irrelevant to the affect, neither of which is likely to be true unless the patient is nearly unconscious. People in a blind panic cannot introspect at the same time, and non-registration then or repression afterwards, may prevent subsequent clear recall of their thoughts at the time, but this does not mean they had no cognitive activity in some way relevant to the situation they were in.

Most psychodynamic theories of psychosomatic diseases postulate that the illness comes about either because of excessive dammed-up hostility that has sooner or later to burst out somewhere (for example, hypertension, migraine) or else, less commonly, the patient lacks adequate aggressive impulses and is excessively passive and dependent (for example, peptic ulcer).

In the immediate onset studies the main affects described by the subjects at the time were resentment or hostility, anxiety and helplessness. Studies which depended on recollections (usually during psychotherapeutic interviews) of emotions related to illness, showed less frustration and more separation experiences. It is significant that all types of affect were reported in all the somatic conditions studied (petit mal, peptic ulcer, nasal symptoms, 'colitis'). This strongly suggests that one particular organ is affected more than another as a result of 'sub-psychological' or somatic factors rather than because of specific psychological constellations. It is known that patients tend to suffer more than one of these psychosomatic conditions more often than by chance, which also argues for some general somatic predisposing factor.

The particularly 'psychosomatic' illnesses listed above may be singled out, not so much because they are specially prone to being influenced by psychological events, but simply because they are chronic conditions, with relapses and remissions or repeated attacks, thus making repeated observations easier.

The question-begging word in the above types of research is, of course, 'stress', especially when it refers to psychological events such as bereavement, not usually or necessarily accompanied by physical exertion which might contribute an added component of physiological stress. In the context of psychosomatic research it must refer to the reactions of every aspect of personality that might be affected by life-events, or influence the perception of such events. For the most part the literature is concerned with the emotional or affective state of patients. With few exceptions, cognition and conation (that is, will or motivation) are not generally regarded as being particularly related to the onset and course of somatic illness. There has been surprisingly

little research on motivation, considering that most physicians recognise that the patient's will to live, or die, plays an important part in the prognosis of serious illness. Psychologists and psychiatrists, however, are rather poor in the assessment of the factors in motivation; amongst other things it leads them to consider problems of responsibility, which has medico-legal overtones.

Emotions, however, are obviously important because their expression is in somatic terms as well as the subjective experience. One of the most celebrated theories of the nature of emotion, the James – Lange theory, said expressly (at any rate in the early formulations) that the emotion *was* the somatic events such as palpitations, racing pulse, sweating, etc. There are, however, numerous arguments and much evidence against such a simplistic view. Neuro-humoral factors are, of course, important, in the production of somatic symptoms accompanied by emotional experience. The lack of relationship between the subjective and the objective components of emotion was well brought out some years ago by detailed observations of the different reactions reported by a large number of subjects given adrenaline injections. More recently the subject has again been systematically investigated by Schachter and Singer (1962). They had several groups of subjects; some were told that the injection was adrenaline; some were told that it was a new drug of uncertain action; others were given a placebo. After the injection some subjects were visited by a collaborator of the experimenter who in some cases tried to organise the subject into a series of hilarious games, and in other cases engaged him in different psychological activities. These experiments clearly showed that the emotional changes reported by the subjects varied very greatly, and seemed to be more influenced by environmental circumstances following the injection than the actual somatic changes produced by the injection. Unfortunately, it is not possible to find out from the experimental protocols whether the environmental circumstances also influenced the extent to which the general situation modifies the somatic activities, such as pulse rate, blood pressure, etc. These experiments showed that a reported emotion depends on a large number of cognitive factors as well as emotional ones as exemplified by the somatic changes. Emotional states remembered by patients, therefore, may be various and complex, and the nature and intensity of what is remembered later may have little to do with their somatic accompaniments at the time. In our present state of knowledge we do not know whether it is the subjective experience or the somatic events which may influence psychosomatic disorders.

Life events can be put into a rank order of degree of stressfulness only as regards groups of people from roughly similar cultural backgrounds. In the individual person, for example, a bereavement might be less disturbing than a burglary. Further pitfalls come about if only hospitalised patients are investigated, since it is well known that the factors leading to being admitted include the psychosocial in many cases. Almost every patient makes an 'effort after meaning' when giving his history, searching his memory for what might have precipitated the illness. It is hard, therefore, to find any somatic disorder which is never affected by life events.

A complementary approach to the study of the events, therefore, is to look more closely at personality generally in the hope of finding characteristics

related to the nature or extent of the somatic effects of 'stress'. The early influential studies were psychoanalytic in origin, especially those by Franz Alexander and colleagues in Chicago in the 1930s and 1940s. Their aim, however, was not so much directed to the psychological effects of recent life-events as to delineating particular personality profiles related to particular somatic diseases. Claims were made that a typical ulcer or colitis personality existed which had a more direct causal influence on the somatic disease than just precipitating relapses. The psychoanalytic method is essentially 'ideographic', and clearly open to much observer bias, since the interviewer can scarcely fail to know from what medical condition the person suffers. Elaborate attempts to taperecord interviews and to delete from them all references of the condition and then replay the tape back to other assessors, resulted in a very considerable drop in reliability of diagnosing conditions from which patients suffered, purely from the psychiatric history and personality structure elicited from the interviews.

A rather different aim of later psychological research was delineation of personality profiles using general questionnaires, for example for neuroticism. These tests were usually devised for different purposes than investigating what personality traits might be related to somatic disease. A recent example by Crown and Crown (1973) was a study of early rheumatoid disease using the Middlesex Hospital Questionnaire which is a short clinically oriented personality inventory with sub-tests measuring free-floating anxiety, phobic anxiety, obsessionality, somatic anxiety, depression and hysterical traits. In these patients with *early* disease the tests failed to distinguish this group from normal controls and they were strikingly different from responses of the psychoneurotic population. Furthermore, no differences were found between those patients who were already disabled in contrast to those with good function. This negative result is somewhat in contrast to similar studies done with patients, most of whom had suffered from rheumatoid disease for many years. This strongly suggests that many of the psychological changes observed were reactions to, rather than causes of, chronicity, though as the Crowns point out, the whole matter of chronicity needs reanalysis medically, psychologically and socially. The personality factors of neuroticism may also not be those that predispose to psychosomatic disease.

Another way of tackling this problem is not to look at the distribution of personality traits of those with somatic disease, but to look at the distribution of these diseases in the psychiatric population. This was done, for example, some years ago by Gosling (1957) for peptic ulcer. He showed that the condition seemed slightly more common in patients with chronic neurotic disorders, and rarer than expected in schizophrenics. Pedder's (1969) review confirms the slight negative correlation between psychosis and psychosomatic illness. Although most of these questionnaire studies are cross-sectional and deal only with a short time span of the patient's life, implications for the importance of early life experiences and/or 'constitution' are often suggested. The psychoanalytic studies, of course, quite specifically claim that early life events do cause later somatic illness (or at any rate largely contribute to their cause). On the other hand, many who use questionnaire methods appear to assume that the results imply a fairly fixed personality structure largely

genetic, or at any rate constitutional in origin. In particular, it was assumed that autonomic reactivity to stress, which obviously is closely concerned with somatic disease, was essentially innate. However, it was known by many of Pavlov's colleagues for years that simple functions, such as heart rate, could certainly be conditioned to the usual Pavlovian signals, such as bells and buzzers. More recently, Neal Miller and his colleagues (1968) have re-examined this matter and have shown conclusively direct conditioning of many autonomic functions. This work has aroused considerable interest in the last few years amongst physicians interested, for example, in hypertension; but so far the clinical value of these investigations is disappointing, since although changes can undoubtedly be made in an experimental situation, it is more difficult in humans to generalise them, so that the subject's control of his blood pressure continues in his ordinary daily life. These studies, however, do suggest not only that the central nervous system control of autonomic function does play a considerable part in the direction and intensity of somatic responses, but also that learning and experience may modify such responses which are thus not entirely innate or constitutional.

There have been a number of animal as well as human experimental studies of the genetic contribution to psychological functions as well as to somatic disorders. In both there is an undoubted genetic component which in animals like mice and rats can be bred to be more or less dominant, but the experimental evidence is uncertain that there is any clear relationship between emotionality, as measured by certain responses to stress, and, for example, susceptibility to gastric erosion (see Broadhurst *et al.*, (1974) for a comprehensive review). Autonomic responses to stress may, therefore, be learned early on and not be innate, and become gradually maladapted, just as somatic bad habits, such as awkward gaits and postures, may lead to bone and joint strains in later years. Learning theory and psychoanalytic contributions to personality development have thus curiously converged with a renewed interest in how early life experiences mould subsequent personality structure, and by implication help to determine at least susceptibility to mental or psychosomatic disorders. The latter are included because of the generally held belief already mentioned that emotional states (with their accompanying somatic changes) are especially closely related to these somatic illnesses. However, although marked variations in the somatic patterns of response to anxiety and 'stress' in babies have often been demonstrated, no-one has shown their persistence during development into adulthood. The necessary long term follow-ups of large numbers of persons with repeated tests and medical checks is obviously methodologically impossible.

There have been several attempts at formulating more specific theories of psychosomatic disease. Crown (1975) gives a critical review of some of those that are essentially psychodynamic in character; that is, they rely upon concepts of psychic energy that has to be in some way expressed or sublimated following repression, projection or other vicissitude. He stresses the need for the concepts to be capable of an operational definition if they are to be of value in inspiring research. Engel and Schmale (1972) for example, speak of the 'giving-up' reaction to stress that can lead to an episode of 'psychosomatic illness. Other theories (for example, Nemiah (1972)) go back to a different,

more neurophysiological tradition and attempt to ascribe illness episodes to changes in the hypothalamus or other areas of the brain as well as those better psychodynamically formulated. All these theories, like many others in this field, give the impression that when an affect or experience is intolerable, then it is short-circuited, or in some way dealt with only 'somatically'. The concept of the intolerable affect is reminiscent of the idea of the irresistible impulse that occasionally still sours medico-legal discussions on the psychopath. Both are in the end self-defeating circular definitions, since the only measure of irresistibility is the failure to resist, and of intolerability the inability to tolerate. Both depend not only on the strength of the affect or impulse, but also on the power of the forces resisting them, and the moment of breakdown is dependent only on the outcome of that struggle.

It would be more productive at the present time to move on to a different formulation of psychosomatic problems that is more idiographic than nomothetic and takes account of interpersonal and sociological interactions as well as intrapsychic reactions. It is simpler to assume that the psychosomatic interrelations of any one person are unique to that person alone and result from his own life history.

Without a lengthy description one can only give the consequences of such a viewpoint in dogmatic statements and indicate briefly some of the research implications. First, all somatic diseases are multi-factorial in cause, but pathophysiological can be described in terms of disorders of metabolism or peripheral organ dysfunction. Secondly, many, if not all, of the pathophysiological disorders are influenced by neuro-humoral factors and therefore at least potentially affected by the central nervous system. Thirdly, persons react to 'stress' in fairly regular and predictable patterns for each individual that are in part 'constitutional', but partly acquired. The patterns of response to stress lock in with the disease to create the apparent 'psychosomatic' disease. The acquisition of this link is the crux of one of the problems in understanding the more specific psychosomatic interactions that one sees most dramatically in epilepsy.

Fourthly, there is a relationship, probably two-way, but yet to be fully elucidated, between stress-responses and general personality characteristics.

Lastly, the full understanding required for the management of a sick person includes the concept of the sick role; that is, it implies a *socio-psychological* viewpoint which takes into account the patient's family and milieu generally, and thus goes beyond studying only intrapsychic processes. The psychologically minded physician should be more adept at handling these interpersonal relationships than be learned in the possible psychophysiological intricacies of disease, though, of course, in explaining the influence of the illness to the patient and his family the doctor must be aware of how it might interact with life style.

From the research point of view much still remains to be done on even common illnesses like asthma. The humoral and neurophysiological pathways are known through which influences starting from the psychological sphere may be channelled, but why this channel and not another to another organ such as the gut is unknown. Doubts have already been cast on the value of general theories of psychosomatic inter-relations such as that of Engel and

Schmale (1972), and especially on the specific personality traits postulated by the psychoanalysts. Cerebral lesions are unlikely because no 'psychosomatic' disorders are associated with such disorders (acute peptic ulcers from hypothalamic lesions are a doubtful exception). The psychosomatic relations of cerebral disease are quite different. Some cases of epilepsy with known cortical lesions have a unique and extraordinary specificity of triggers (for example, so-called musicogenic epilepsy) that are quite different from any other somatic diseases, none of which have cortical lesions. It is known (for example, from the Isle of Wight study of Rutter *et al.* (1970)) that psychiatric disorders are commoner in chronic conditions like epilepsy that involve the CNS than in those like asthma which have no CNS lesions. The direct psychological effect of the brain damage probably adequately accounts for this increase, coming on top of the chronic socio-psychological consequences of long term episodic illnesses. The ordinary psychological laws of learning would seem adequate to account for the association of affect and illness episodes in all other conditions.

The term psychosomatic is, therefore, of limited use in a loose way. First, it is handy to remind doctors (and students) that the care of patients with any somatic disease involves the whole person; that is, it includes the Illness and the Sick Role, however interesting and intricate the technical management of the Disease might be. Secondly, it is useful shorthand to refer to research into aspects of psychophysiological interaction that might help to elucidate the mechanism of illness.

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11 Prognosis in Severe Neurosis

Andrew C. P. Sims

The term neurosis means different things to different people. I am aiming to use it in the sense of the International Statistical Classification of Diseases, Injuries and Causes of Death, eighth edition, W.H.O. (1965). This lists the different neuroses, for example anxiety neurosis, phobic neurosis. The ISCD has been amplified and explained for British psychiatrists in a Glossary of Mental Diseases, Registrar General (1968).

However, the Glossary of Mental Diseases defines neurosis by exclusion as it states 'The subsequent ten category numbers include a miscellany of disorders and special symptoms which do not belong to the psychoses and cannot be regarded as manifestations of mental retardation for which the rest of the categories are reserved. These ten categories include the neuroses, personality disorders, sexual deviation, alcoholism, drug dependence, physical disorders of presumably psychogenic origin, special symptoms, transient situational disturbances, behaviour disorders of childhood and mental disorders not specified as psychotic associated with physical conditions.' The American equivalent to the 'Glossary', D.S.M. II (American Psychiatric Association, 1968) states 'anxiety is the chief characteristic of the neuroses. It may be felt and expressed directly or it may be controlled unconsciously and automatically by conversion, displacement and various other psychological mechanisms'.

Neurosis is ubiquitous, for instance in the Stirling County Survey from maritime Canada only 17 per cent of the general population were found to be without minor psychiatric symptoms (Leighton *et al.*, 1963). Different presentations of neurotic symptoms and different neurotic syndromes are found in various cultures. Often the population is not so sophisticated as to refer their neuroses to a psychiatrist but they may be seen and treated in other ways.

An example of this was discovered in recent 'field work' in Mid-Wales where the condition 'Clwy edau wlân' was described. This is translated as the 'disease of the woollen threads'. The patient complains of apathy, anergia, listlessness, insomnia, malaise, some degree of depression and tension. He presents himself to a local practitioner who measures the patient's wrist to elbow three times with a length of wool. If the length of wool is longer the patient is believed to have incipient jaundice. If so, a piece of newly forged steel is dropped into his beer and a shilling is paid to the blacksmith. The prognosis following this treatment is excellent; jaundice very rarely supervenes, and in time the patient recovers from his symptoms. I am reliably informed that this

form of treatment has taken place in 1976 in the County of Powys. The epidemiological significance of this condition is that it is very common, that it may occur at times of stress through life and so it is most probably similar to neurotic symptoms presenting to the general practitioner, or to the sub-clinical neurotic syndrome found in about a third of the population in the survey of Harlow New Town (Taylor and Chave, 1964). There seems to be a gradation of severity from the very common but less severe neuroses found in the general population and in general practitioner surveys, for example that of Goldberg and Blackwell (1970), to the more severe and less common neurotic presentations which result in referral to psychiatric services (Sims and Salmons, 1975). This relationship of numbers to severity is demonstrated in figure 11.1.

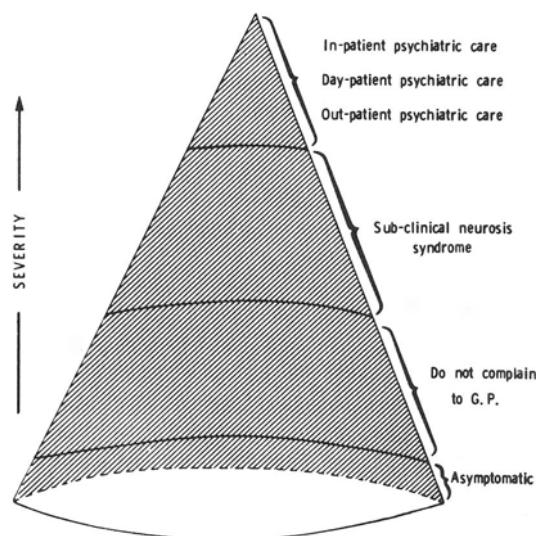


Figure 11.1 The neurotic cone: an epidemiological model. The approximate proportion of the population is represented by the volume of the cone

There tends, therefore, to be an increase in severity of neurosis from (1) the sample of neuroses found in general population surveys, the sub-clinical neurotic syndrome via (2) those with psychiatric symptoms amongst general practice attenders to (3) hospital referrals where there is an increase from outpatients via (4) day patients to (5) in-patients.

Choosing a sample for study is an important task as the sample must be epidemiologically representative of the condition investigated. In looking for a sample suffering from severe neurosis the sample taken should be generally representative without particular bias in terms of age, sex, social class, particular type of neurosis, etc. I was fortunate in finding such a sample at Uffculme Clinic, Birmingham with excellent records and conforming diagnostically to 'Clinical Psychiatry' (Mayer-Gross *et al.*, 1954/60). The clinic was

designated as an early treatment centre for treating psychiatric patients with acute conditions (Harrington and Mayer-Gross, 1959).

The borders between what is neurosis and what are other conditions is blurred, the widest diagnostic interfaces occur between neurosis and (1) normalcy and the sub-clinical neurotic syndrome (2) personality disorder (3) affective disorders and (4) (much less of a problem) schizophrenia and organic states. In practice one forms an operational definition by defining the margins, as in the box in the model, and taking those patients inside the box to be neurotic. In the cone demonstrating severity, it is seen that neurosis in psychiatric practice is more severe than that in the general population and so a sample for severe neurosis would comprise those treated for neurosis in a hospital setting. It is probable that if certain consequences occur to a certain extent with severe neurosis they will also occur but to a rather less extent in the generality of less severe neuroses.

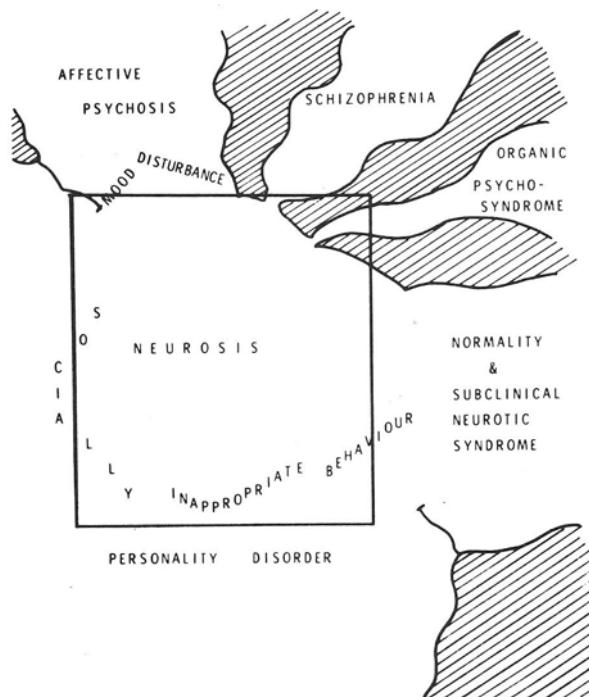


Figure 11.2

'The follow-up is the great exposer of truth, the rock on which many fine theories are wrecked and upon which better ones can be built; it is to the psychiatrist what the post-mortem is to the physician.' This was said by Dr P. D. Scott and is particularly true for neuroses where the planned follow-up of large numbers of patients has become the accepted method of study of the

natural history (Greer and Cawley, 1966) and also the most reliable method of assessment of various forms of treatment. Summing the results of different follow-up studies (Eysenck, 1952) can never be an acceptable way of assessing the overall outcome of neurosis or the effectiveness of psychotherapy. In fact summing the results of psychotherapy in different series in this way is as valid as summing the results of surgery in different series of patients for different conditions. The ratings of different follow-up studies in neurosis are not comparable for several reasons. First the line between different categories, for example recovered, improved, and so on, is arbitrary. Some authors are ludicrously optimistic; others tend to look for dynamic as well as symptomatic improvement and find a much worse outcome (Malan *et al.*, 1968). Secondly, different groups of neurotics show very large differences at outcome because they start as different samples, for example the studies of Perley and Guze (1962) describing the very chronic group of neurotic patients whom they term hysterical, are quite different from some of the studies of psychotherapy. Thirdly, the methodology of follow-up studies has differed widely with regard to the sample formation, type of patient selected, availability of initial data, methods of treatment, reliability of diagnostic groupings, length of interval between initial contact and follow-up, thoroughness of tracing and precise method of follow-up and methods of measurement.

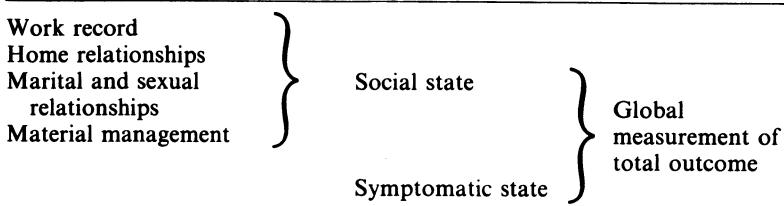
Most of the work on which this paper is based was taken from a follow-up study of 146 neurotic in-patients. Ninety-seven per cent tracing was achieved (Sims, 1973a). A number of checks for achieving accuracy were included and these are listed in table 11.1.

Table 11.1
Methods for achieving accuracy, reliability and validity

-
1. Tracing rate
 2. Interview procedure:
 - (i) planning of document
 - (ii) number of interviews per interviewer
 - (iii) duration of interview
 - (iv) separate coding
 3. Whole year's sample
 4. Interviewer variability
 5. Adjustments, weightings and checking
 6. Control group
 7. Criteria for admission
 8. Verification from general practice notes
-

Follow-up was carried out on the neurotic patients of our sample by an interview conducted at the patient's home 12 years after discharge by one of two trained interviewers. The outcome was assessed on a graded scale which took account of the social state and the symptomatic state, these two summed. The social state comprised the areas of work, marital and sexual relationship, home relationships and material management.

Table 11.2
Global measurement of total outcome



Mortality

From this initial sample 157 patients were followed up 12 years later and 20 were found to have died (Sims, 1973b). The expected figure for an age and sex matched sample of the normal population would have been 6.24 deaths. What accounted for the discrepancy? There were 3 suicides, i.e. 15 per cent of the deaths. For the general population, death from suicide would have been 0.79 per cent of male deaths and 0.60 per cent of female deaths. There were 5 deaths from what I have described as quasisuicide, that is death was partly or possibly attributable to the mental state. For example, a man who died at the age of 59 of folic acid deficiency anaemia. Six years before he had been admitted and treated for neurosis in our sample. Four years after that he had been treated at another hospital for a paranoid illness in which he believed that his wife was poisoning him. He then cut himself off from the family and would not eat any food prepared by them. A few days before his death he attended at medical outpatients where he was found to be malnourished and grossly anaemic. One can only presume that self neglect was a factor in his folic acid deficiency anaemia and that his mental state was a factor in his refusal to eat or to have further medical treatment.

There is no evidence that these patients were in fact suffering from the early stages of lethal illness which was misdiagnosed nor that, because of repeated complaints, serious illness was subsequently overlooked. In a further study Sims and Prior (1977) investigated various possible causes for increased mortality from the subsequent histories of over 1500 neurotic patients diagnosed in hospital. The increased death risk is found still to be there. There is a marked risk for death from suicide or accident but there also appears to be an increase for deaths with respiratory, circulatory or neurological cause. In another study the detailed histories of neurotic patients who subsequently died were compared with those who remained alive at the end of the follow-up period (Sims, 1976b). Predictors of premature death in neurotic patients are listed in table 11.3.

Two measures of severity of neurosis which were found to be predictive of poor outcome in those who remained alive were also associated with premature death. These were the initial social state and the neurotic predictive factor score. The initial social state was formed by summing items known about work record, home relationships, marital and sexual relationships and material management at the time the patient was treated in hospital. The

Table 11.3
Predictors of premature death in neurotic patients—1

	χ^2	Significance $P <$
Unemployed more than 3 months before admission	4.89	0.05
Conspicuous behaviour or personality problem	3.42	NS
Problems with accommodation or finance	4.26	0.05
Unsatisfactory state on discharge from hospital	4.89	0.05
Abnormal personality	4.73	0.05

All tests with 1 d.f. Yates Correction used. NS, not significant

neurotic predictive factor score summed variables of information for each patient known at the initial time in hospital, and which were demonstrated to predict significantly poor outcome at follow-up (Sims, 1975b). It seems therefore that neurosis *per se* is associated with an increased death risk and this has been found in various previous epidemiological studies in neurosis (Babigian and Odoroff, 1969; Keehn *et al.*, 1974; Rorsman, 1974).

Table 11.4
Predictors of premature death in neurotic patients—2

	Mean score		t test	$P <$
	Dead group	Control group		
	$n = 37$	$n = 37$		
Initial social state	7.27	5.86	2.169	0.025
Neurotic predictive factor score	8.38	6.59	2.571	0.01

Alcoholism and Drug Dependence

At follow-up interview specific questions were asked about the use of alcohol and drugs. As neurotics are likely to turn for relief to alcohol or drugs it is not surprising that there should be a high rate of dependence (Sims, 1975a). In fact at follow-up over 10 per cent of previous neurotic patients showed established dependence on either alcohol or drugs with withdrawal symptoms present, problems arising from excessive intake of substances or overdosage. Of the rest of the sample of people followed up a quarter were found to be total abstainers from alcohol; a half took no regular medication at all.

Those dependent on alcohol or drugs had a much worse outcome at follow-

up than the rest of the previously treated neurotic patients. Interestingly those who had developed dependence at the time of follow-up were found to have had more severe neurosis in terms of a worse initial social state at the time they were treated in hospital and were more likely to have been considered to have personality disorder. This was before they had developed their problem with abuse of drugs or alcohol. It seems, therefore, that the more severely neurotic patients were at greater risk from developing dependence. There was a marked increase in the number suffering from alcohol or drug dependence as compared with the general adult population.

Onset of Psychosis

Some psychiatric theories would see neurosis and psychosis as a continuum, that is that neurosis is an adaptive reaction to cope with unacceptable emotion. If the degree of possible adaptation is exceeded, then the integrity of the person is destroyed, reality judgement is lost and overt psychosis supervenes. If this were so one would expect to find at a follow-up of neurosis a number of patients who had become psychotic. In fact this was not the finding of our study nor of other similar follow-up studies in neurosis. Two patients were found to have developed a schizophrenic illness and both of these may have been misdiagnoses at the initial admission. Three other patients were reallocated to depressive illness of psychotic type. This was based more on a reappraisal of diagnosis than on a change in their basic symptomatology. One can therefore say that it is an epidemiological finding that neurosis does not generally develop into psychosis.

The Prognosis of Neurosis

Such generalisations as, 'two thirds of neurotics get better spontaneously', mean very little. The degree of optimism in assessing follow-up has varied from claims of a 90 per cent improvement rate to the more cautious assessment of Malan *et al.* (1968) who showed that dynamic improvement

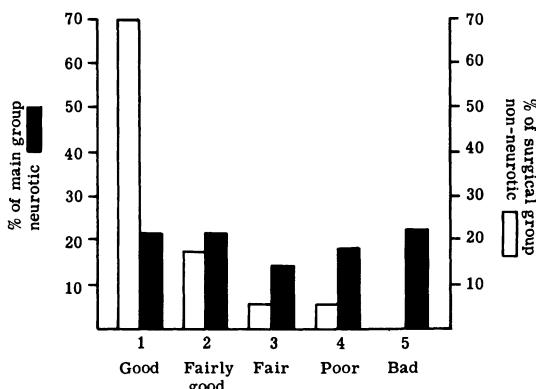


Figure 11.3 Total outcome at follow-up: neurotic group compared with surgical group

only occurred in 25–35 per cent of subjects. We felt that the only valid way of assessing outcome was to compare our neurotic sample with a non-neurotic control group and so an age and sex matched group of previous patients who had had an operation for varicose veins in the same year as the neurotic patients were admitted to hospital were followed up by an identical method (Sims and Gooding, 1975). The total outcome at follow-up was graded on a 5 point scale and grades 1 and 2 were considered to be satisfactory. A satisfactory outcome was achieved by 90 per cent of the surgical group and only 42 per cent of the previous neurotic group.

Scores on the General Health Questionnaire which assesses psychiatric morbidity showed a very much higher mean score for the previously neurotic patients compared with the surgical patients at follow-up, and also assessment of personality was very much more often found to be abnormal for the neurotic patients.

Predictors of Outcome

Using the graded total outcome at follow-up interview, potentially predictive factors were extracted from the initial information known about patients. Twenty-six factors were found to be significant predictors of outcome, that is they were significantly associated with a poor prognosis. A discriminant function analysis has been carried out on these 26 variables which were found to be significant predictors. Weighting the variables was carried out and the 17 predictors which accounted for the greatest variation are listed in table 11.5.

Table 11.5

Significant predictors of poor outcome in neurosis accounting for greatest variation

1. Admission as in-patient (as opposed to day patient)
2. Referral since original admission
3. Primary diagnosis of asocial, psychopathic or immature personality
4. Sexual, marital or occupational problem ascribed by the patient as the precipitating cause of his illness
5. Poor prognosis given at the time of discharge from hospital
6. Problems with accommodation or financial state
7. Absence of social symptoms: no difficulty with mixing or talking; does not feel sensitive to what people think about him; does not feel people talking about, looking at, or against him; no fear of crowds
8. Conspicuous behaviour or personality problems of spouse
9. Duration of illness more than 6 years before admission
10. Non-attendance at appointments following discharge from hospital care
11. Clinical grounds for admission other than suitability for psychotherapy or therapeutic milieu
12. Large number of pages of hospital case notes
13. Unhappy childhood
14. Unsatisfactory relationship with spouse
15. Course during treatment: worse or unchanged
16. Conspicuously unsatisfactory work record for 3 years before admission for reasons other than physical illness
17. Patient considered to have abnormal personality

These variables are not isolated but interdependent. Abnormal personality and an unsatisfactory emotional situation in childhood combine to result in a less satisfactory social situation from which to cope with the problems and crises of life. Coping from a less satisfactory situation, with a disadvantage of abnormal personality, and problems in establishing satisfactory relationships limits the available choices. For this reason further problems are likely to result in the areas of work, marriage and general management of life situations. Unsatisfactory experiences with various types of helping agency conditions the patient to respond to situations with an attitude of helplessness, and so he is less likely to co-operate with methods of treatment. This renders prognosis even worse. Thus the various predictive factors can be fitted into a paradigm of neurotic illness in which the neurotic patient appears to be, in the words of C. Day Lewis (1948), 'one for ever out of his element'.

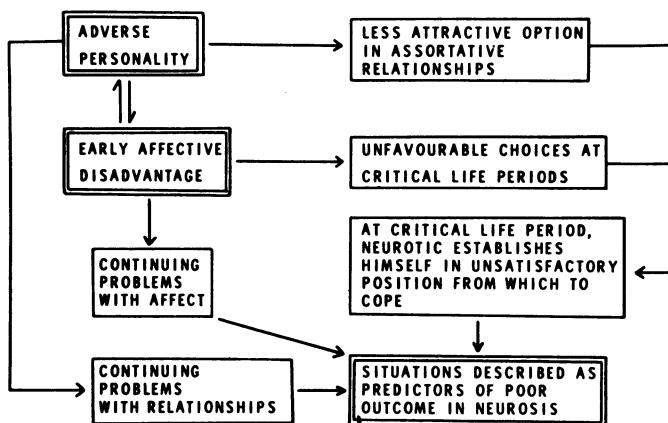


Figure 11.4 A neurotic paradigm: 'one forever out of his element'

The significant predictors of poor outcome can be summed for each patient giving a score, the neurotic predictive factor score. This showed a correlation of 0.62 with total outcome on the initial study, which is not surprising because this is the group from which the predictive factors were extracted. The predictive factor score is considered to be a measure of severity of neurosis as well as being a significant predictor of outcome. A high score was associated with a greater risk for premature death. We are at present using the information from this work to try and improve methods of assessment of treatment in neurosis. Our knowledge of treatment and the requirements of the treater are still embryonic. For example we are told that the good psychotherapist should show empathy, warmth and genuineness (Truax and Carkhuff, 1967). These characteristics seem very similar to the description of a person who needs to be 'patient, persevering, prepared to speak his own mind, self-confident and cheerful and not to be meek, a worrier, easy to get on with nor talkative'. This latter is the description of a high achievement cowherd (Seabrook, 1973).

Neurosis is not the bland condition of benign prognosis it is often made out to be. Its consequences are serious and its course protracted. One could aptly quote Mayer-Gross, 'if you don't want to recognize neurosis as something to be treated and belonging to the field of medicine you can do this, but only under a dictatorship' (Mayer-Gross, 1960).

Summary

Neurosis in its broadest definition is ubiquitous and universal. However, it appears to concentrate in part of the population and severer neurosis is found particularly in patients referred for psychiatric treatment. The outcome has traditionally been regarded as benign but is in fact much more sinister than often thought in terms of subsequent mortality, dependence on alcohol or drugs and general prognosis compared with non-neurotic patients. Psychosis is not a usual sequel. Various neurotic predictive factors have been extracted and the sum of these factors, the neurotic predictive factor score, is considered a measure of severity of neurosis.

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12 Hysteria

Andrew C. Smith

Definitions

'Hysteria' has always eluded clear definition, yet it is always with us, changing in every generation. Slater's (1965) attempt to deny its existence, saying it was 'not only a delusion but a snare', was based on a highly unusual series of patients with obscure neurological syndromes, and even he found some patients with the hysterical illnesses of classical psychiatry. The approach to clarification lies through considering hysterical illnesses first as the paradigm, and approaching the peripheral concepts, such as hysterical personality and mass hysteria, later.

Hysterical illnesses and disabilities have usually been defined as being conditions where the patient appears at first to be suffering from a physical disorder of the usual kind, but is found on investigation to be free of pathological lesions, and to have only the symptoms mimicking it. The explanation is then said to be that the condition is brought on by the power of an unconscious desire to be ill so as to gain from this state. In some way there is 'dissociation' of conscious from unconscious motivation, so that the patient is genuinely unaware that he longs to gain from illness, and therefore he must not be accused of malingering. The distinction is made between hysterical illness and malingering, although in practice there is a continuum between the two forms in pure culture, and the patients are often implicitly regarded as partially phoney.

The best definition, however, has been that of Stafford-Clark (1964) which runs: hysterical reactions represent the attempt, never fully conscious and frequently totally unconscious on the part of the patient, to obtain relief from otherwise intolerable stress, by the exhibition and experience of symptoms of illness. This definition is better on two different counts. First, it is more humane, in emphasising flight from stress rather than movement towards gain, and secondly it is more true, for the patients so often seem to be worse off than before the illness, as if they had indeed, in flight from stress, panicked and run right up a blind alley and found themselves trapped with no way out. Of course it may be argued that *unconsciously* there is net gain, and this may often be true, although it remains incapable of proof.

Stress

The stresses may be any of the problems of getting through life that assail all of us, different for everyone, unclassifiable, and their severity only able to be

judged by the victim, not by the onlooking doctor. But, especially important in medical practice, the stress may be physical illness, not only its pain and disability, but also the uncertainty and anxiety when the doctors are unsure of the diagnosis and the patient knows they are unsure, when the doctors are concealing the truth and the patient knows that, too. Hence the association of hysterical symptoms with disabling but obscure and unpredictable diseases like multiple sclerosis (although here cerebral changes may play a part too). The situation when the stress is physical illness is that of 'hysterical overlay', source of rejecting attitudes by relatives, nurses and doctors, and dangerous occasion for mistaken diagnosis, when the underlying physical condition can be missed.

The stress may also be other severe mental illness, usually meaning in practice schizophrenia or severe depressive illness, but sometimes severe anxiety. In these conditions, as with physical illness, hysterical symptoms as an 'overlay' may tend to obscure the fundamental stress-engendering condition, with mistakes in diagnosis. Dementia needs mentioning as a special case, whether it be regarded as physical or as mental illness. Here the stress of dim awareness of decline of the intellectual faculties is accompanied by cerebral deterioration reducing emotional stability and increasing suggestibility, so that grossly hysterical symptoms can be confusing presenting features. It is because the stress underlying hysterical illnesses may be serious physical or mental illness that 'late-onset hysteria' is such a notorious trap for the unwary psychiatrist.

Illness-rewarding Situation

Other factors are involved in the development of hysterical conditions, determining that the reaction to stress takes the hysterical rather than other forms, and the first to consider is the illness-rewarding situation. Specific examples are well known, for example in prison, where the ill person is moved to hospital and has a milder régime. In the Army the soldier who reports sick misses parade and goes to the doctor: the regulations try to counterbalance this incentive to be ill by decreeing that the patient must report to the M.O. with kit fully and correctly packed, so that sick parade is no picnic. Academic examinations are accompanied by crops of minor hysterical illnesses unless the authorities protect themselves by making aegrotat passes rare and inferior.

Compensation neurosis illustrates the mechanism particularly well. Under stress—the distress of the illness and the uncertainty of return to full fitness and normal earning capacity, compounded by multiple and sometimes conflicting medical examinations—the patient is also in a powerful situation which will literally reward illness, by a payment of compensation if, and only if, lasting disability is proved. The element of gain which impressed the writers of the earlier definitions is here very marked, and of course malingering is also common.

More widely, the typical illness-rewarding situation is in hospital, the institution dedicated to caring for the sick, which takes you in if you are sick, pays nurses and doctors to look after you, feed you and make a fuss of you in

bed if you say you feel weak, and of course discharges you again to the outside world when you no longer suffer from any illness. Small wonder that hysterical illnesses requiring admission to hospital crop up in cold weather among the dossers, and get worse when discharge is contemplated.

Similarly the doctor – patient relationship in general practice has rewards for illness: the lonely old person with never a caller except her doctor may no longer receive his calls when she is in robust health, so hysterical symptoms become chronic, and the situation may be almost but not quite consciously acknowledged by doctor and patient. Her symptoms remain severe enough to require medical consultations; he knows that they will not go away but that if he keeps on calling sympathetically they will never become too severe. A delicate equilibrium, a symbiosis, has developed, with unspoken messages keeping the balance right.

But not only doctors and nurses pay more attention to you when you are ill; your family and friends do, too. The most insignificant member of the family is the centre of attention when he feels ill, his mother bringing up breakfast in bed and offering hot water bottles. The schoolboy is not sent to school when he has a headache, and he misses the lesson with the master who frightens him. The widow whose only single daughter announces her engagement and intention of emigrating to Australia, develops backache of great severity. The doctors institute many investigations, physical findings are borderline or negative, but even so the daughter is under great pressure to change her plans. Leaving your mother alone but healthy while you go to live on the other side of the world is one thing, but leaving a mother sick, ailing and in pain, is quite another.

So we can now see that the main illness-rewarding situation is *other people*, and how they react to the ill, or to put it another way, hysterical patients adopt the sick role without having the physical illnesses which normally entitle people to the role. We are all potentially liable to hysteria in greater or less degree, because we all experience stress and all have illness-rewarding situations, with the rarest of exceptions. In the Nazi concentration camps, with daily deaths in hundreds or thousands, stress was extreme but illness unremarkable, with no-one to care about it, and hysterical illnesses seem not to have occurred. Robinson Crusoe would not suffer from hysteria, at least not before Man Friday arrived on the island.

Personality Factors

Other factors, including those in the personality of the patient, are involved in whether hysterical illness develops, and here we have to look at the concept of hysterical personality. This is of course not an illness but a description of personality, hallowed in clinical psychiatry, with traits of immaturity, emotional lability, a histrionic style, flirtatiousness yet frigidity, manipulativeness, and so forth. The 'wandering womb' of Plato still casts its shadow on present-day psychiatry, for this label is affixed almost entirely to females. It has been said that hysterical personality is merely a caricature of the unwelcome traits of femininity in the eyes of male chauvinist psychiatrists, but

they have some excuse in etymology, for how could a man be aptly described as having a womb?

Rycroft (1970) has said that but for the feminine connotations of the word, passive and submissive men would be labelled as having hysterical personality. He says that the hysterical personality is a submissive defence to the problems of competitiveness and aggression, and naturally over-represented in women because of the inferior and submissive role customarily assigned to them in society.

The link between the two uses of the epithet 'hysterical' is that the hysterical illnesses are supposed to develop typically in persons of hysterical personality. Unfortunately research on the history of the patients has failed to confirm this, as all personalities are found, or, in other words, it is a possibility latent in all people that in certain situations they may respond to stress by a hysterical reaction. Prospectively, it is certainly true that some hysterical personalities succumb repeatedly to hysterical illnesses, this being their typical and readily released reaction. Men are however well represented among those with hysterical illnesses, the preponderance of women being not particularly marked.

Other Factors

Hysterical illnesses occur in florid degree in the mentally handicapped, and more commonly in the rural African tribesman than in his Westernised urban fellow-countryman. Immigrants in countries where they do not speak the language are also typical sufferers. Finally, again, early dementia may precipitate the condition.

Communicating through Illness

The people prone to hysteria have features in common. In the first place, as recently pointed out by Kendell (1974), they are people in positions of weakness. Grown men can fight for what they want, and most of the rules are on their side, but immigrants have greater difficulties, and in a male-dominated society 'women conquer by swift and strange surrenders' (Oscar Wilde). The second common factor is their relative lack of facility with words. Hysterical personalities are regarded as specialists in acting, flirting and hinting, rather than in language, and the same applies to tribesmen, more adept than the Westerner at dancing and ritual, even when speaking a simple language. The mentally handicapped are slow with language, and the difficulties of the foreign-speaking immigrant are obvious. Dementia usually causes subtle forms of handicap in language, such as nominal dysphasia, early in its course.

Hysterical illnesses therefore can be understood as occurring when people, often weak if only temporarily, and poorly equipped for speech, unconsciously adopt the sick-role and communicate in a second language, the language of illness.

Which Symptom?

Which factors determine the unconscious choice of symptom in a hysterical reaction? Why does this man experience hysterical amnesia, that one blindness, another one backache?

Because the reaction is a form of mimicking of illness, the symptoms always depend on the patient's knowledge or fancied knowledge of illness, this being the reason why nurses and doctors are prone to complex hysterical syndromes which may be exceptionally difficult to diagnose correctly.

One simple reason for the choice of symptom is personal knowledge of it through experience of the physical disease. This is 'hysterical overlay' again: the epileptic has additional hysterical fits, the migraine sufferer has hysterical headaches, the patient with multiple sclerosis in remission has a hysterical blindness and paraplegia, the patient recovering from an industrial injury has hysterical prolongation of his disability. The knowledge may be of the illness in another member of the family, so that children brought up by a mother with backache from intervertebral disc lesions may develop hysterical backache, the exhausted wife nursing a husband after his stroke, may experience hysterical hemiparesis.

As well as individual and familial reasons for choice of symptoms, there are social trends too. Secular changes mean that every age has its own hysteria, parasitic upon and mimicking its host illnesses, and even within recent decades changes are readily detectable. The gross and bizarre disabilities of Victorian case reports and novels, the paraplegias, extraordinary tremors and gaits, the sudden blindnesses, were becoming less common by the time of the First World War, while in the armies of Second World War they were virtually unknown, being found by that time mainly among the simple, handicapped and severely neurotic people at home.

People unconsciously mimic and exploit the well-known and important illnesses of the time, complaining to doctors of those matters that, they think, interest and concern doctors. Society, largely through the medical profession, defines which are the genuine illnesses which attract the privileges of the sick role. Pregnancy, a healthy state which is an honorary illness and attracts medical care, is sometimes copied by hysterical pseudocyesis. Depressive illness, well established after generations of lobbying by psychiatrists as a severe disability, now qualifies for mimicking by an hysterical depression. Thus a familiar syndrome is the following. The patient complains of depression, weeping, tiredness, tension, loss of interest, irritability with husband and children, and says that she knows the cause, which is having to live high up in a tower block, and the only result she wants from the consultation is a doctor's letter to the housing authority. She is under stress, and in an illness-rewarding situation, namely her belief that a doctor's letter will give her priority for rehousing. The symptoms appear at first sight to be those of severe (psychotic) depressive illness but are not really so: this is therefore a hysterical depression, truly an illness of our times.

The bizarre syndromes are rarer because patients, their relatives and doctors are more sophisticated and knowledgeable about illness. Mimicry that is too

readily unmasked cannot serve its purpose, and must become more subtle again. Today's hysterical syndromes are complaints resembling those of today's common illnesses, and requiring careful investigation by the doctors to get the diagnosis right: backache, headache, stomachache, complaints of hot flushes, and the depression described above.

Symptoms are also determined by their symbolic meaning, in terms of 'body language' or other more arcane symbolic systems. The most famous example is Freud's Frau Cäcilie M. whose facial pain was relieved by the realisation that it was connected with the feeling that she had received 'a slap in the face'. Other patients' symptoms may seem to represent messages that they are 'bellyaching', 'a pain in the neck', 'not having a leg to stand on', and so forth. Such interpretations are open to glib exaggeration by hasty psychiatrists, but convincing examples are certainly found, and the language abounds with phrases waiting to be employed. Freud gave various examples in *Studies in Hysteria* (1895), including 'unable to take a step forward' for astasia abasia, 'not finding herself on the right footing' for pain in the right heel, and 'a piercing look' causing a penetrating pain in the forehead.

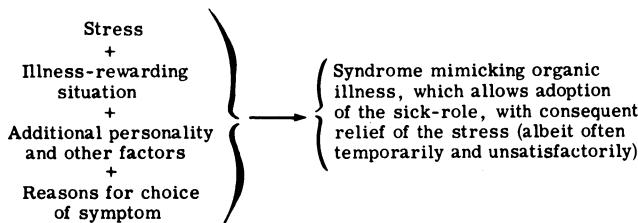
Later theories developed by Freud regarded hysterical symptoms as symbolising unconscious problems in the field of infantile sexuality, but in his early work he thought that the symptoms could be understood more easily, being chosen partly symbolically and partly in a more accessible way (as in the examples I have given above of actual physical illnesses being exacerbated by the hysterical process). So he says of the same Frau Cäcilie: 'All that could be claimed on behalf of symbolisation was that the fear which overcame the patient, as she took her first steps, picked out from among all the pains that were troubling her at the time the one particular pain which was symbolically appropriate, the pain in her right heel, and developed it into a psychical pain and gave it special persistence'. And, 'What could be more probable than that the figure of speech "swallowing something" which we use in talking of an insult to which no rejoinder has been made did in fact originate from the innervatory sensations which arise in the pharynx when we refrain from speaking and prevent ourselves from reacting to the insult? All these sensations and innervations belong to the field "The Expression of the Emotions" which as Darwin (1872) has taught us, consist of actions that originally had a meaning and served a purpose'.

The symptoms can then symbolise the solution to the problem presented by stress. A previously stable middle-aged bank manager was a precise, conscientious, family-loving man of restraint and high standards. He had been under mounting strain over the irresponsible behaviour of his teenage son which had recently progressed to heroin addiction. One afternoon he opened the door of his flat expecting to see his son on the doorstep, but it was his wife, who had forgotten her key. He collapsed with a weak and shaking right arm and was at first mute. In the psychiatric ward he recounted how he opened the door in a turmoil of distress, misery and anger and had felt on the point of hitting and swearing at his son. The symptoms solved the immediate problem, the danger that he would irreparably break his principles, because hysterical mutism prevented swearing and the weak right arm prevented him from striking his wife, and they may also have been determined by symbolic

mechanisms, with a message to himself and those around him that he had now been rendered speechless and paralysed.

The patient's conflict has been *converted* into a symptom of illness, hence 'conversion hysteria'.

The hysterical mechanism is thus as follows:



Mass Hysteria

When we consider the possible range of symptoms, as well as the choice within the range, it becomes clear that the medical setting is only one part of a wider phenomenon, for there are other forms of caring and attention. The well-worn epithet 'attention-seeking' here provides the links with mass hysteria and the 'hysterics', meaning dramatic tantrums of screaming. Attacks of 'hysterics' are 'attention-demanding' in a stressful situation, and it may be that the stress in some cases is slight, the person very prone to demand attention, and the attention-rewarding situation very marked and ripe for use. The situation is completely homologous with the above description of medical hysteria, but in this case it may be played out without doctors, the person 'choosing' behaviour which ensures attention, the behaviour being parasitic not upon organic illness but upon the low-key form of attention willingly accorded people who seem to need it, but do not demand it.

In mass hysteria, the element of securing attention is also present, especially once the epidemic is established, as in the examples of recent outbreaks in girls' schools, although the audience becomes partly the other members of the crowd and not only the onlookers. Again, the theme of the weak, inarticulate, and oppressed is found: in the middle ages the epidemics are found, by Norman Cohn (1957) in *The Pursuit of the Millennium* to be of the unsettled poor at the bottom of an inflexible society, especially at times of disaster; in our time it is the less intelligent teenage girls who succumb to intense social pressures and suggestion at popular music concerts. (Moss and McEvedy, 1966).

Treatment

Physical Check

The first step is confirmation of the diagnosis, ensuring that there is in fact no underlying and undiagnosed physical illness or mental illness. Physical

investigations are required, sometimes in large numbers, but if they are wisely deployed, the implications for the patient are considered at the same time. Before the repeat barium studies are ordered, when the first have drawn a blank, the history can be reviewed. With long lists of investigations, the danger grows that borderline findings will be seized upon by the doctor and explained to the patient as the lesion causing the symptoms. And once the patient has been told that he has sacralisation of the fifth lumbar vertebra, spasm in the duodenal cap, cervical spondylosis, or 'low blood pressure', any subsequent psychiatrist has slender chances of reopening discussions fruitfully.

Relieve Stress

Physical illness and mental illness are treated in their own right, and this may be sufficient to relieve the hysterical symptoms: relief of pain on catheterising the bladder instantly calms the 'hysterical', or 'attention-seeking' patient with retention of urine, ECT cures the fits, collapses and headaches which were hysterical, but caused by overlying depression. When the stress is mainly personal and inter-personal, the situation is liable to be complicated, and it may or may not be possible to relieve matters. Some loneliness can be dealt with by simple measures, some cannot, as in the case of the widow whose daughter plans to emigrate. There is usually need for the next step.

Psychotherapy of the Whole Situation

This involves efforts to reduce stress and to simultaneously reduce the power of the illness-rewarding situation, so far as this can be done kindly. Negotiations are needed between the patient and those around, the doctor sometimes, Kissinger-like, employing shuttle diplomacy between interviews with key people in different combinations. Direct discussion of unconscious motives behind the illness is to be avoided, the aim being to rearrange people and things so as to maximise the advantages of health, and, less vigorously, to reduce the advantages of illness and invalidism. Patients become as it were committed to the illness after investigations and the passage of time, and their lives adapt to the sick role, so that a dignified retreat into health needs to be arranged, with the ground prepared by negotiation and psychotherapy, an impressive form of treatment provided, and no attempt at humiliation, triumph or unmasking. When all has been done in the direction of psychotherapy that can be done, the symptoms may not disappear spontaneously, and further direct treatment may be needed.

Symptom Removal by Suggestion

At this point the methods of treatment based on suggestion may remove the symptoms. The methods are usually impressive, and they work well when the patient has been prepared to be ready to give up his unconscious commitment to the symptoms. Classically, hypnosis was used, and it remains useful in two main ways. The first is to restore contact by temporary removal of such

symptoms as deafness, mutism and amnesia, so that psychotherapy may go ahead. If no other work is done on removing the stresses, and they are still acting, the symptoms may return later, or be replaced by other symptoms. In the second situation, the groundwork mentioned above has been done and the way is clear for removal of symptoms, but the patient is committed to them, both publicly and in his own deepest convictions. In these circumstances hypnosis can bring about lasting cure but so may, on the right occasion, relaxation without hypnosis, an X-ray photograph, massage and physiotherapy, short-wave diathermy, manipulation, nasty medicine, nice medicine, or a well-judged talk with a respected family doctor.

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13 Aspects of Gender and its Disorders

J. P. Watson

According to the Oxford English Dictionary, ‘sex’ means ‘being male or female or hermaphrodite’. I infer from this that muddles about distinguishing between ‘sex’ and ‘gender’ can easily arise; for what I wish to discuss as ‘gender’ is very like the dictionary’s ‘sex’. Whatever common usage might dictate, for the purposes of this paper ‘sex’ refers principally to sexual arousal and response, ‘gender’ denoting a wider perspective of maleness and femaleness, of masculinity, femininity, or ambivalence.

This paper focuses in order upon definitions of terms; upon the development of gender; and upon a system which the author has found helpful (and therefore commends) for understanding human sexuality and its disorders. This system is then exemplified by brief discussions of trans-sexualism, homosexuality, and sexual dysfunctions.

Definitions

I begin with two definitions, from Money and Ehrhardt (1972) whose book *Man and Woman, Boy and Girl*, is strongly recommended.

(a) *Gender Identity* This is . . .

‘The sameness, unity, and persistence of one’s individuality as male or female (or ambivalent), in greater or lesser degree, especially as it is experienced in self-awareness and behaviour.’

(b) *Gender Role* This is . . .

‘Everything that a person says and does to indicate to others or to the self the degree to which one is male or female or ambivalent. (It includes but is not restricted to sexual arousal and response.)’

(Gender role is the public expression of gender identity, and gender identity is the private experience of gender role.)

‘Identity’ and ‘Role’ require further attention.

Identity

According to the OED, ‘identity’ means ‘absolute sameness’ or ‘individuality’ or (less helpfully) ‘personality’. For William James (1890) ‘It is the sense of a sameness perceived by thought and predicated of things thought-about’. This formulation points to the importance of ideas about the self, and of the sense

of personal continuity in time, referred to by later writers about identity. Schafer (1968) has noted that 'The concept (of identity) . . . has come to be used in so many varied senses that it is not possible simply to say what it refers to—as is of course true of many matters studied by psychoanalysis'. Schafer, particularly following Erikson (1950), refers helpfully to identity as the subject's 'integrated functional and experiential continuity in a changing biological, familial, cultural, and experiential past, present and future'.

It would seem that the notion of personal identity refers at least to the subject's ideas about him- or herself; and to the sense of continuity over time associated with these ideas. Gender identity appears to be part of—perhaps a subsystem of—personal identity, referring to the subject's ideas about him-or herself as male, masculine, female, feminine. This tends itself to an empirical restatement, that 'gender identity' refers to the meanings of maleness, masculinity, femaleness, femininity for the subject. This is empirical because the meanings of these terms can be observed psychometrically—for example by semantic differential methods. We are concerned with one's judgement of the applicability of terms to oneself, and, to use Kellyan Personal Construct terms for the moment (Kelly, 1955), with the personal implications of terms.

At a clinical level, enquiry about gender identity entails exploring the ways in which the subject sees him (sic) self as male, female, and so on. Asking 'what follows?' or 'What would happen if this changed?' about each statement are very useful ways of exploring the ramifications of gender into other areas of self identity. Of course, 'ideas' in this discussion are not coldly formulated sets of propositions; they are affect laden, often with important physiological concomitants.

Role

In many ways, 'role' is a less vague notion than 'identity'. Argyle's (1969) account will suffice for our purposes. Role behaviour is the normal, that is statistically modal, pattern of behaviour for occupants of a position (that is of a rank or office within a social organisation).

Gender role, as previously defined, refers to behaviour from which some aspect of maleness or femaleness is inferred. Clearly, this will apply to many roles in many social structures. Thus, in a family system, gender-related roles include mother, father, son, daughter, husband and wife. On reflection, it is not easy to think of roles without gender implications. Parent, child? We might say that any role description in which the pronoun he cannot be substituted for she, or vice versa, is a gender-related role. This is a way of reminding us that gender has pervasive and profound implications for social behaviour. A profound disturbance of gender identity is not unexpectedly invariably accompanied by multiple social behavioural problems.

The Development of Gender Identity

I turn now to consider briefly the development of gender identity, summarised, following Money and Ehrhardt, in figure 13.1.

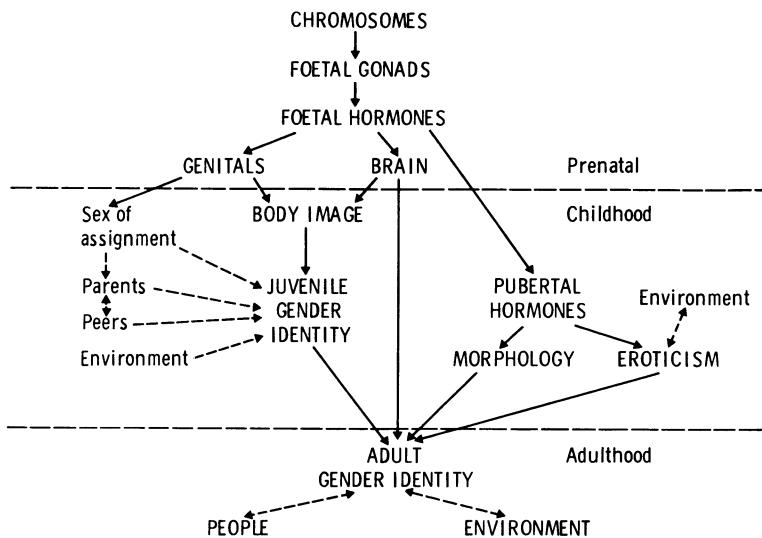


Figure 13.1 Development of gender identity (after Money and Ehrhardt, 1972)

The chromosomes determine which half of the initially dimorphic embryonic gonad degenerates, so that a testis ordinarily develops in XY individuals, and an ovary in XX persons. Foetal hormones in turn determine the gender of the initially dimorphic embryonic genitals and the relevant brain areas, presumably in the anterior hypothalamic region. This seems essentially to be a matter of the presence of androgen, which evokes 'male' development, or its absence, leading to 'female' development.

The consequences of prenatal androgen lack (feminisation) in chromosomal males and of prenatal androgen excess (virilisation) in chromosomal females have been well documented, especially by John Money. It seems clear that while prenatal events may predispose to particular varieties of response to postnatal experience, postnatal events usually provide prepotent influences on gender identity development. Strong evidence about this has been provided by Money's studies of infants whose assigned sex at birth is discordant with their chromosomal sex. For instance, one of a pair of monozygotic XY twins normal at birth suffered a traumatic amputation of the penis during circumcision. This child was thereafter reared as a girl and developed an essentially female gender identity (Money and Ehrhardt (1972), p. 118).

Sex of assignment implies many things, including a whole range of parental expectations and attitudes. Perhaps first of all it implies naming, and the use of particular personal pronouns. Implications for play, childhood peer relations, education and occupation follow. It seems clear that the essential structure of gender identity is arranged before puberty; it is like a car rolled off the production line, puberty on this analogy putting petrol in the tank, starting the engine, and enabling the self to drive the car along the road.

This is all I wish to say about gender identity development at the moment. I am drawing attention particularly to the powerful effect of postnatal

experience on gender development, and to the fact that this effect begins at birth. It appears that after about two years of age sex of assignment cannot ordinarily be revised and followed by normal concordant gender development. I will return later to circumstances in which this formulation may be inadequate.

Trans-sexualism

Whatever else is present, the trans-sexual patient clearly has a disorder of gender. The clinical characteristics of the disorder will be familiar to you, and I only wish to draw attention here to a few points. The first is that typically the (let us say male to female) trans-sexual has *for as long as 'he' can recall* been aware that he has been the right person in the wrong body; 'his' set of ideas about his gender have from the period of earliest awareness been discordant with 'his' set of ideas about his body and its sex. Also, these individuals not infrequently have a history of childhood within an unremarkable if perhaps rather large family and by no means always nor even frequently have they experienced anything like the chaotic deprived childhood characteristics of many persons with (Schneiderian) psychopathic personalities.

This seems to me to suggest a substantial prenatal aetiological contribution in trans-sexualism, with an early developmental predisposition to respond incongruously to environmental events which ordinarily tend to facilitate the development of gender identity congruent with chromosomal and genital sex. Speculatively, such a contribution could be associated with inappropriate prenatal hypothalamic androgenisation, processes related to developing capacities to code information received from other persons as (a) to do with males or females and (b) like me or unlike me. In the normal subject, say the XY male with male gender identity, perceptions would be coded as concerning 'males', who are 'like me' or females, who are 'unlike me'. The suggestion is that for the male to female XY trans-sexual, information is coded as 'male', 'unlike me' or 'female', 'like me'. Note that males and females all need to learn both male and female roles, whatever their own gender, for all will need to relate to persons of both sexes and genders which involves knowledge of what persons of both genders do (knowledge of both gender roles) because satisfactory relations with others require ability to perform one's own roles and also to take the roles of the other.

Ordinarily, how do we assign sex and gender to another person? Clearly it is usually on sight, and immediate, without knowledge of chromosomes and external genital status. There is a rather peculiarly disconcerting sense of personal unease if this discrimination (of people on sight as male or female) is impossible or turns out to be mistaken. (This perhaps supports the notion that gender information coding processes are of early origin and profound developmental significance.) I suspect that most people are more likely to wonder 'is this person male or female?' of male-to-female than of female-to-male trans-sexuals. This would be because male-to-female trans-sexuals are often not very good at being feminine—perhaps genetic females tend to be better than males at taking the role of the other.

It often seems to be the case that, if one finds oneself wondering if a person is male or female (rather than being automatically sure of it), one finds it difficult to be sure about why one is so wondering. This sort of doubt is rather typical of non-verbal communication processes involving gesture, mannerism, facial expression and so on; and non-verbal processes are intimately involved in role-taking behaviour.

Components of Adult Sexual Behaviour

Gender identity is one of four components or systems involved in sexuality, and figure 13.2 illustrates how sexual behaviour can be construed as sets of relations between these sub-systems of the wider 'person-systems'. This writer finds it helpful to try and assess the psychopathology of patients with sexual difficulties in terms of these notions.

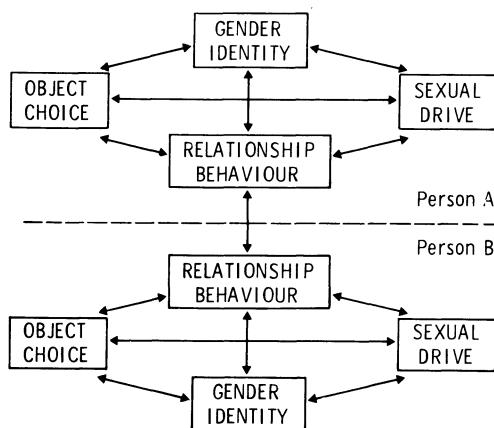


Figure 13.2 A sexual relationship: some relevant systems (after J. Bancroft)

For example, the gender identity problem of the trans-sexual has implications for his (sic) object choice. In male-to-female patients, the most frequent pattern is to be sexually responsive to males, this being seen as heterosexual activity (even if the sexual object sees it as homosexual). Other male-to-female patients see themselves as essentially asexual, and are erotically rather unresponsive; some request sex reassignment surgery as an aid to lesbian activities.

It is often difficult to be sure precisely what is happening when trans-sexual patients engage in sexual activity. This seems to arise partly from confusion about the meanings of personal pronouns—who is 'he' and who is 'she'?—while fantasies whose nature is obscure may be particularly important accompaniments of erotic arousal and response. I recall substantial personal muddle while talking to a male-to-female patient depressed because of recent problems in a relationship with a female-to-male patient; sexual relations had

for a time been satisfactory, but who saw themselves as doing what to whom I was never quite sure. Another source of empathic difficulty is the notion that a 'woman' can experience penile erection (and even possibly ejaculation), however unwelcome, when relating sexually to a male who also has an erection and construes the behaviour as homosexual.

Homosexuality

Let me say just a little about homosexuality. In particular, I should like to draw attention to the fact that the determinants of object choice as homosexual (at least obligatorily homosexual) rather than as heterosexual are, so far as I can judge, entirely unknown. It is perhaps easy to see that in principle some eccentricities of object choice—fetishes for instance—may usually come from childhood experiences with particular objects under particular circumstances (such as those which facilitate the development of conditioned autonomic responses). But in many instances the homosexual like the trans-sexual has emerged from an unremarkable family, suggesting again some prepotent early experience. Perhaps this might be perinatal rather than early prenatal, for personality and gender (as chromosome-sex-congruent) are usually relatively unimpaired in obligatory homosexuals as opposed to transsexuals. I would draw attention to the possibility that imprinting processes are involved in these early experiences.

Following Konrad Lorenz, animal learning is correctly called 'imprinting' if (1) a responding nervous system and a special set of signals meet, (2) at a sensitive developmental period; and if bonding of signals in the brain is (3) rapid and (4) tenacious and long-lasting. You will recall Lorenz's early demonstrations that newly hatched mallard ducklings or greylag goslings can be induced to follow a member of another species as if it were the mother if exposed to it during a critical period upon hatching. Male mallard ducklings exposed exclusively to other male mallards upon hatching relate solely to male mallards as potential mating partners. Both members of a (durable) homosexual pair relate to the other as if a female, neither taking the female part; the full copulating act does not occur. Partial 'homosexuality' may occur in male ducklings exposed to males on hatching plus one female, the mother.

Of course, ducks are not human beings; but this work makes one wonder if analogous processes may not occur in man. The proposal would be that at some critical postnatal period the infant is imprinted with signals in such a way that it subsequently responds sexually to females rather than to males, or males rather than to females.

It is quite clear that gender identity in homosexuals is ordinarily chromosome-sex-congruent. Thus, male homosexuals see themselves as males. The 'effeminate' stereotype of the gay person is an interesting construction of the repressed heterosexual imagination and all one need say is that homosexuals may have role performance problems as may heterosexuals, so that homosexuals with gender role difficulties occur naturally. The suggestion is that direction of preferred sexual object choice is essentially independent of other personality variables.

The homosexual's anomaly of object choice may, however, have implications for gender identity (figure 13.2). For example, the emergent awareness of homoerotic responsiveness during adolescence may lead the sensitive male to question his awareness of himself as male (his developing gender identity). This may in turn lead to loss of self esteem, and consequent depressed mood, and to interpersonal (relationship) behaviour problems, such as withdrawal from social contact. Further changes may ensue, such as loss of sexual drive leading *inter alia* to more disagreeable implications for gender identity if, as is usual, being a sexually active and effective person is an important constituent of the subject's value system.

Sexual Dysfunctions

Ramifications within the systems shown in figure 13.2 are commonplace in the sexual dysfunctions—which of course include organic dysfunction and vaginismus in the female, and impotence and premature and incompetent ejaculation in the male. Two examples will suffice.

(1) *Fear of failure.* Masters and Johnson (1970) noted fear of failure as a potent (sic) determinant of erectile failure. Anxiety about performance (that is about possible failure) is frequent—perhaps usual—in males approaching their first coitus; and anxiety about performance almost invariably follows an unwanted episode of failure, however itself caused. Whence does anxiety arise? People are anxious about their behaviour in areas of personal importance or, to rephrase this point, if the behaviour has important implications for personal identity. Naturally, sexual behaviour has implications for gender identity.

Thus, failure ‘threatens’ gender identity, which generates anxiety, which increases the probability of future failure, which generates more anxiety. Note the idea of a threat to one’s gender identity as a source of anxiety. Also, it seems that people need to behave so as to validate their sense of identity—if I see myself as a successful male, I will behave as such; and if as a failure, success will generate anxiety because it does not fit my view of myself.

(2) *The myth of the frigid woman.* Briefly, there is much truth in the notion that there is no such thing as a frigid and unresponsive woman, only an incompetent man. A typical story is of the woman without interest or satisfaction in sex whose partner is a rapid unfeeling lover, or a frank premature ejaculator. Ejaculating too soon means (to the man) lack of control, lack of sexual competence and thereby a diminished sense of masculinity (gender identity). This may be sensed by a sensitive partner who does not wish to undermine his masculinity further by suggesting he could arouse her more effectively by behaving differently. He may attempt to restore some self-esteem by locating the problem in his partner rather than in himself. Complex but often easily traceable disturbances in relationship behaviour have implications for gender identity and sexual arousal and response in both partners. The whole business often has implications for therapy, for treatment of the sexual dysfunctions can often be successful provided that all the relevant components are taken into account as appropriate.

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14 Observations on Psychiatric Morbidity and Premenstrual Distress in Women

Anthony Clare

One of the most consistent observations in health survey research is that women report symptoms of both physical and mental illness and utilise physician and hospital services for these conditions at higher rates than men. Two major British sources—the 1955/56 study of consultations in general practice by Logan and Cushion (1958) and a review by Kessel and Shepherd (1962) of hospital and out-patient data for the years 1953 and 1956—are consistent in showing that women have higher rates of mental illness than men. The 1955/56 study gives consulting rates for psychoneurotic disorders more than twice as large for women as for men. Kessel and Shepherd present similar data from a study of a London general practice and also show more female out-patients in hospital psychiatric clinics and higher admission rates to mental hospitals for women. The prevalence of neurosis in a sample drawn from the general population is not precisely known although the evidence from such studies as those of Hare and Shaw (1965) and Taylor and Chave (1964) suggests a similar picture. In her review of the relationship between illness and the feminine role, Nathanson (1975) observes that the consistency and the uniformity of women's relatively high morbidity rates, together with the contradictory evidence of their favourable mortality make it the more surprising that so little attention has been devoted to a search for an explanation. However, such a lack of interest has not prevented the emergence of a number of explanatory models focusing on sex differences in health indices and on differences in illness experience between the sexes.

Three major models have been used to account for sex differences in illness experience:

- (1) Women report more illness than men because it is culturally more acceptable for them to be ill—‘the ethic of health is masculine’. Philips (1964) and Philips and Segal (1969) have argued that women are rejected less strongly than men for exhibiting certain ‘emotional’ symptoms and are consequently more ready to report these symptoms on interview and more ready to seek professional help for them. Philips presents data to support this argument. Identical behaviour patterns (symptomatic of various mental illnesses) were rejected more strongly when the patient was

identified as a man than as a woman. Broverman and his colleagues (1970) found that concepts of mental health among psychiatrists, psychologists and social workers (a) differed for men and women and (b) paralleled traditional sex role stereotypes. Furthermore, while their concept of a healthy adult, sex unspecified, did not differ significantly from the healthy man concept, it did differ significantly from their perception of a healthy woman.

- (2) The sick role is relatively compatible with women's other role responsibilities and incompatible with those of men. On the one hand, it is suggested that a woman's roles are relatively undemanding, giving her ample time to be sick (Mechanic, 1965). On the other hand, Parsons and Fox (1952) argue that the nature of a woman's household responsibilities makes her illness the most disturbing of all to family equilibrium.
- (3) The last alternative explanation for sex differences to be considered accepts as its premise that women do in fact have more illness than men and accounts for this difference by reference to strains associated with women's social and biological roles.

Recent literature has tended to focus on socially rather than biologically based stress peculiar to women's conflicting roles. Gove and Tudor (1973) summarised a wide variety of data showing higher rates of mental illness among women than men. In particular they maintain that this difference is found among married but not among single people and this evidence is used to support the thesis that married women's roles are especially frustrating relative to those of married men. Specifically, Gove and Tudor list five bases for women's emotional problems:

- (1) Housewives have no alternative source of gratification outside the family.
- (2) Housework is unskilled and of low prestige.
- (3) The housewife role is relatively unstructured and invisible, giving women leisure to brood over their troubles.
- (4) Working wives have less satisfactory jobs and working places them under more strain than men.
- (5) Role expectations confronting women are generally unclear and diffuse.

However, higher rates of mental illness are not always found among women with, in Gove's terms, the least gratifying roles. For example, whereas most comparisons of married men with married women show the former to be at some advantage compared to the latter *vis-à-vis* morbidity, almost all comparisons of married and single women show more favourable illness and mortality rates for the former group. One of the most important studies in this area is that reported by Rivkin (1972) in her doctoral dissertation, 'Contextual Effects of Families on Female Responses to Illness'. Rivkin used data from the W.H.O. National Collaborative Study of Medical Care Utilisation collected in Baltimore in 1968-9 to test the hypothesis that women's ability to adopt the sick role depends on the functional importance of their normal roles. Specifically, on the question of *marital status*, Rivkin found lower reported morbidity among married women than among the single, the widowed or the divorced. She also found that unmarried women with children and working

women with children were more likely than their counterparts without children to use health care services. However, a number of studies have shown that gainfully employed women have lower 'sickness rates' than housewives after controlling for age and excluding 'illnesses from puerperal and female genital causes and from occupational injuries'. More recently, Feld (1963), in a study of 438 white married women, found that the working women reported fewer physical symptoms than housewives.

The *biological* explanation for women's higher morbidity compared with men has an ancient history. From this perspective, the woman is seen to be 'the product and prisoner of her reproductive system . . . Any imbalance, exhaustion, infection or other disorder of the reproductive organs could cause pathological reactions in parts of the body seemingly remote' (Smith-Rosenberg and Rosenberg, 1972). The female reproductive tract, furthermore, is particularly vulnerable to disturbance whereas that of the male suffers no parallel disability. Women, so this argument goes, are eternally subject to the whims of their biological clocks. This cyclical variation in their hormonal status renders them emotionally unstable and intellectually unreliable.

Naturally enough, the biological explanation for women's higher morbidity has been one of the stimuli provoking analysis of the relationship between the various phases of the menstrual cycle and physical and psychiatric morbidity. The aspect of the menstrual cycle to which this paper is directed is that period of time immediately preceding menstruation, namely the *premenstruum*.

It is worth recalling the variety of phenomena reported by a number of workers to correlate with the premenstrual phase. These include suicide attempts, suicide, assaultive behaviour among hospitalised psychiatric patients, accidents, emergency psychiatric admissions, decline in examination performance of adolescent schoolgirls, absenteeism, deterioration in athletic performance and the bringing of children by their mothers to clinics for minor ailments. The term 'premenstrual tension', introduced by Frank (1931) is usually applied to a cluster of symptoms, including cyclical irritability, anxiety, depression and swelling experienced during the premenstruum. One of the most influential exponents of the problem in this country, Katharina Dalton lists the following symptoms as among those which show a cyclical variation with exacerbation during the premenstrual phase:

depression, irritability, lethargy, alcoholic excess, nymphomania, feelings of unreality, sleep disturbance, epilepsy, vertigo, syncope, paraesthesiae, nausea, vomiting, constipation, bloating, oedema, colicky pain, enuresis, urinary retention, increased capillary fragility, glaucoma, migraine headaches, relapses of meningiomas, schizophrenic reactions and relapses, increased susceptibility to infections, suicide impulses, criminal behaviour, difficulties at work, manic reactions and dermatological disorders.

(Dalton, 1964)

Moos (1969), arguing that the premenstrual syndrome is not a unitary one, has identified eight symptom clusters which appeared to correlate with the premenstrual phase. A modified form of Moos's Menstrual Distress Questionnaire, which assesses women in terms of 34 symptoms, is currently being

used in an ongoing study of premenstrual symptoms and psychiatric morbidity in women attending general practitioners (table 14.1). Two symptom clusters, included in Moos's original questionnaire, have been excluded from the modified version, Moos having shown that these symptoms do not show a premenstrual phase exacerbation.

Table 14.1
Symptoms rated premenstrually (after Moos, 1969)

<i>Pain</i>	<i>Water retention</i>
Muscle stiffness	Gain in weight
Headache	Skin disorders
Stomach pains	Painful breasts
Tiredness	Feeling swollen/bloated
<i>Concentration</i>	<i>Negative affect</i>
Difficulty sleeping	Crying spells
Forgetfulness	Loneliness
Confusion	Anxiety
Difficulty concentrating	Restlessness
Clumsiness	Irritability
Accidents	Mood swings
Difficulty making decisions	Depression
	Tension
<i>Behavioural change</i>	<i>* Arousal</i>
Lowered school/work performance	Affectionate
Take naps/stay in bed	Orderliness
Staying at home from work/school	Excitement
Avoid social activities	Feelings of well-being
Loss of efficiency	Bursts of energy/activity
<i>Autonomic reactions</i>	<i>* Control</i>
Dizziness/faintness	Feelings of suffocation
Cold sweats	Chest pains
Feeling sick or vomiting	Ringing in the ears
Hot flushes	Heart pounding
	Numbness, tingling
	Blind spots, fuzzy vision

* Symptom cluster excluded from modified version of questionnaire

Prevalence

The prevalence of premenstrual disorders varies widely according to the definitions used, the sample studied and the index of complaint used. For example, Pennington (1957) found that 95 per cent of a group of normal American women had 'premenstrual tension' sufficient to cause 'social disharmony and economic disruption' but she does not tell us how the diagnosis was arrived at nor how she selected her sample. Given that the syndrome is often arrived at from different vantage points—that is, cor-

relations between behavioural acts and phase of the menstrual cycle, retrospective questionnaires, daily self-ratings or observations and thematic analyses of verbal material—and defined quite arbitrarily, such variation is not surprising. For example, the premenstrual syndrome has been taken to include the 'recurrence of (any) symptoms always at the same time in each menstrual cycle' (Dalton, 1964) or even 'any combination of emotional or physical features which occur cyclically' (Sutherland and Stewart, 1965). Rudolf Moos found from a review of the literature that over 150 different symptoms have been associated with the menstrual cycle, including such various ones as elation, depression, back pain, sexual desire and a great many other more or less specific behaviours and inferred psychological states.

In their study of 500 randomly sampled women, Kessel and Coppen (1963) defined the syndrome as made up of pain, headache, irritability, depression, anxiety, nervousness or tension and swelling. Pain, when experienced, was worst on the first day of the period—so-called dysmenorrhoea—whereas the other symptoms were worse premenstrually. 71 per cent of the sample reported some swelling, 32 per cent irritability, 23 per cent depression, tension or anxiety and 22 per cent headache. Rees (1953) found that 5 per cent of otherwise normal women suffered severe premenstrual symptoms while a further 15 per cent suffered moderately severe symptoms but unfortunately in an otherwise detailed paper he did not provide a helpful definition of the condition. Lamb and his colleagues (1953) found symptoms in 73 per cent of a sample of student nurses while Kessel and Coppen, using a postal questionnaire, found premenstrual irritability in 19 per cent of single women and in over 30 per cent of married women.

McCance and his colleagues reported in 1937 on a study in which 167 women filled in forms daily giving information on 10 carefully defined symptoms and moods. The data, consisting of records kept over 780 cycles, showed discrepancies between the daily-record techniques and the results of a preliminary questionnaire on menstrual cycle symptoms 'so frequent that they throw considerable doubt upon the value of any work on this subject based upon history or a questionnaire'. These authors reported that the majority of individual records showed no evidence of rhythm during the period of the study. When records were combined, however, cyclic changes were observed, related to the menstrual cycle, in fatigue, abdominal and—to a lesser extent—back pain, headache, breast changes, sexual feelings and intercourse, tendency to cry, irritability and effort required for intellectual work. Sutherland and Stewart's (1965) questionnaire study of 150 university students and student nurses reported that 35 per cent experienced 'the characteristic premenstrual tension state', by which they meant acute emotional depression and irritability, physical lethargy and uncomfortable bloatedness. A further 58 per cent admitted to some premenstrual symptomatology but the authors were not satisfied that this group 'should be classed as having either "premenstrual tension" or "premenstrual syndrome" with the implication that a pathological syndrome exists and, as such, demands treatment'.

If the situation with regard to subjective symptomatology, such as depression, tension and anxiety, is complicated, it is little better when one considers the so-called 'objective' behavioural changes reported to correlate

with the premenstrual phase. Some frequently cited correlational studies are methodologically quite unsound. Morton and his colleagues (1953), assessing the relationship between menstruation and crime, reported that 62 per cent of violent crimes committed by women took place during the premenstrual week, 19 per cent during mid-cycle and 17 per cent during menstruation but they did not define the length of days of these latter two phases. Nor did they say precisely how they determined the phase of the cycle at the time of the crime. 'Review of the inmates' records' suggested that onset of menstruation may be part of a prisoner's records but in a table presenting the data, 8 of the 58 women are listed in a 'cannot remember' category which does not support the notion that a record was kept for all prisoners. In another study, that of Cooke (1945), cited by many of the major studies undertaken subsequently, in support of a relationship between menstrual cycle phase and commission of violent crime, one sentence and only one is actually devoted to the subject. It states: 'That this (the hypersensitisation of the nervous system which occurs during the premenstrual phase of the cycle) is a very potent factor in the psychology of women is evidenced by the report of a Parisian prefect of police: that 84 per cent of all the crimes of violence committed by women are perpetrated during the premenstrual and early menstrual phases of the cycle'.

Likewise, several relatively recent papers refer to an association between the menstrual cycle and crashes by women airplane pilots (Dalton, 1960; Moos, 1968, 1969; Pierson and Lockhart, 1963), yet the only reference offered is to Whitehead (1934) or to Dalton's paperback which cites Whitehead. In fact, Whitehead's article consisted of reports of three airplane crashes over a period of eight months in which the women pilots were said to be menstruating at the time of crash!

Several critics, such as Parlee (1973), Sommer (1972) and Sherman (1971), have questioned a number of the correlations which Dalton claimed to find, and in particular that between schoolgirls' academic performance and menstruation. In 1969, Dalton reported a decrease in 27 per cent of her schoolgirl subjects' test performance during the premenstrual phase of the cycle but she did not provide a statistical test of the significance of this decrease and references to her work fail to note that a premenstrual increase in 17 per cent of the schoolgirls' performance was also found while 56 per cent of the girls showed no change.

It is worth noting in this regard the work of Wuttke and his colleagues at the Max Planck Institute which shows a significant acceleration in the alpha rhythm of the EEG during the luteal phase in normal women. Certain simple behavioural tasks, such as reaction times and mental arithmetic, were performed *better* during the luteal phase than during the follicular phase (Wuttke *et al.*, 1975).

Premenstrual Symptoms and Psychiatric Morbidity

The relationship between the premenstrual syndrome and personality was investigated in 145 normal and psychiatric subjects by Rees (1953). He found that the syndrome occurred more frequently in neurotic than in normal

subjects and that there was a correlation between the intensity of premenstrual discomfort and distress and neurotic predisposition. However, some severely neurotic women did not complain of premenstrual symptoms. The results of treatment also indicated that there was no simple relationship between neuroticism and premenstrual symptoms—neurotic women who improved psychologically with no psychotherapy did not necessarily improve in their premenstrual state. Rees concluded, therefore, that physiological as well as psychological factors were important. Coppen and Kessel (1963), in their study of 500 randomly sampled women, assessed their respondents' personality by means of the Eysenck Personality Inventory (EPI) and found a positive correlation between premenstrual tension and neuroticism scores on the inventory. They found no such correlation between dysmenorrhoea and neuroticism. However, this study, while often quoted in support of claims of an association between premenstrual tension and psychiatric morbidity, was actually studying neuroticism, defined by Eysenck as a general emotional lability of the subject, emotional over-responsiveness and liability to neurotic breakdown under stress. Given that the operational definition of premenstrual tension used by Kessel and Coppen was made up of four clear-cut symptoms of 'emotional lability' (anxiety, depression, tension and irritability), perhaps it is not so surprising that a positive correlation between the results of their premenstrual questionnaire and the EPI was found.

Gruba and Rohrbaugh (1975) used the Moos Menstrual Distress Questionnaire (MDQ) and the Minnesota Multiphasic Personality Inventory (MMPI) in a study of 60 single, nulliparous female college students. The MDQ is composed of 48 items each describing a 'symptom that women sometimes experience'. The subjects are asked to rate their experience of the symptom on a 6-point scale, ranging from 'no experience of the symptom' to 'acute or partially disabling'. They are asked to do this for each of three phases of their most recent menstrual cycle—('menstrual', that is during menstruation, 'premenstrual', the week before menstruation, and 'intermenstrual', the remainder of the cycle)—and for their worst cycle. Moos gave the questionnaire to 839 subjects and factor analysis of their responses indicated that 47 of the symptoms on the test fell into 8 different classes or scales which he named *Pain, Concentration, Behavioural Change, Autonomic Reactions, Water Retention, Negative Affect, Arousal and Control* (table 14.1). Moos showed that if a woman has a high score on one scale of the MDQ she is likely to have a high score during other phases. MMPI scores correlated significantly with subjects' reports of phase-related premenstrual pain (for example, cramps, headaches, fatigue, general aches and pains), menstrual behaviour change (for example, lowered school or work performance, napping, avoidance of social activities), premenstrual negative affect (for example, tension, irritability, mood swings) and premenstrual and menstrual autonomic reactions (for example dizziness, nausea, hot flushes). Conversely, there were few indications that personality variables are related to symptoms involving water retention (for example weight gain, swelling, painful breasts) and arousal (for example bursts of activity, excitement, affection). Relative to low complainers, women who reported more severe menstrual symptoms tended to show elevations in the *Schizophrenia, Hypochondriasis, Hysteria* and

Psychasthenia scales of the MMPI. This pattern suggests that women who report menstrual symptoms in the areas outlined above are more likely than non-sufferers to be seen as emotional, highly strung, prone to worry, serious, sensitive, modest, aesthetically inclined and generally concerned with bodily complaints. The authors concluded that while their results did not confirm nor contradict any aetiological hypotheses, they were congruent with the notion that psychogenic processes may be more important in some areas of menstrual symptomatology than in others.

The distinction between traits and symptoms has been underlined by Golub (1976) in a study of fifty married women in which the magnitude of anxiety and depression in the premenstruum was assessed and the relationship between premenstrual mood change and trait anxiety explored. Premenstrual state anxiety and depression mean scores were significantly higher than those obtained midcycle but were much lower than those of patients with psychiatric disorders. No significant correlation was found between trait anxiety and premenstrual anxiety and depression and the author concluded that the hypothesis that premenstrual mood changes are a function of personal adjustment remains to be established.

At this stage one notes again the surprising dearth of information concerning the menstrual and premenstrual states of the many women who consult their general practitioners during the reproductive period of their lives complaining of non-psychotic disorders. The study currently being conducted by the author is looking at the relationship, if any, between premenstrual and psychiatric morbidity in such a sample of women, in an attempt to clarify what it is that differentiates women who complain of premenstrual discomfort and show evidence of psychiatric ill-health. The same approach is being employed in an assessment of a group of self-selected women attending St Thomas' Hospital for treatment of premenstrual tension.

Aetiological Theories

These can be divided into hormonal, water and sodium retention theories and an amalgam of unrelated explanatory suggestions. The most popular aetiological theories are those which implicate the female hormones. Frank (1931) claimed that high levels of circulating oestrogens were present in premenstrually tense women and he postulated a high renal threshold for excretion, a speculation which has not been investigated. A deficiency in progestational hormones leading to the unopposed action of oestrogens was proposed by Israel (1938) and is still widely held today. Backstrom and Carstensen (1974) have claimed that women who exhibit anxiety as the chief symptom of premenstrual tension have higher levels of oestrogen and, on certain days, lower levels of progesterone in plasma. A number of studies have reported evidence of oestrogenic activity in vaginal smears of some patients with premenstrual symptoms. However, the highest level of oestrogen metabolites occurs around ovulation whereas the highest level of progestational metabolites occurs around day 20–25 when oestrogenic activity is low. Accordingly, if Israel's theory is right, one would expect to find the worst

premenstrual symptoms occurring around ovulation and not in the premenstruum.

Cullberg (1972) studied over 300 women between the ages of 18 and 45 who were divided into four groups, each of which was given a different oral contraceptive combination or, in the case of one group, a placebo. Each woman received an EPI, the Moos MDQ and a psychic change questionnaire. When he divided the group into those reporting premenstrual irritability on the last two menstrual periods prior to the study (about 50 per cent of the total) and those who did not, an interesting finding emerged. Those women with such prior premenstrual irritability and who were treated in the study with a high oestrogen contraceptive reported a higher frequency of adverse mental reactions than did similar women in the placebo group or in two other groups treated with gestagen-dominated contraceptive pills. Those women with no prior premenstrual irritability showed on the other hand a more adverse mental reaction when treated with the gestagen-dominated compounds than with the oestrogen-dominated compound or with the placebo. How a woman reacts to female hormones thus appears to be related to the presence of *premenstrual irritability* in her usual functioning. Such differences of mental reactions, concluded Cullberg, indicated a 'hypersensitivity' to the *predominantly oestrogen treatment* in the *premenstrually irritable* group. That this hypersensitivity is not revealed in the other tablet groups which were given the same amount of oestrogen could, he speculated, be ascribed to the anti-oestrogenic 'protecting' effects of the gestagen doses given concomitantly. Conversely, there are signs of a mental hypersensitivity to the predominantly *gestagen treatment* among the *premenstrually non-irritable* women. This latter association seems much less certain however. It is also worth noting that *premenstrual depression* does not give as clear differences between the groups as does premenstrual *irritability*.

In support of the general theory that some form of hormonal imbalance or hypersensitivity underlies premenstrual symptomatology is the widespread belief that oral contraceptives do relieve premenstrual symptoms. Kutner and Brown (1972) reported on a study of over 5000 women in the Kaiser Foundation Health Plan in California. A significantly smaller percentage of patients reported symptoms of severe premenstrual depression among those taking the pill as against those who were not. Patients taking combination pills showed significantly less severe premenstrual depression than sequential users. The higher the progestin dose, the less severe depression was measured by the MMPI Depression Scale and scales on premenstrual mood.

A number of biochemical changes which occur in the cycle are often cited as intermediary links between fluctuations in female sex hormones and women's emotional shifts. For example, when oestrogen and progesterone are decreasing premenstrually, a substantial increase in monoamine oxidase (MAO) activity is observed in various body tissues. The cyclic pattern of MAO activity is of particular interest since changes in MAO activity are so often cited as a direct cause of emotional disorders similar to those experienced by menstruating women. However, it is not easy to reconcile these findings with any theory which relates premenstrual irritability and depression to an oestrogen mediated effect since oestrogen acts to reduce MAO activity

whereas the peak of MAO activity occurs when plasma progesterone levels are at maximal levels. Grant and Pryse-Davies (1968), using histochemical staining techniques, have reported that combined oral contraceptives containing both oestrogenic and progestogenic compounds produced high levels of endometrial MAO activity throughout the cycle whereas the administration of the synthetic oestrogenic compound, mestranol, was associated with low levels of endometrial MAO activity.

Mood changes in connection with changes in plasma cortisol levels are a well-known clinical feature. The relationship between the phases of the menstrual cycle and changes in weight and/or sodium has suggested to some, particularly David Janowsky and his colleagues (1973) in Bethesda that aldosterone metabolism might have an aetiological role in premenstrual disturbances. This team studied 11 female college age students over a total of 15 menstrual cycles under controlled conditions. Daily weights, urinary potassium/sodium ratios and self-evaluations of negative affect were obtained. The different variables changed throughout the menstrual cycle and were elevated in the luteal-premenstrual and early menstrual phases and decreased at other times. They postulated that activation of the renin-angiotensin-aldosterone system may underlie the mood changes reported during the menstrual cycle. These authors point out that although negative affect, severe psychiatric disorders, oestrogen and progesterone appear to rise in the luteal phase of the cycle, oestrogen and progesterone levels are actually *falling* at the psychic disturbance *peak* in the premenstrual and menstrual phases of the cycle. Thus there is a dissociation in time between these hormonal and mental changes. Furthermore, the midcycle peak and subsequent fall of oestrogen, occurring at ovulation, does not appear to be associated with a significant increase in psychopathology, thus suggesting that oestrogen may *not* have a significant role in the regulation of the cyclic emotional disorders. During the menstrual cycle, aldosterone excretion, as observed by Reich (1962) correlates more closely with the psychic disturbances, weight and K/Na ratio changes than does progesterone or oestrogen. Also, a number of Italian workers have reported an elevation in aldosterone in patients with premenstrual symptoms. However, there is little evidence to indicate that aldosterone actually exerts effects on behaviour and aldosterone has not been shown to be particularly effective in affecting neurotransmitters, either centrally or peripherally. For this reason, Janowsky and his colleagues (1973) hypothesise that a substance which fluctuates in parallel with aldosterone causes the behavioural changes. Angiotensin may be this substance, since, like aldosterone, angiotensin is activated during the luteal phase of the cycle, after progesterone administration and during pregnancy. It is thought to be an endogenous stimulant which regulates aldosterone secretion, is probably activated by renin, possibly in response to elevated exogenous or endogenous progesterone levels. It exerts effects on animal behaviour, central neurotransmitters and autonomic function. It also increases brain acetylcholine in rats and increases acetylcholine output from the parietal cortex and as a result, Janowsky is tempted to suggest that the premenstrual-menstrual emotional upsets represent in part a relative predominance of central cholinergic activity, caused by angiotensin. 'We

would emphasise,' they admit, 'that such an hypothesis is highly speculative and is based almost entirely on indirect evidence.'

The hypotheses concerning the underlying cause of premenstrual symptoms serve to provide the basis for various treatments recommended. Dalton (1964) has argued on behalf of the therapeutic effectiveness of progesterone suppositories although a number of studies, including a double-blind trial of intramuscular progesterone (Smith *et al.*, 1975) have not found the use of progesterone to be superior to placebo. Other treatments include testosterone (to antagonise oestrogen), chorionic gonadotrophins, diuretics, desensitisation to small amounts of hormones, high carbohydrate diets, lithium and the prolactin antagonist, bromocriptine. To date, none of these approaches has been shown to be unequivocally superior to placebo.

Summary

The status of the premenstrual syndrome can be summed up as follows: there is widespread variation in its reported prevalence, vagueness as to its precise definition, disagreement over its possible aetiology and considerable enthusiasm for a wide variety of ever-changing treatments. The menstrual cycle is, however, the expression of a complex physical and psychological process involving hormonal, biochemical and psychosocial elements. It seems reasonable, therefore, to assume that menstrual and premenstrual complaints reflect hormonal alterations, biochemical changes and/or psychosocial disturbances, although attempts to establish these various factors have to date been unsatisfactory. The need to clarify the role of such factors by assessing in some detail not merely those women with premenstrual complaints who are clearly psychologically unwell but also those who, apart from premenstrual complaints, are reasonably stable and healthy is still a pressing one. Further light may, as a result, be cast on the nature of those non-psychotic psychiatric disturbances which occur in women in the reproductive time of life.

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15 Aspects of the Management of Alcoholism

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This chapter examines in particular the psychiatrist's place in the management of alcoholism. The word 'management' is taken to include not just the treatment activities of the psychiatrist but also those other activities which contribute to the good of the alcoholic. These non-treatment activities or functions are at least as important as treatment activities and are considered first.

Non-Treatment Functions

These views on the non-treatment functions of a psychiatrist have been derived from research performed by the Maudsley Alcohol Pilot Project (MAPP) which researched a district of South London in some depth (Cartwright *et al.*, 1975). The MAPP was originally established because those working with alcoholics were questioning the quality of services they gave to the local community. It was decided to assess the current situation as objectively as possible and attempt practical improvements. The object of the project therefore was 'To Design a Comprehensive Community Response to the Problems of Alcohol Abuse' for that health district.

In most districts in this country one does not need a research project to tell one what is wrong with the alcoholism services. The answer is usually quite simple—there are no alcoholism services. In that particular district this was not the case. There was an Alcohol Treatment Unit which fulfilled all the requirements of the 1962 D.H.S.S. Circular 'Hospital Treatment for Alcoholics'. It was a specialised in-patient unit with specialised staff carrying out group psychotherapy. There were alcoholics out-patient clinics. Furthermore, in the district there were Alcoholics Anonymous, Al-Anon, and a Council on Alcoholism and hostels. There was also a special voluntary organisation dealing with many vagrants. These organisations were staffed by interested and committed people who made every attempt to co-operate with each other.

There was some objective evidence already (Edwards *et al.*, 1973) that the size of the problem locally was far in excess of the number treated. There was also concern about the advanced condition of most of the referrals. It was as though women with breast cancer were only coming when they had multiple secondaries and not at the first sign of a lump in the breast.

Now it might be argued by some that if alcoholics either do not come for treatment or only come very late then it is their own fault. Locally a different view was taken. The condition is not hopeless—every experienced psychiatrist knows of many dramatic results occurring at all stages of the process. There seemed to be no sense in people coming late for treatment. Some of the damage that alcohol does can be irreversible. In times past, women with breast cancer often came late for treatment. It could be that the same factors of shame, embarrassment and ignorance, etc., on the part of both patient and doctor that used to militate against early diagnosis of breast cancer were still militating against the early diagnosis of alcohol problems. It might be that the services were inappropriate to patients' needs or so badly organised that patients failed to reach them. It could be that the number requiring help was far too large for the resources available.

The research concentrated on three questions:

- (1) What was the size and nature of alcohol abuse in that district?
- (2) What was the current response to alcohol abuse and what were its problems?
- (3) How might the problems be overcome and a better comprehensive response developed?

To answer these questions a study of a representative sample of the adult population of the district and a study of randomly selected general community agents, G.P.s, Probation Officers, and Social Workers, in the district were conducted.

The Size and Nature of the Problem of Alcohol Abuse

The general population survey made estimates of the size of the target population in two ways. People were first asked directly whether they had had a period in their life during which they had problems from their drinking. One per cent of the adult population said this was the case currently, and a further two per cent said they had had a problem period in the past. There was some indication, however, that of those who admitted only a past problem period, about half were probably still having significant problems at the time of interview.

The second way of measuring the size of the target population was to take measures of those three criteria for the diagnosis of alcoholism which are used by the World Health Organisation, namely, 'excessive drinking', 'problems from drinking' and 'dependency'. To this end, measures were made of the total alcohol consumption of the general population in the week prior to interview, their problems from alcohol in the year prior to interview and their experiences indicative of dependence in the year prior to interview.

These three measures were *not* able to pick out a group in the population whose drinking was fundamentally deviant and who could be called 'alcoholics'. Rather, there were degrees of 'heaviness of drinking', or 'problems from drinking' and of 'dependency'. Generally speaking, the more heavily people drank, the more problems they had. Any cut-off point had to be arbitrary. If one took excessive drinking to be 700 ml or more of absolute

alcohol per week, then 2 per cent of the general population were excessive drinkers. (700 ml = approximately 2 bottles of whisky per week, or 5 pints of beer per day.) If one took a dependency score of reporting at least two indications of dependency (out of a possible three), then 2 per cent of the general population were dependent on alcohol. If one took a problem score of reporting at least five problems (out of a possible twelve), then $3\frac{1}{2}$ per cent of the general population were suffering from significant problems from drinking.

Nine years previously a similar study had been conducted in the same district (Edwards and Peto, 1972). Comparison of the 1974 figures with those obtained in this earlier study revealed that in the nine years the average mean alcohol consumption had increased by over one third and the mean 'problem scores' of the general population had doubled. Quite clearly, the problem of alcohol abuse was getting worse.

What then is the nature and size of the target population? There is no small discrete group of people in the community who are 'alcoholics'. Rather, there is in the community a large pool of problems from drinking affecting physical, social and psychological health in all degrees of severity. This does not simply constitute a disease, but a complex medico-social problem.

The Present Response to Alcohol Abuse and its Problems

Specialised Alcoholism Services

The main response to alcohol abuse had been the specialist alcoholism services which comprise basically Alcoholics Anonymous and the psychiatric alcoholism services. It was of course difficult to estimate the extent to which alcohol abusers in the district were using Alcoholics Anonymous because of the problems of anonymity. None the less, the only local group had an attendance of about twenty persons and there were approximately three or four new members each month.

During the study year 0.16 per cent of the district's adult population was treated for alcoholism by a psychiatric service of *any* kind. Of those attending any psychiatric service with a diagnosis of alcoholism, only a minority attended the psychiatric *alcoholism* services. Although both Alcoholics Anonymous and the psychiatric alcoholism services probably dealt with a particularly severely damaged group of alcohol abusers, it would appear quite clear that their impact on the total pool of problems in the community was very small.

The General Community Agents and their Difficulties

There was a failure by agents to recognise and diagnose the problem. Edwards *et al.*, (1973) in a study in the same district had already shown this and our studies confirmed it.

Many agents felt that the condition was hopeless to treat—'I was interested (in them) ten years ago but I failed and gave up'. The feeling of hopelessness

was due to many factors. Sadly both in general practice and in social work situations the complainant is often not the drinker but his spouse. The agent is often frustrated in not being able to contact the drinker himself. Patients are only diagnosed, if at all, at a very late stage when treatment can be extremely difficult. There was a failure to get into a treatment relationship with the drinker where both agent and client agreed upon the nature of the problem and what needed to be done. Few agents had a treatment programme which they could apply to drinkers themselves. As one agent said, 'we are swimming around in the dark'. Agents attempting to refer the patient to a specialist alcoholism resource often found that the patient refused to go, or if he did go, quickly defaulted. The waiting lists for the specialist's clinics were long.

Referral between agencies depends partly on good relationships and upon a correct understanding and respect for what the other agency has to offer. There were not good relationships between the general community agents and psychiatrists. General practitioners and social workers often admitted that they knew little of what psychiatrists did. Some were openly critical of psychiatry, pointing out the ineffectiveness and unreality of its treatment. One stated that sometimes alcoholic patients were referred to psychiatrists not with real expectation of benefit but to get rid of the patient. Efficient referral between agents of course also depends on both having a shared language to describe clients, but there was no consensus amongst agents as to what constituted 'alcoholism'. On this, there was marked intra- and inter-agency disagreement. Some agents were not prepared to label clients as alcoholics at all, as a matter of principle. Some agents gave definitions of alcoholism which were idiosyncratic, or impossible to apply practically, such as, 'he is not an alcoholic if he can give up (drink) for a week or two'. 'If he smells of alcohol in the surgery he is not an alcoholic [*sic*].'

Many agents lacked the necessary knowledge to pick up those of their clients likely to have drinking problems. Furthermore, they lacked the skills necessary to elicit an appropriate drinking history, to come to a correct understanding of the situation, and to establish a treatment contract with the patient. The general community agents were all asked whether they found alcoholics more dangerous, more demanding or more embarrassing than other patients. Many agents admitted that indeed this was the case. Some agents defined alcohol problems as being outside their role.

The position in that district can be summarised thus. There was a large pool of alcohol related problems of differing kinds. People were quite prepared, when asked properly, to admit to these problems but they did not regard themselves as 'problem drinkers' or 'alcoholics'. The vast majority of those with problems received no help for the underlying drinking despite the fact that the problems from their drinking brought them frequently into contact with medical and social agencies. When an agent saw such patients the significance of the drinking was often not realised by the agent. Whilst the underlying drinking remained unchanged, then generally the problems persisted to the disadvantage of the patient and the frustration of the agent. In a proportion of people, the situation deteriorated into a vicious circle of increasing drinking and increasing problems. Eventually the damage and the drinking were so obvious that a diagnosis of alcoholism was made by some

agent. The agent then sometimes tried to persuade the person of this but disagreement often resulted and the person refused help. Very often, the agent felt incompetent to help the person himself. He then either had to refer the person to a psychiatrist or to Alcoholics Anonymous. The patient often refused such referral or if referred quickly defaulted. Failures resulted in more feelings of hopelessness by the agents who then tended to be even more reluctant to recognise and treat drinkers.

The implication of these findings for the organisation of services are that the services must be so organised that they can provide for a variety of different needs of widely differing severity. This calls for multidisciplinary responses available to patients at primary health care levels as well as secondary levels. If, however, the general community agents operating at primary levels are to be effective, they will need to become better informed and more skilled. They will need to be supported by a locally based secondary level which can provide flexible and rapid advice, consultations and specialised treatments.

An Alternative Model of Services and the Psychiatrist's Role Within It

The psychiatric services could be organised in several different ways to treat alcohol abusers. The first possibility is to go back to the pre-1962 structure, that is that alcohol abusers should have no specialised psychiatric services but just fit in with the rest of psychiatric cases. That would be a mistake. The problem would be neglected again. Alcoholism is still the least popular of conditions among psychiatrists (Macdonald and Patel, 1975). Even if drinkers were not being neglected then they would, in many cases, receive inappropriate treatment or in certain circumstances disrupt the care of other psychiatric cases. There are very few patients in psychiatry who can disrupt a ward, day hospital or out-patient clinic as effectively as incompetently handled alcohol abusers. The second possibility is to develop more, bigger, better Alcohol Treatment Units. In the present financial climate they are too expensive of money and manpower. They lack the flexibility and the community orientation so necessary to this particular problem.

There is a third possibility. Although all general psychiatrists should continue in the future to recognise and initially treat alcohol abusers who present to them, in each reasonably sized district one general psychiatrist should be expected to take a special interest in the problem and devote three to four sessions per week to it. He, together with a specially designated social worker and a nurse, should form the Community Alcohol Team (CAT).

The CAT's first responsibility is to advise and support and educate the general community agents, that is, the general practitioners, community nurses, probation officers, social workers and voluntary workers. The CAT should attempt to raise the level of skills of these agents by routine educational methods but also by encouraging the agent to treat the drinker initially himself with the backing and support of the Team. It is a more valuable use of the psychiatrist's time for him to spend an hour with a G.P. talking about the management of a case rather than seeing the patient in the out-patient clinic. It is quicker to see the patient rather than the G.P. but in the long run a skilled

G.P. will save the psychiatrist much time. Only if the well supported G.P. or other community agent fails to help the drinker should he be taken over for treatment by the CAT itself. The CAT should operate from a specialised day care setting. In this out-patient setting most specialised treatments can be given. Access to residential provision will be required, for example short-term and long-term hostel provision, short-term medical beds and short-term psychiatric beds. A few of the CAT's psychiatrist's general psychiatric beds can be set aside for this. The beds will be used for detoxification and acute psychiatric and social crises. An effective day care setting will allow rapid discharge from in-patient beds normally.

A locally based information service for alcohol abusers staffed by volunteers will be required as an alternative gateway to the services for those clients who prefer not to go to their family doctor or other community agents. This service can also provide longer term counselling as an alternative to psychiatric out-patient clinics. The CAT psychiatrist will again have important advisory, educative and supportive roles to this service and should actively co-operate with the Regional Council of Alcoholism in developing such information and counselling services in his district.

The Treatment Function of the Psychiatrist Himself

Many treatment approaches have been successful with alcohol abusers. Some drinkers will respond to any treatment and others will fail to respond to all treatment approaches. Furthermore, there is no one treatment approach which is applicable to all cases, nor has any one treatment approach been clearly demonstrated to be outstandingly successful (Emrick, 1975).

All treatments depend on the establishment of a therapeutic relationship between patient and psychiatrist. The basis of the therapeutic relationship with alcohol abusers is that the patient shall accept that his drinking is causing problems, that he intends to change that situation and that he is prepared to be helped to do so by that particular psychiatrist. Most therapeutic programmes fail at this stage. The notes record 'he wasn't motivated'; 'he denied his problem'; 'he would not accept my advice'; 'he defaulted from treatment'. It is therefore important to concentrate on the initial interview when this therapeutic relationship is initiated, when the patient is assessed and treatment goals and methods are determined.

A patient is very unwise to open himself up to a total stranger. Many alcohol abusers have had prior bad experiences of helping agencies and are often on the defensive. It is necessary to show the patient a little of the psychiatrist. It is easy to forget this at the beginning of an interview. The psychiatrist is so keen to get information from the patient and assess him that he forgets to give him enough information so that the patient can assess whether he is trustworthy, understanding, well motivated and knowledgeable.

The best way to get a person to open up about his drinking is to make it safe for him to do so. Alcohol abusers put up defences when they are frightened and take them down when they feel safe. There are dangers in confronting people about their drinking. Confrontation and the active breaking down of a

person's defences is an assault upon him and causes him pain. One should always be reasonably certain that the suffering inflicted will be worth while. Sadly confrontation often has little to do with helping the patient but more to do with the psychiatrist's frustration and anger at not getting the patient to do or say what he, the therapist, wants. Confrontation is like a scalpel in the hands of a surgeon. There are times when he has to use it but it carries a risk and he knows it. He always tries to avoid it but when necessary he uses it.

The psychiatrist should seek to answer at least the following questions:

- (1) Is he sober enough to conduct a useful interview? (exclude drugs, brain damage, etc.)
- (2) Why is he here?
- (3) How does he see his difficulties?
- (4) Does he drink excessively?
- (5) Why does he drink excessively? This is rarely simple.
- (6) What harm is the drink causing? The harm may be physical, social and psychological, and may occur as a consequence of acute heavy drinking, chronic drinking, or on withdrawal from drink.
- (7) What is his present social state? that is, wife, home and job.
- (8) What has been his previous experience of help for alcohol problems and other psychiatric problems?
- (9) What are the treatment goals?
- (10) How can the services achieve these goals?

To answer these questions it is usually essential to see the spouse alone and also together with the drinker but not at the cost of destroying the therapeutic relationship. The families need to be understood, as much drinking is strongly related to family dynamics.

The treatment process can be conceptualised as follows. The object is to cure the damage/harm caused by excessive drinking. To do this one not only must treat the harm directly, but also reduce the consumption which leads to harm otherwise the harm will recur.

Treating the harm alone can either worsen or improve the drinking. Some forms of harm are productive of further drinking in a form of vicious circle; other forms of harm are powerful factors in stopping or reducing the drinking. It is therefore important not to relieve the harmful consequences of drinking without first considering the effect on the alcohol consumption.

In responding to the drinking the psychiatrist as well as, wherever possible, treating the factors, social, psychological and physical which underlie the drinking must also respond to the drinking itself. He should decide whether he feels that the drinker will have to become totally abstinent or can attempt just to cut down his consumption. Factors such as his total consumption, the degree of tolerance, the severity of withdrawal symptoms, the reasons for drinking and the pattern of drinking, the past history of attempting to reduce consumption, the possibility of changing underlying pressures to drink and finally, the practical risks of uncontrolled drinking which the drinker faces will guide the psychiatrist in his decisions.

In helping the drinker the psychiatrist has all the usual tools of psychiatry at hand—psychotherapy, drug treatment, behavioural techniques, social manipu-

lation, etc. Most rely mainly on out-patient counselling, using education, advice, and encouragement of the drinker and his family, together with A.A. If this fails, more formal individual, family or group therapy may be necessary. Drugs have a small place. Vitamins are routinely given; disulfiram if the patient desires it, but diazepam only if necessary to relieve any withdrawal symptoms. Anti-depressants have proved disappointing. Which member of the team takes the leading treatment role depends partly on the nature of the family's main difficulties but also on personal feelings and time available.

The psychiatrist has to divide his time between his treatment and non-treatment functions. If he is going to have time to perform his educational, organisational, supportive and advisory roles, he will have to restrict his participation in individual treatment. Most treatment will have to be done by other members of his team, making full use of volunteers and ex-patients. However, unless he regularly actively treats individuals, families and groups himself, his ability to perform his other roles will gradually atrophy.

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SECTION 3

GENERAL ISSUES

16 Psychiatric Morbidity in General Practice: Identification and Treatment

Anthony Clare

In the past, reported prevalence rates of psychiatric disorders have varied enormously. However, there is growing evidence to suggest that once methods of recording and classification of psychiatric disorders can be standardised, closer agreement on psychiatric incidence and prevalence can be obtained, even among psychiatrists from different countries. However, cross-national studies of the psychiatric diagnostic habits of family physicians are lacking. In addition, the diversity of national health care systems means that the extent to which psychiatric disorders are encountered and recognised by family physicians varies considerably. A Czechoslovakian survey, for example, found that fewer than 20 per cent of psychiatric cases had been seen initially by district physicians (Polacheck, 1972) whereas in the United Kingdom the general practitioner is the first medical contact for almost all patients who come to psychiatric clinics. From British studies of patients registered under the National Health Service, it appears that 60–70 per cent consult their doctor in any one year and that the proportion of patients who have not consulted for two years or longer is only about 10 per cent. These figures strongly reinforce the view that such a practitioner is well placed to monitor psychiatric disorders in the general population and to identify those serious enough to warrant treatment. Such assumptions cannot be made in health systems where services are based chiefly on private practice, since many patients will be unable or unwilling for financial reasons to seek medical aid. However, even where medical advice and treatment are freely available, selective features will continue to operate. Some relate directly to the illness. A phobic patient, for example, may be unable to make the journey to visit the doctor, a paranoid patient may be unwilling to do so. Socially deteriorated schizophrenics and alcoholic patients have, as a rule, poor motivation to solicit medical advice and little perception of physicians as helping agents. For such individuals, the family physician is less likely to be the doctor of first contact than for the anxious, depressed and hypochondriacal patients who occupy so much of his daily routine.

Global statistics, while affording a useful perspective, may conceal important differences between diagnostic groups. It is convenient to consider psychiatric morbidity under the two broad headings of 'major' and 'minor'

disorder, while bearing in mind the shortcomings of such a dichotomy. In the former category, which includes the major organic and functional psychoses, severe mental retardation, chronic alcoholism and narcotic addiction, the patient manifests conspicuous abnormality and social impairment. In the latter group, comprising the neuroses, most character disorders and the milder forms of mental retardation, the patient usually remains able to cope with his social roles. It is clear that whereas the type of morbidity cannot be equated simply with the type of medical care, the division does correspond roughly to what falls to the psychiatric specialist and the general medical services respectively. The most important aspects of psychiatric research in family medicine are those dealing with the 'minor' disorders since, at the present time, the great majority of these conditions remain outside specialist care. The findings of a number of investigations carried out in Britain over the past 25 years are summarised in table 16.1.

Table 16.1
Psychiatric referral rates from general practice and community surveys in England and Wales

Authors	Year	Size of population	Survey period (years)	Referral rate per 10 000 at risk	Proportion of psychiatric cases referred
Bodkins <i>et al.</i>	1953	14 000	1	72.9	—
Hopkins	1958	1 400	3	160.6	—
Martin <i>et al.</i>	1957	17 250	1	29.0	5.3
Fry	1959	5 500	1	61.8	5.0
Rawnsley and Loudon	1961	18 500	9	17.7	—
Taylor and Chave	1964	40 000	3	31.5	5.4
Shepherd <i>et al.</i>	1966	15 000	1	71.4	5.1

Kaeser and Cooper (1971).

Over the past 15 years, a series of studies have been mounted by the General Practice Research Unit at the Institute of Psychiatry to study the nature and extent of psychiatric morbidity in general practice. Much of this work has been focused understandably on 'conspicuous' morbidity, defined as 'illnesses or disabilities severe enough to lead to medical consultation and conforming to recognised clinical patterns for identification by the practitioner'. In general, however, the whole range of the so-called 'minor' mental disorders is comprehensively covered by the general practitioner survey which, furthermore, has the additional advantage of helping the investigator tackle one of the more intractable problems in the sphere of mental disorder, namely the detection of a 'psychiatric' case. For operational purposes, this means an individual whose symptoms, behaviour, distress or discomfort leads to a medical consultation at which a psychiatric diagnosis is made by a

qualified physician. Shepherd (1974) has summarised the more important findings of this programme of research:

Of some 15 000 patients at risk during a 12-month period, rather more than 2000, approximately 14 per cent, consulted their doctor at least once for a condition diagnosed as entirely or largely psychiatric in nature. The bulk of these patients would be classifiable in the International Classification of Diseases as suffering from neurotic or personality disorders which therefore take their place among the commoner conditions in practice;

No more than about 1 in 20 of the patients identified in the survey had been referred to any of the mental health facilities despite what the family practitioners freely acknowledged to be the unsatisfactory nature of the treatment which they were able to provide;

The demographic, social and diagnostic contours of this population are quite different from those provided by hospital statistics. Corresponding discrepancies are found in respect to outcome and therapeutic responses. Thus the data show that a large proportion of psychiatric morbidity encountered in family practice is made up of chronic disorders and in a 7-year follow-up study more than half the cohort exhibited a very poor outcome in terms of recurrence or chronicity;

Emotional disorders were found to be associated with a high demand for medical care. Those patients identified as suffering from psychiatric illness attended more frequently and exhibited higher rates of general morbidity and more categories of illness per head than the remainder of patients consulting their doctors.

Since the publication of these findings, similar findings have been furnished by workers as far apart as Australia (Stoller and Krupinski, 1969) and Austria (Strotzka *et al.*, 1969).

Neuroses form a much larger proportion of psychiatric morbidity in family practice than in hospital psychiatric practice. Neuroses constituted 63 per cent and character disorders 4 per cent of the psychiatric disorders seen by Shepherd and his colleagues (1966) in their study of 46 London general practices. Corresponding figures for all out-patients at the Maudsley Hospital, London, a psychiatric hospital, were 40 per cent and 37 per cent and for in-patients 29 per cent and 26 per cent respectively. Only a small proportion of neurosis is dealt with by psychiatrists and an even smaller proportion by in-patient services. In contrast the psychoses formed 4 per cent of the total psychiatric morbidity in the survey by Shepherd and his colleagues compared with 25 per cent of the Maudsley Hospital outpatient cases and 72 per cent of first admissions to mental hospitals in England and Wales in 1957 (Marks, 1973).

Not all those patients who suffer from psychiatric illness and who attend their family physicians are detected. Of 200 patients attending a London general practitioner, 93 were clinically psychiatrically ill, yet one-third of these were unknown to the practitioner until their responses to a questionnaire were examined (Goldberg and Blackwell, 1970). Most of the psychiatric problems were classified as 'minor affective illnesses'. At six-month follow-up, two-thirds of these problems had remitted. The bulk of the morbidity in this

practice was thus short lived. Cooper (1972), in a study of eight general practices in London, found that anxiety and depression accounted for 80 per cent of chronic neuroses. Whereas anxiety neurosis occurred to a comparable extent in either sex, two-thirds of those with depressive neurosis were women. Specific neurotic problems, such as phobias, obsessions and hypochondriasis, were found in only 2.8 per cent of cases. Non-specific anxiety states and depressive neuroses are less easy to differentiate in a general practice sample than in a sample of psychiatric out-patients or in-patients.

Not enough is known about the normal course and outcome of the neuroses* and related non-psychiatric disorders. One extensive review of the subject (Greer and Cawley, 1966) concluded that 'it is not possible to make legitimate generalisations about the prognosis of neurotic disorders from the published data'. Longitudinal studies of psychiatric illness in general practice populations suggest that the previous duration of illness is the most important prognostic factor for the neuroses and that a rough dichotomy can be established between chronic disorders of poor prognosis on the one hand and short-term situational reactions on the other. A simple model illustrating the balance of neurotic disorders in a general practice population is shown in figure 16.1.

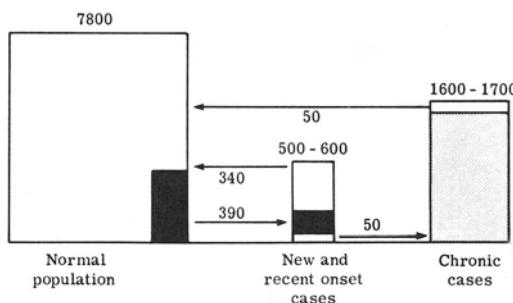


Figure 16.1 A simple model of the changing distribution of psychiatric morbidity during one year in a standard population of 10 000 (*Jl R. Coll. gen. Practit.*)

Psychiatric and Physical Morbidity

Patients with psychiatric disorder not only consult more frequently than the average and maintain higher levels of demand for medical care than the average, they also present more physical symptoms and are more often referred to medical and surgical departments. Indeed, over the short term many psychiatric illnesses appear to be misdiagnosed because of their somatic presentation. It may of course be argued that the degree of physical morbidity of the neurotic patient is equivalent to that of non-psychiatric patients but that the latter tend to complain more and consult more frequently. Conversely, patients who habitually consult their doctors may well be labelled 'neurotic' whatever the true nature of their complaints.

* See chapter 11.

To illuminate the positive correlation between physical and psychiatric morbidity, Eastwood (1970) embarked upon an extensive study as part of a health screening survey in general practice. Those invited to participate comprised one half randomly selected of all patients aged 40–65 years registered with a large group-practice. Of a possible 2000 patients, just over two-thirds took part. Each patient underwent a battery of tests, including morphological measurements, blood pressure readings, ventilatory function tests, electrocardiogram and a number of blood and urine tests. In addition, a questionnaire including 20 items selected from the Cornell Medical Index was completed by each patient. Two weeks later, the patient was physically examined by the family physician who by this time had received a report of the test results. At their first attendance, patients whose questionnaire scores suggested a possible psychological disturbance were given a standardised psychiatric interview; as a result, 124 (8.2 per cent) were classified as confirmed psychiatric cases. A control group, matched with these 124 patients by age, sex, marital status and social class, was drawn from among those patients whose questionnaire responses gave no indication of mental disturbance; any 'false negatives' were excluded at the interview stage.

When these two matched groups were compared in respect of the screening survey findings, the index group proved to have a significant excess of major physical disease. Physical disorders appeared to 'cluster' together in some individuals and this occurred to a significantly greater extent in the psychiatric group. Thus 17 per cent of the psychiatric group had had two major plus several minor physical conditions compared with only 2.4 per cent of the controls. These findings agree with those of Hinkle and his colleagues (Hinkle and Wolff, 1957; Hinkle *et al.*, 1958) who found in a variety of ethnic and socio-economic groups that members of these adult populations exhibited differences in their general susceptibility to illness of all types so that some persons experienced a greater number of illnesses per unit time than others. On average, 25 per cent of the members of these populations had experienced 50 per cent of the episodes of illness over a 20-year period whereas a further 25 per cent had suffered less than 10 per cent of the episodes.

As Eastwood and Trevelyan (1972) observe, the idea that individuals have a generalised psychophysical propensity to disease appears to be a valuable alternative model to that which seeks only specific single cause and effect relationships. The notion of multiple aetiology in disease and multiple responses by man to agents threatening his health reflects a greater acceptance of the realities of the ecology of ill-health. It is also a notion which family physicians, regularly confronted by patients in whom psychological and physical disturbances appear inextricably intermingled, can readily comprehend.

Social Factors and Psychiatric Morbidity

The social component of psychiatric disorders in family practice is as important as their clinical features and it is necessary to use a socio-medical framework to classify and describe them (Sylph *et al.*, 1969; Fitzgerald, 1970;

Cooper, 1972*b*). In one study of the social functioning and psychiatric status of 20 general practice patients defined as 'chronic neurotics' and compared with those of a matched control group, a significant correlation was found between social difficulties and neurotic illness (Sylph *et al.*, 1969). The neurotic patients tended to have limited or conflict-ridden relationships with neighbours, relatives and work-mates, an excess of problems with spouses and children and a significantly less satisfactory adjustment to their life situation, as measured by ratings of satisfaction and dissatisfaction with several of its important aspects such as housing, occupation and social role. As Bloom (1975) among others has pointed out, there is an extensive sociological literature testifying to a positive association between certain global variables, such as social class and mental illness, a literature which has been ably summarised by Dohrenwend and Dohrenwend (1969; 1974). More recently, Brown and his colleagues have suggested that the experience of depression may be associated with major stressful life occurrences (Brown *et al.*, 1975). Cooper and Sylph (1973) have shown that new cases of neurotic illness in general practice are distinguished from controls by a marked excess of life events immediately preceding onset. The findings of these British studies broadly agree with those on the social role-performance of depressed women reported by an American research group (Weissman and Paykel, 1974).

While an association between social status and prevalence of psychiatric disturbance has often been reported, little has been established about aetiology or its significance for social class differences (Harris, 1976). In one survey of a random sample of women living in South London, a large class difference in the prevalence of depression was found (Brown *et al.*, 1975). This difference was particularly noteworthy among women with young children at home. Severe life-events and major long-term difficulties occurring in the year prior to onset appeared to play an important aetiological role. However, although these aetiological agents were more common among working-class women they only explained a small part of the social class difference. These workers have argued that the difference is essentially due not to the greater frequency of events and difficulties but to the much greater likelihood of working class women breaking down once these have occurred. This greater vulnerability was shown to relate to four specific social factors—the existence of an intimate confiding relationship, the number of children living at home under the age of 14, the loss of a mother before the age of 11 and whether or not the woman was employed before onset. Why certain factors tend to be protective remains unclear and requires further research.

Treatment

Broadly speaking, there are three principal modes of treatment open to the general practitioner:

- (1) the psychological (including behavioural);
- (2) those procedures aimed at modifying directly the patient's social environment; and
- (3) the pharmacological

However it is worth recalling the judgment of a W.H.O. report on this topic:

Transcending in importance these three broad methods of treatment, there are certain general needs, such as a tolerant attitude, dependability, continuity, an interest that allows a doctor to take even minor disorders seriously, and attention to the needs of close relatives of the patient.

(W.H.O., 1962)

The time-consuming nature of many psychiatric problems makes it difficult for the family physician to take an active role in treatment. The average practitioner in Britain, for example, is consulted 2–4 times per year for each patient on his list; a doctor with 2500 patients under his care might provide between 5000 and 10 000 consultations for all medical problems annually. It is therefore not surprising to find that the average consultation time in general practice is not much more than five minutes and rarely over ten (Shepherd *et al.*, 1966; Royal College of General Practitioners, 1973). The attitudes of family physicians to psychiatric patients vary from intense personal interest to active dislike. In the London general practice survey, the practitioners' attitudes were found generally to reflect a tolerant indifference although there were several exceptions:

One was altogether averse to psychiatry, and blamed psychiatrists for encouraging neurotic patients to avoid their responsibilities; the second states that the neurotic patients on his list were so few and so easily identifiable as to render any systematic study unnecessary; the third commented simply that all neurotic patients were ungrateful and that there was nothing that could be done for them.

(Shepherd *et al.*, 1966)

All observers are agreed that there are great variations of attitude to psychiatric and socio-medical problems among practitioners. Younger physicians, those more recently qualified and those expressing a special interest recognise more psychiatric cases (Rawnsley and Loudon, 1962). On the whole, practitioners feel confident in their ability to recognise serious psychiatric disturbances but less able to relate them to causal or precipitating factors (Shepherd *et al.*, 1966). Although many regard the treatment of neuroses as their business, they tend to feel inadequately trained. It is worth noting that in one study a majority of doctors reported that they found psychiatric work more irksome than other aspects of practice and were apprehensive of any increase in the number of chronic patients under their care (Rawnsley and Loudon, 1962).

Psychological Methods of Treatment

These include *psychotherapy* and *behavioural techniques*. Implementation of formal methods of *psychotherapy* within the general practice situation has proven difficult and has led to a number of attempted adaptations. Perhaps the strongest single influence in Western Europe has been that advocated most forcefully by Balint and developed by a number of his colleagues. (Balint, 1957; Bacal, 1971; Balint and Norell, 1976). Balint recognised and accepted the limited time available to the G.P. and argued for a move away from the

traditional role of the doctor as diagnostic detective and towards that of a listener able to 'tune in' follow the patient's lead and allow the patient to make use of him. The concept of 'a flash', used to describe the moment when doctor and patient simultaneously 'tune in' to each other is a crucial one in this approach. However, not everyone agrees that psychotherapeutic intervention can be made effectively, given the constraints of time; and modifications such as the so-called 'twenty-minute hour' practised in the United States, have occurred.

A closely related line of development has been the application to family practice of the theories of transactional analysis (Browne and Freeling, 1957). The tendency for the family physician to become a specialised psychotherapist is not always easy to avoid, and in a number of countries, such as the Federal Republic of Germany, Family Physicians are able to take a diploma in psychotherapy. However, it tends to be a small, often somewhat atypical group of practitioners who use psychodynamic techniques and many have an atypical patient clientele. There is little evidence as yet that such methods are permeating the main body of clinical practice. Commenting on the present position of psychotherapy *vis-à-vis* family medicine, a World Health Organisation Working Group on psychiatry and primary health care observed:

The drift of a small number of general practitioners into psychotherapy, as into other specialities, is unavoidable, and relatively unimportant. The crucial point is that the great majority of general practitioners, with no special interest in psychotherapy, should be competent to understand and tolerate their patients' behaviour, even when markedly deviant; and that they should be prepared to give sympathy, advice and reassurance in all cases. The extent to which individual practitioners fulfil these requirements varies enormously, and must be considered a product of personality, training and conditions of service. The most important need appears to be increased attention to behavioural studies in both undergraduate and postgraduate education.

(W.H.O., 1973)

The common mixed affective disorders can impose considerable emotional demands on the family physician and the essential requisites for effective management can prove elusive. At one extreme, the family physician may be expected to share the patient's intense distress and deal with intractable life situations. At the other he may have to endure displays of hostility and irritability or deal with what appears to be a succession of trivial or incomprehensible complaints. Each type of confrontation has the potential to engender attitudes of helplessness, despair or exasperation. However, the majority of non-psychotic psychiatric disorders can be effectively treated by discussion, reassurance and attention to environmental factors. In this regard, it is relevant that a recent study of the effects of maintenance, antidepressant drug treatment and psychotherapy on symptoms of depression (Paykel *et al.*, 1975) showed that psychotherapy produced no significant advantages over simple support and supervision in terms of symptomatic improvement although it did improve ratings of social adjustment. Formal psychotherapy in general practice, however, is precluded by lack of time and training.

Psychodynamic interpretations may be invalid, detrimental or too painful for the patient to tolerate and are best given by those who have received some formal training in this field. Nevertheless, selection of a few cases by practitioners for special interviews, particularly in the context of general discussions with other interested colleagues, can be instructive and rewarding for the family physician concerned. The term 'psychotherapy', however, is ill-defined and is currently applied not merely to formal methods of psychodynamically-based intervention but to the provision of support and reassurance through listening, advising and explaining. The personality and attitudes of the practitioner are powerful influences in treatment and an optimistic manner about the outcome of the patient's illness helps generate relief.

The development of specialised *behavioural techniques* has been the major advance in the management of the more severe and lasting forms of anxiety, phobias and obsessional states (Marks, 1974). These techniques include desensitisation, modelling and flooding. Desensitisation can be construed as a form of intermittent exposure to phobic stimuli although to some extent it has been replaced by the procedure known as flooding. Whereas in desensitisation exposure to the stressful situation is very slow and graduated, with but minimum tension, in flooding, exposure is less graduated and intense emotion is evoked. Common to both procedures is the principle of confronting the patient with the stimuli that distress him until he becomes used to them. Good evidence is available for the efficacy of flooding in phobic disorders (Gelder *et al.*, 1973; Marks, 1974).

Modelling, exposure *in vivo* and response prevention are behavioural procedures used in the treatment of obsessive-compulsive disorders. In modelling, the therapist demonstrates the required behaviour to the patient and asks him to do the same thereafter. Exposure *in vivo* describes the prolonged contact of the patient with those stimuli which provoke discomfort or ritualistic behaviour. Response prevention refers to prevention of rituals by asking patients to desist from them for increasing periods of time with or without supervision by a therapist.

Such procedures are most effective in the relatively circumscribed and severe neurotic disorders seen in psychiatric out-patient departments and mental hospital wards. The chronic anxiety state, commonly seen in general practice, is less amenable to such psychological techniques. Social anxieties have been modified using training in social skills (McFall and Lillesand, 1971) but as Marks (1975) points out most work in this area has been uncontrolled and the rather complex therapeutic techniques required are still evolving. Whether such techniques should be reserved for psychiatrists and clinical psychologists or should be extended to family physicians, social workers, community nurses and health visitors, remains to be determined.

Social Methods of Treatment

The strong association between the clinical symptoms of neurotic disorders in general practice and various problems of social adjustment referred to above underlines the need for attention to be directed at the social aspects of these

disorders in treatment. A number of studies have been reported of collaboration between general practitioners and social workers (Collins, 1965; Goldberg and Neill, 1973; Forman and Fairbairn, 1968). Such experts have consistently advocated the need for closer liaison between the general medical, psychiatric and social services. To date, however, there has been little in the way of evaluative studies, but one such study (Cooper *et al.*, 1975) did assess the possible therapeutic value of attaching a social worker to a metropolitan group practice in London in the management of chronic neurotic illness. The psychiatric and social status of a group of patients before treatment and after one year was compared with a control group treated more conventionally over the same period. The results indicate that the experimental service conferred significant benefit on the patient population.

There have been very few controlled attempts to evaluate social work intervention in the community and none apart from Cooper *et al.*, (1975) has demonstrated benefit, however small, to so notoriously resistant a group of patients as those suffering from chronic neurotic disorders (Segal, 1972; Fischer, 1973; Goldberg, 1973). For these reasons alone, the results of the investigation by Cooper and his colleagues carry some general implications which extend well beyond the findings themselves, limited as they are by the extent of the follow-up (Cooper *et al.*, 1975). As the authors themselves point out, the most significant conclusion may well be 'the demonstration that evaluative research in the mental health field can be carried out in an extramural setting'. Such studies also touch on the question of the psychiatrist's contribution to the primary health care team. With the growth of health centres and large group practices, it is to be expected that there will be a growing participation in primary health care by both psychiatrists and psychiatric nurses.

For psychosocial disorders to be managed effectively, not merely the social worker but the health visitor and district nurse must play an active role alongside the general practitioner (Brook and Cooper, 1975). There appear to be strong arguments in favour of such a development in which the primary health care team would come to be regarded more and more as the keystone of community psychiatry (W.H.O., 1973). However, the discovery of a significant amount of social difficulties among neurotic patients in general practice does not inevitably imply that social work intervention should be mobilised in every case. Some social problems appear intractable, others beyond the resources of society to deal with. At the present time, too little is known about how those problems which could be alleviated might be identified. 'Attractive as the concept of multidisciplinary work at the primary health care level might be,' observes a recent *Lancet* editorial, 'it still requires more painstaking inquiry and evaluation if it is to develop into something more substantial than a pious exhortation at the national level' (*Lancet*, 1975).

Pharmacological Treatment

Psychotropic drugs currently account for just under one in five of all prescriptions dispensed by chemists under the National Health Service in Britain. These prescriptions, issued by general practitioners, represent about

3000 million tablets or capsules, about 60 million every week. Over all from 1961 to 1971 there was a 48.8 per cent increase in prescriptions for these drugs. Analysis shows that 41 per cent of psychotropic drugs dispensed in 1971 were hypnotics, 38 per cent tranquillisers, 15 per cent antidepressants and 6 per cent appetite suppressants or stimulants (Parish, 1973). More than one in three of all psychotropic drugs prescriptions dispensed by N.H.S. pharmacists in England and Wales in 1971 were for chlordiazepoxide ('Librium'), diazepam ('Valium') or nitrazepam ('Mogadon'). These three drugs are *benzodiazepines* and have four main effects—anxiolytic, sedative, anticonvulsant and muscle relaxant. It is mainly for their anxiolytic and sedative effects that this group of drugs is widely used by family physicians in the treatment of the common transient anxiety states and mixed affective states seen in family practice. The therapeutic action of benzodiazepines is almost immediate, they are not cumulative and after a few hours the effects subside. The benzodiazepine drugs recommended for the relief of anxiety are all chemically related. Clinical comparison of anxiolytic drug treatment in outpatients suffering from chronic anxiety states showed that three benzodiazepines, chlordiazepoxide, diazepam and medazepam, produced similar and highly significant decreases in anxiety (Lader *et al.*, 1974).

The phenomenal increase in the prescribing of hypnotics and the minor tranquillisers is not easy to explain. Parish (1971) collected some relevant data from a retrospective analysis of the medical records of 48 general practitioners. The benzodiazepines were found to be drugs of choice for 'anxiety neurosis', 'neurotic depression' and 'tension headaches' and to figure prominently in the treatment of 'affective psychosis', 'nervous dyspepsia' and 'insomnia'. Such a wide spectrum of morbidity suggests that these drugs are being prescribed less for the treatment of specific conditions than as the favoured form of medication for the alleviation of anxiety in general.

There appears to be general agreement that the benzodiazepines are safer than the group of drugs they seem to have ousted in the treatment of anxiety, namely the barbiturates. But even though they are relatively safe, the benzodiazepines are not free of adverse effects. Tiredness and somnolence are most commonly reported especially at higher dosage levels. Other recognised phenomena include ataxia, headache, vertigo, dizziness, confusion, various autonomic reactions and a paradoxical stimulant effect. Many of these effects are more pronounced in the elderly. It also needs to be noted that the benzodiazepines can induce dependence, a hazard of some importance if they are misused.*

Antidepressants are widely prescribed by family physicians in the treatment of depression seen in general practice. Since the introduction of the tricyclic drugs, amitriptyline and imipramine, a wide range of compounds has become available including desipramine, nortriptyline, protriptyline, trimipramine and clomipramine. They have two main effects; one anticholinergic, which is responsible for many of the side effects produced by these drugs, and the other an inhibition of the re-uptake of amines at nerve terminals. The tertiary amines, amitriptyline and clomipramine, are particularly effective in inhibit-

* See also chapter 30.

ing the uptake of 5-hydroxytryptamine (serotonin) and, as a consequence, tend to induce sedation. They are thus particularly useful in the management of depressive illnesses in which there is an associated tension and restlessness. The secondary amines, for example protriptyline, desipramine, nortriptyline, are more effective in the inhibition of the re-uptake of noradrenaline and exert a more stimulating effect. They can be particularly useful in depressive states in which lethargy and retardation predominate. Imipramine lies somewhere between these two groups, having a less marked effect on noradrenaline and 5-hydroxytryptamine re-uptake and relatively little sedative action. More recently developed compounds include dothiepin, doxepin, iprindole and maprotiline hydrochloride, and the available evidence suggests that their over-all therapeutic effect is similar but that side effects are less troublesome.

The most common and troublesome adverse effects of the tricyclic group result from the anticholinergic properties. Patients often complain of dry mouth, postural hypotension and dizziness, constipation, palpitations, tachycardia, aggravation of glaucoma and hesitation of micturition leading to urinary tract retention. As a general rule, such adverse effects are commonest in the first week of treatment, are mild and can be alleviated by adjustment of the dosage. Allergic adverse effects including skin rashes, jaundice and agranulocytosis, are fortunately less common. The administration of tricyclic drugs to the elderly must be undertaken with caution in view of their potentially cardiotoxic effects. Other reported side effects include a persistent fine tremor, paraesthesiae, peripheral neuropathies and an increased predisposition to epilepsy. Toxic confusional states also occur, particularly in the elderly treated with tricyclics.

A second group of antidepressant drugs, the *monoamine oxidase inhibitors* (MAOIs), are more inconsistently used in the treatment of depression in general practice. Their antidepressive action is believed to be related to their ability to prevent intraneuronal deamination of monoamines and increase their concentration in the brain. The clinical response of depressed patients to these drugs does appear to be related, at least in some measure, to their MAO-inhibiting capacity. Features associated with a good response to these drugs include irritability, phobic symptoms, somatic anxiety, hypochondriasis and anergia. By contrast, phenomena characteristic of well-defined depressive illnesses, such as depressed mood, ideas of reference, guilt and nihilistic delusions, are conspicuously associated with poor response to these drugs.*

Serious adverse effects associated with monoamine oxidase inhibitors have been reported. These include an hepatotoxic type of jaundice and hypertensive crises. Pressor agents, such as tyramine, interact with these drugs to produce an enlarged pool of available noradrenaline which in turn results in a rapid and dramatic increase in blood pressure causing a severe headache and, on occasion, leading to a subarachnoid haemorrhage. Accordingly foodstuffs containing tyramine, such as cheeses, protein concentrates, broad beans, chocolate and alcohol should be excluded from the diet. Other drugs which interact with this group include amphetamines, narcotics, barbiturates, phenothiazines, insulin and tricyclic antidepressants.

* See also chapter 28.

It is worth noting, in conclusion, that minor emotional illness are notoriously subject to suggestion or reassurance and responsive to change. They are thus sensitive to placebo and display a high rate of spontaneous remission. Patients in general practice with minor emotional states display a placebo response of around 50 per cent in various drug studies compared to active drug response rates of about 75 per cent (Wheatley, 1972). Blackwell points out that it is more than likely that the busy general practitioner who makes a habit of ending each interview with a prescription will be gratified and rewarded by the response that many patients report. 'Too often neither the patient nor the doctor pauses to examine the role played by inquiry, discussion and reassurance' (Blackwell, 1973).

Summary

Assuming that the data available from the various prevalence studies in general practice are reasonably accurate, approximately seven million people in the United Kingdom present with psychological problems to their general practitioner. This represents an awesome load of psychosocial distress. It may well be a partial figure. Hicks, in his remarkably comprehensive and penetrating review on the subject, emphasises the needs of the moment when he observes 'independent scrutiny and continuing evaluation of the services to the mentally ill at the primary level, at the hospital level and after discharge from hospital seems more urgent now than ever' (Hicks, 1976). As time passes, such an observation gains added bite.

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17 Psychological Disturbances in Adults with Chronic Physical Illness

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A growing population of chronically sick people is the inevitable result of the largely successful management of acute illness without the ability to produce a complete cure. There is no doubt that chronic physical illness is a major cause of psychiatric disorder, which in turn may prevent maximum possible physical recovery. Wishnie *et al.* (1971) found that 38 per cent of their patients, who had survived a myocardial infarction 6 months to a year previously, remained handicapped and had not returned to work for psychological rather than somatic reasons. Linder and Curtis (1974) point out that in haemodialysis patients, psychological and social problems are leading causes of morbidity. For successful management of these problems it is not sufficient merely to acknowledge a general relationship between somatic disorders and complicating psychological disturbances. The specific relationship between the type of disease, the individual patient and his environment must be considered.

The definition of the size of the chronically sick or disabled population remains elusive. People commonly do not report their symptoms to personnel within the health care system—this in itself possibly representing a psychological problem. Wadsworth *et al.* (1971), in the Bermondsey Health Survey, noted that of the 75 per cent of the community who had complaints of ill health only one in four had consulted a medical or dental agency in the previous two weeks. Butterfield (1968), after the Bedford Survey on diabetes, emphasised that failure to be counted as sick occurred not only for relatively minor ailments but also for major chronic illness. Other potential sources of prevalence data, such as figures for sickness incapacity for work, which in any case only cover those ordinarily in paid employment, the Register of Disabled Persons and the Register of Handicapped Persons, suffer not dissimilar problems (Wood, 1973). A rough estimate from these sources suggests that in Britain at least 8 per cent of the population is disabled. Chodoff in 1962 quotes a figure of 5.3 million people in the United States suffering from significant chronic illness, of whom 27 per cent were under the age of 45. Haber (1971), defining disability as a limitation in work capacity lasting more than 6 months as the result of a chronic health condition or impairment, gives a figure over three times as large. From U.S. Social Security Administration data for 1966 it seems that there were 17.5 million non-institutionalised disabled people

between the ages of 18 and 64, representing a much higher proportion of the population than the disabled in Britain. This age group, for whom the socially accepted norm is health, independence and productivity, are the particular source of concern behind this review.

It is even more difficult to say in general terms what proportion of the physically ill can be expected to show psychopathology to which the physical illness may have been a contributing factor, since the relationship between somatic and psychological disturbances is undoubtedly two way. It is probably, however, not less than 20 per cent. Stewart *et al.* (1965) found clinical depression in 20 per cent of medical in-patients who had an illness likely to be fatal or to lead to severe disability. Plumb *et al.* (1974), in a population of 80 patients in hospital with acute leukaemia or advanced cancer, apparently identified 30 per cent with depression and/or anxiety and 12 per cent with psychotic disturbances. A selection of papers on the psychological responses of patients to renal failure and haemodialysis, when taken together, suggest that most of them suffer emotional disorders. Shea *et al.* (1965), admittedly writing early in the history of dialysis, found as many as eight out of nine of their patients developed psychotic or major neurotic disturbances. Psychological reactions peculiar to the situation of physical illness which while distressing are not of an intensity or duration which could be regarded as pathological occur far more commonly—probably in all affected persons.

Lipowski (1975) gives a valuable classification of ways in which physical disease may give rise to psychological dysfunction. He stresses differentiation between the strictly cerebral consequences of disease, as in organic brain states, and the symbolic effects of the change in state, appearance and abilities which may occur in the patient—despite the fact that both are broadly classified as psychiatric syndromes. He is not alone in making this distinction, which is worth emphasis. The Glossary of Mental Disorders (1968) similarly separates organic psychoses (categories 290–294) from 'mental disorders not specified as psychotic associated with physical conditions' (category 309), suggesting, however, in addition assigning some psychoses to the predominant syndrome, for example schizophrenia, if symptomatology is characteristic.

When an organic brain syndrome occurs in classical global form, with demonstrable disorientation, impairment of memory and other cognitive functions, and possibly clouding of consciousness, it is likely to present relatively few problems in recognition. Greater difficulties tend to arise when the picture is atypical or complicated in some way—as when specific cognitive defects are isolated, when perceptual, affective or motivational changes dominate the picture, when symptoms arise at certain critical times in the progress of a disease or when there is lack of clear recognition that organic brain dysfunction may be part of a primarily somatic disorder. The main practical importance of identifying a direct organic cause of psychological dysfunction at any stage in the course of an illness is its potential reversibility with early intervention. Identification of permanent impairment may affect significantly goals for rehabilitation.

Some patients will undergo a part of their treatment in an intensive care

unit. This is a time when preoccupation is most likely to be with saving the life of a patient, and psychological disturbances may consequently be dismissed as simply reactive, a product of intense anxiety triggered by the surroundings or depression developing with growing realisation of the extent of injury or disease. Kornfield (1971), while recognising these reactions as significant, stresses the importance of seeking organic causes for dysfunction particularly at this time. Vitosky *et al.* (1961), in their study of patients with severe poliomyelitis, further point out that in the early stages of major illness requiring care of this kind emergence of phenomena commonly regarded as functional, such as denial and similar avoidance responses, appear to be facilitated by toxicity.

When the acute stage is passed the relationship between organic and functional disturbances may be given rather different weighting. Lishman (1973), reviewing the sequelae of head injury, while acknowledging a statistically significant correlation between the extent of the brain damage and psychiatric morbidity, points out that brain damage alone cannot account for the dysfunction—in fact he estimates that it contributes little more than one fifteenth of the cause of the total, longstanding disability.

Chronic diseases have a tendency to progress so that damage may extend both within and beyond the organ system first involved. Even when a disorder is known to be progressive and to affect the central nervous system it is not always promptly recognised that the development of psychiatric symptoms may be a direct effect of the disease process. When pathology starts in a distant organ system there may be even more delay. Examples of such difficulties are provided by multiple sclerosis and chronic renal failure.

There has been no shortage of work studying the occurrence of intellectual impairment in multiple sclerosis but there is tremendous variation in its reported frequency. With the rigorous investigations of Surridge (1969) and Jambor (1969), however, it seems likely that intellectual deterioration is indeed common. They detected it in two-thirds of their patients. One of the most important implications of this finding is for the management of the other psychological changes. Depression occurs in 25 per cent or more of patients and is likely to be predominantly psychogenic and reactive in origin but euphoria, personality change and exaggeration of emotional expression have been at least as commonly noted and hitherto not very satisfactorily explained. Baldwin (1952) speculated that the euphoria, or 'cheerful complacency' was a socially determined, adaptive phenomenon and, since so many of the objectively euphoric were subjectively depressed, it might really represent a 'smiling depression'. Surridge (1969) points out that all three changes correlate better with intellectual deterioration than physical disability alone and are therefore more likely to be a result of neural damage than the result of emotional stress.

The prolonged survival of patients with chronic renal failure has been made possible as a result of dialysis and transplantation only in the last 15 years, and so it may be expected that knowledge about the psychological problems involved may be limited, despite much investigation. It has long been recognised that the biochemical imbalances arising both as a result of the

disease and its treatment can produce toxic confusional states, but it was not until 1972 that Alfrey described a progressive dialysis encephalopathy which is only now being credited with its full significance as an entity (*Br. med. J.*, 1976). The signs, which may develop suddenly or insidiously, include dysarthria, dysphasia and not infrequently mutism, myoclonic jerks and sometimes focal neurological deficits, hallucinations and paranoid delusions. All tend to precede overt evidence of intellectual deterioration, although progression to global dementia is the rule. Expectation of functional disorder in response to the undoubted stresses of dialysis and the difficulties of examining cognitive function of a patient with considerable speech problems contribute to the possibility of missing the diagnosis of this recently documented disorder.

Somatic changes other than organic brain damage may also affect psychological functioning. Sensory input is not infrequently altered. The patient may have to cope with pain, vertigo, weakness, paraesthesia, sensory loss or immobilisation. Hohman (1966) noted this kind of phenomenon in patients with spinal cord injury. All 25 in his series reported a decrease in their feelings of such emotions as anger, sexual excitement and fear. This change in emotional experience was attributed to the disruption of the autonomic nervous system, in particular its afferent return. Sleep may be disturbed, either as a direct effect of the disorder or of its treatment. Sleep deprivation or fragmentation at best increases fatigue, irritability and impairment of concentration and at worst may precipitate the onset of delirium or increase the severity of a pre-existing confusional state.

Other characteristics of the illness itself which may have a bearing on the patient's mental state include its severity, although here findings are not always in an expected direction. Schwab *et al.* (1967a) examined the frequency of anxiety in medical in-patients. More than half experienced anxiety and 20 per cent had higher manifest anxiety than a control group of psychiatric inpatients. Patients with high anxiety levels believed their illnesses to be more severe than did those with lower levels but, interestingly, their physicians did not and nor did they themselves regard their prognosis less favourably than did the other patients. Of variables such as uncertainty of diagnosis, rapidity of onset of illness, duration of present episode or past medical history—none seemed to relate to the level of manifest anxiety. In a separate study (Schwab *et al.*, 1967b) 20 per cent of medical in-patients were diagnosed as having significant depression and trends similar to those observed in the anxiety study were found when attempts were made to correlate characteristics of the physical illness with the degree of depression. There is a suggestion that higher psychiatric morbidity is seen in rapidly progressive illness than in slowly developing conditions in which there is more time for adaptation (Verwoerd, 1972). Clearly, however, in many instances factors in addition to the illness itself must also be sought to explain the direction and severity of psychological reactions.

Engel's conception of illness or injury to the body as a special category of psychological stress (Engel, 1962) is a useful starting point for considering the intrapersonal factors that influence the mental state. He regards the normal

initial response as the formation of unpleasant affects, including anxiety, guilt, hopelessness, helplessness, shame or disgust. These may persist for an inappropriately long time, develop to an intense degree or occasionally be replaced by inappropriate pleasant affects, such as euphoria or mania. The individual employs defences against the unpleasant affects. The manner in which defence mechanisms are employed may be highly adaptive but illness which is long-standing, as Abram points out (Abram, 1972), by virtue of its chronicity increases the chance that use of defences may become pathological. Mechanisms such as regression or denial which benefit the patient in acute illness, or the early phases of chronic illness, are generally maladaptive if the patient continues to employ them fully when the acute phase is past. The physiological concomitants of affects which are sustained or intense puts the already defective system under strain and may result in even further physical deterioration. The pathological use of defences may result in lack of compliance with treatment and failure of rehabilitation.

The pre-morbid personality of the patient is one of the chief determinants of his response to illness. Verwoerdt (1972) summarises some specific ways in which problems may arise. In the passive-dependent individual, for example, illness both provokes defensive use of regression and permits gratification of dependency needs. Consequently the use of the defence is more likely to be prolonged and intense, resulting in a barrier to rehabilitation, which is directed at attaining independence. Other types who may derive secondary gain from physical illness include the guilt-ridden or masochistic for whom the disease satisfies the need for punishment and the emotionally distant or schizoid who may welcome illness as a bridge permitting 'safe', professional personal exchanges.

Chodoff (1962) cautions against judging adaptation to illness only from the viewpoint of the healthy majority of society. Thus he asks 'Whose adjustment is better, the patient who, though confined to a wheelchair, drives himself to work every day, often exhausting himself in the process, partly at least because of his need for the praise and admiration that this brings him, or a patient who exaggerates his less serious disability and does no work but successfully forces those about him to care for him?'

Others have questioned, in a slightly different sense the ability of the medical profession, and indeed society, to judge psychological reactions arising with physical illness. Hohmann (1966) reports his observations of differences between the way his patients with spinal cord lesions described their emotions to him and to other staff after he himself had a spinal cord injury and became 'one of them'. Calland (1972), a physician who developed end-stage renal failure and went through the experience of five transplants and prolonged haemodialysis both at home and in hospitals, similarly draws attention to the fact that because the patient's way of viewing his situation is not always in line with that of his physician it is not necessarily pathological or less valid. Abram (1969, 1971) draws attention to a valuable source of understanding of the chronically sick which is not commonly recognised—the novel. He discusses ways in which Solzhenitsyn's *Cancer Ward*, much of which is autobiographical, and Thomas Mann's *The Magic Mountain* contribute to the literature of medical psychology.

The nature of the patient's interpersonal relationships—particularly with his family and medical personnel—will influence his reactions to his illness. The family will have its own response to their member's physical state and also his entry into 'the sick role' (Twaddle, 1972), which implies that he must give up his usual social role responsibilities. Battle (1975) gives a list of ways in which parents may react towards their chronically sick child, which can usefully be applied more generally. The wish to protect, perceiving the patient as helpless, may be one of the chief motives for the provision of care and his acceptance in the sick role. Revulsion at the abnormal may occur, possibly allowing a kind of dutiful care, lacking in warmth, but possibly giving rise to rejection. Feelings of inadequacy or guilt may arise, sometimes resulting in depression; feelings of shock and disbelief, which not infrequently lead to numerous consultations to seek better news; feelings of embarrassment tend to cause withdrawal from social contacts. Maintenance of any particular reaction type will depend in part on the degree to which the patient reinforces it.

The way the family functioned prior to the intrusion of illness is one of the most important factors in determining whether shifts in relationships give rise to problems. Some families depend on reaction to stress for their cohesiveness. Illness, as an external crisis is not unwelcome as it provides justification for avoiding confrontation of day to day family conflicts. Patient and family may therefore collude in the maintenance of his sick role. In other cases additional, situational factors contribute. Lengthy hospitalisation, for example, may force the family to reorganise itself, establishing new patterns of relationships to fill the gap left by the patient. This may work so well that it is the patient's return home that creates problems. There are illnesses for which treatment choice and efficiency may depend very heavily on the family, chronic renal failure providing a striking example. If long-term haemodialysis is deemed necessary not infrequently the family is called upon to provide one or more of its healthy members to assume the role of health care technician to the patient, as a dialysis helper. If transplant is the treatment of choice family members are the first to be considered as possible sources of a healthy kidney. The stresses of being in this position and dynamic shifts which may occur following transplantation have received considerable attention (Strelitzer *et al.*, 1976; Kemph *et al.*, 1969).

An often ignored aspect of interpersonal relationships commonly threatened is sexuality. Many doctors fail to enquire about potential problems or feel that it is not their responsibility to do so. Much suffering can result from this in combination with patients' reluctance to acknowledge the importance to them of sexual function and concern about 'failure'. Many organic conditions have general and nonspecific effects on sexual behaviour, although they are almost always in the direction of diminishing it. Psychological reactions to the illness, such as loss of self esteem felt by the disfigured woman or disabled man, may be major causes of sexual dysfunction. There are many conditions, however, including vascular disorders, disturbances of the endocrine system, disease or trauma to the nervous system, in which the dysfunction has a specific organic basis, well reviewed by Kaplan (1974).

Interaction between patients and medical staff has been much studied in the setting of haemodialysis where they are involved in intensive, ongoing and in

many cases permanent relationships (Kaplan and Czaczkes, 1968, Alexander 1976). Among the most common of problems noted is the tendency for physicians to withdraw from personal contact, particularly at times when the patient fails to progress or is deteriorating. The patient, possibly already feeling a sense of hopelessness about his condition, has his worst fears confirmed. Nursing staff, on the other hand, tend towards overprotectiveness and possessiveness, which may increase or precipitate regression and helplessness in the patients. There is too, almost always a paradox in staff—patient communication. Verbally expressed expectations of the patients are that they should be independent and normal. Non-verbal communication tends to stress the need for heavy dependency on machinery, treatment regimes and trained personnel, with only limited participation in normal activities.

Communication problems between staff and patient which seem rather less complex may also arise. Often patients are not given adequate information about their condition. They may then suffer limitations which they impose upon themselves on the basis of poor understanding of their disease. Many cardiac patients, for example, believe that exertion will be fatal and become phobic about any physical activity. Nagel *et al.* (1971) found that about half of their post-coronary patients failed to return to work; this was as often caused by psychological or social factors as caused by cardiac damage. Often the former was simply due to inadequate medical instructions.

Sociocultural influences from beyond the patient's immediate circle must from time to time be considered. One of the classic studies highlighting this is that of Zborowski (1952) on response to pain. He studied four ethnic groups and demonstrated striking differences in their reactions. Old Americans showed a phlegmatic, doctor-helping orientation; Jews expressed concern for the implication of pain and distrusted palliatives; Italians expressed desire for pain relief and the Irish inhibited expression of suffering and concern for the implications of the pain.

Economic factors are undoubtedly important in the tolerance of disability. Prolonged illness is likely to result in financial burden, even when medical care is effectively available at no cost. This stress is obviously at its greatest when the sick person is the principal wage earner in a family. A special situation arises when the disease or injury was a result of exposure to noxious agents at work or industrial or road traffic accidents. Payment of financial compensation to the patient becomes a possibility. This is an issue which is rarely settled quickly and tends to give rise to conflicts at many levels of consciousness. Miller (1961) has estimated that resulting 'compensation neurosis' contributes to disability in up to a third of patients in this situation.

Chronic illness, then, is not uncommon and related psychological disturbances of some degree are probably the rule. The frequency with which they are sufficiently marked to merit special concern is not clear but seems fairly high. Usually their origins are complex, depending on the interaction of many of the factors discussed. Their importance is not only as an immediate cause of suffering but also in the probability that they will prevent maximum physical well being and return to previous social status.

In view of the acknowledged multiplicity of areas in which disturbances may arise, use of the problem oriented system (Weed, 1969) of recording and

organising information seems particularly appropriate (see chapter 19). For the chronically sick there is particularly great need to advance beyond giving their condition a diagnostic label. An exhaustive list of medical and social problems, identified by the patient himself and his relatives as well as all medical staff involved, should be compiled. Both short-term plans and long-term goals can then be more adequately drawn up. The former may simply include further investigation to elucidate specific problems, details of day to day care such as special diet and maintenance of hygiene or specific current treatments such as medication or physiotherapy. It may not be possible to be precise about long-term goals but nevertheless an effort should be made to define them. An estimate, for example, may be made of when a patient may expect to start certain activities, no longer require part of the medical treatment, when additional treatment may be instituted or, if in hospital, when a visit or return home might be expected. Papper (1974) suggests the value of putting the plans into writing not only for the staff involved but also for the patient and his family. This has some value in emphasising that, although the direct physical effects of the disease or trauma may be irreversible, there is a viable future for the patient. It may also have some value in preventing problems. McKegney (1968) notes that there are several critical phases in the rehabilitation of the disabled, such as the stage of beginning the activities of daily living or the time when a prosthetic device is fitted or mechanical aids introduced. Clear planning and recognition that emotional problems are particularly likely to occur at times of change in management may abort many of them.

The question arises as to how far the psychiatrist can or should have a role in the management of the chronically ill. In some instances, when patients have clear-cut psychiatric disorders direct referral may be made and the role is straightforward. Not uncommonly the psychiatrist is called upon as a means of 'disposal'. This may not be entirely inappropriate. The burden of continuing to care actively for chronically sick and disabled patients is often very great. It may give rise to discouragement and acting out in staff as well as patients. Sharing responsibility for care may go some way towards relieving this. Increasingly, with the growth of 'Consultation and Liaison Psychiatry' as a discipline, the psychiatrist may be a member of a health care team and thus mainly offer indirect care for the patient (Lipowski, 1967; McKegney, 1975). Much has been written about the theoretical advantage of having a psychiatrist in this role. Support can be offered to staff as well as patients; the chance of early identification of psychological problems is increased; there is the possibility that patients will feel less threatened by seeing someone who is part of the medical team rather than just a psychiatrist and informal psychiatric teaching is possible. No study seems to have examined objectively how far these advantages, or others, are real. There would be undoubtedly difficulties in designing such a study, although suggestions that positive changes, such as reduction in staff turnover, may follow the inclusion of a psychiatrist in the team should not be too difficult to follow up and would provide some objective comment.

Despite emphasis on work of the past two or three decades it is by no means a recent development in medicine to recognise the value of a holistic approach

to the management of physical illness. Hippocrates is credited with saying:

'It is not enough for us to do what we can do; the patient and his environment, and external conditions must contribute to achieve the cure'

Advances in medicine and allied fields since the time of Hippocrates have increased rather than diminished the importance of this view. If, as seems likely, the prevalence of chronic illness and disability is rising, resources for providing care will become more and more limited. It is therefore important, not only to the individual patient, but also to the health care system, that psychological and social problems which may increase disability are recognised and treated promptly.

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18 Psychiatric Diagnosis and Classification

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Before the last century disease classifications depended almost entirely on the observation that similar patterns of symptoms tended to occur in different patients and could recur in the same patient at different times. Such patterns could be roughly distinguished from one another as syndromes of illness which could be further separated after the dicta of Sydenham by observed differences in outcome. This produced classifications with some usefulness for dispensing remedies, but, as a syndrome like pleurisy could arise from several causes, treatment tended to be symptomatic. Advances in morbid anatomy changed this situation dramatically. To be able to discover *post mortem* where the lesion had been and later to deploy chemical and bacteriological investigations permitted a new classification by *cause*. This in turn led to a refinement of the clinical syndromes which for most clinicians represent the first stage of diagnosis.

Psychiatry is generally still at the syndrome stage. The complex brain does not readily lend itself to biopsy or post mortem examination. The lesions of the 'functional' psychoses are not macroscopic, they seem likely to be detectable at the neuronal or circuit level. Neither the physiology nor psychology of these functions is anything more than rudimentary, nor is it clear where or how suitable specimens for chemical investigation can be obtained.

In this dilemma a classification must be unsatisfactory. It is little argument against them to claim that contemporary psychiatric classifications are relatively poor. Classification is a human concept which does not exist in nature. It is imposed with greater or lesser success to help the advance of knowledge. Unlike the uni-dimensional classifications of chemical compounds, biological classifications cannot fit all subjects without being hopelessly complex. The greater the number of characteristics which could be possessed by each subject the more possible combinations exist which make each individual unique. The classification can then only group the individual by those characteristics held more or less in common with others. Thus the classification must be an over-simplification of the real state of affairs, ignoring individual variations. The aim in biology and even more so in medicine itself, cannot be to produce a perfect classification but to invent one which encompasses as many individuals as possible while remaining sufficiently simple for the job in hand.

It follows that if classification is the result of invention, there can be as many classifications as there are inventors. A classification is only useful for as long as it serves the purpose for which it was invented. Because psychiatrists, like

other doctors, have broadly similar training they tend to have similar clinical aims and to require the same types of classification. However, this can too easily lead to the assumption that similar groups of subjects are being referred to if common labels are used. Experiments have shown that in practice discrepancies can be wide, even when using a standard psychiatric classification such as that found in the World Health Organization's International Classification of Disease.

If this kind of confusion exists, do we need a classification? If we regard psychiatry as primarily a science exploring the similarities between individuals rather than as an art revealing the uniqueness of individuals, and if we are concerned to relieve the maximum suffering in the largest number of people, then the answer must be yes. The moment we make comparison between individuals and take their similarities and differences to suggest certain causes and imply different treatments, we classify. It is the basis of our learning, and the method of training we have received as doctors. The alternative is to hold that every case is unique and cannot form a paradigm, however imperfect, which will help in assessing any other case. The experience of others, their books and articles would be meaningless; such a position is absurd. Those who espouse this view allow their admirable humanity to cloud their reason. Admittedly there is the greatest danger to the management of the patient's illness and to such qualities as kindness and love, for which individuality may be a basic concept, if this individuality is ignored because it happens to be less relevant to diagnosis and the acquisition of certain types of knowledge. (Blindness to individual differences can also be a serious hindrance to the scientist. Great discoveries may be made when it is noticed that an individual does not fit into a general theory and the investigator takes the trouble to ask himself why.) Kendell (1975) points out that every human being has (1) those characteristics which he shares with all mankind; (2) those he shares with some other men but not all; and (3) those which are unique to him; and that the value of a classification depends on the size of the second relative to the other two. When we come to the management of the illness, however, we are concerned with its uniqueness. It is the combination of characteristics peculiar to the patient and his illness which will determine those fine adjustments necessary in the administration of the treatment and the predictions of outcome. For this we turn not to the diagnosis alone but to the 'formulation'. Here the diagnosis has been interpreted in the light of the individual differences.

Psychiatric classification is required, therefore, by research workers seeking groups of patients to study, by doctors who hope it will give them broad indications for treatment and prognosis, by health service planners who need to provide different types of care for different conditions, and by all who wish to communicate accurately about illness without having to preface their remarks with long descriptions in order to identify their subject.

However, a classification is only as useful as it is valid, and it cannot be more valid than it is reliable. The difficulty with psychiatric classification is that validity has not been consistently studied, nor is reliability in ordinary clinical practice likely to be very high. A number of early experiments showed poor reliability for diagnosis. Two later ones may be singled out. Beck *et al.* (1962)

invited a group of four experienced psychiatrists to diagnose a series of 153 patients. He specified the duration and setting of the interview but not its content. The interviewers interviewed in pairs with one observing, and they used a single nomenclature. His aim was to reproduce out-patient working conditions. A high proportion of the patients was neurotic which would tend to make the diagnosis more difficult. In all, there was 52 per cent agreement on specific diagnostic groups. When alternative diagnoses were included this figure rose to 82 per cent, a great improvement on previous studies. In Kreitman's Chichester study (1961) the patients were interviewed by only one psychiatrist at a time, followed in two or three days by another interview with a different psychiatrist. The interviews were unstructured, and took place in a variety of settings in order to simulate different clinical practice. Eleven diagnostic categories were used producing an overall diagnostic agreement of 63 per cent.

Not only has agreement on the diagnosis of the type of illness been far from satisfactory, but it has not always been possible to show that psychiatrists can agree on which individual to call ill. Kendell (1975) cites a study by Temerlin in which three audiences, each consisting of psychiatrists and clinical psychologists, listened to an audiotape of a 'normal' person. Each group was given a powerful suggestion about the man's mental state. Of 95 persons to whom it had been suggested that he was psychotic, only 8 found him normal. Most of those who diagnosed illness were content to 'infer' the malady without providing objective evidence. The psychologists were least suggestible. Rosenham (1973) in his study used pseudo patients who complained of hearing voices. They were mostly diagnosed as having schizophrenia in the mental hospitals where they were seen.

What, then, is wrong with psychiatric diagnosis? How much variation is there in practice between different groups of psychiatrists? Does this variation if it exists have implications for communication? Apparently agreement is good on certain types of patient and bad on others. The studies of the U.S./U.K. Diagnostic Project showed that psychiatrists in New York diagnosed many younger patients as having schizophrenia (Cooper *et al.*, 1972) and older patients as having organic illness (Copeland *et al.*, 1975) whom London psychiatrists would have diagnosed as having affective disorders. Katz *et al.* (1969), using filmed interviews of patients, showed good diagnostic agreement between psychiatrists for a patient with schizophrenia, but poor agreement for another patient. The U.S./U.K. project videotape studies (Kendell *et al.*, 1971) showed that psychiatrists on the Eastern seaboard of the United States could agree well with British psychiatrists about the diagnosis of patients with either a project diagnosis of paranoid schizophrenia or moderately severe depression, but differed markedly from one another when faced with certain other diagnoses. One patient diagnosed by nearly all the 194 participating U. K. psychiatrists as having either hysterical neurosis or an hysterical personality disorder received a diagnosis of schizophrenia from 53 per cent of the U.S. psychiatrists (out of a total of 133). Further studies in training centres throughout the U.S. and Canada (Sharpe *et al.*, 1974) showed differences to be only a little less gross. Similar diagnostic studies carried out with English speaking psychiatrists in Germany and

France (Kendell *et al.*, 1974) showed that U.K. psychiatrists agreed more closely with their German counterparts than either tended to agree with the French. Studies in Ireland where a high proportion of schizophrenia is reported among admissions to hospitals with catchment areas bordering the Atlantic, showed that, apart from a small tendency for Western based psychiatrists to diagnose schizophrenia more readily than eastern based, diagnostic practice appeared to be much closer to the British than to the American model (Kelleher and Copeland, 1974). Between centres of training within the British Isles there seems to be generally good agreement for those diagnoses tested (Copeland *et al.*, 1971). The only significant exception was for Glasgow trained psychiatrists who favoured a diagnosis of mania for one of the patients whereas psychiatrists trained elsewhere in Britain favoured schizophrenia. The implications of these differences for psychiatric communication, especially between the U.K. and the United States, need hardly be stressed. Research reports which do not carefully define their diagnostic groups could be seriously misinterpreted in the two countries.

There are many reasons for diagnostic discrepancies. The most important is likely to arise from differences in local teaching. Kendell (1973a) demonstrated that psychiatrists with similar training at the Maudsley Hospital tended to agree between themselves. Kuriansky (1977) was able to demonstrate fluctuations in the proportions of in-patients diagnosed as having schizophrenia at the Psychiatric Institute in New York which appeared to coincide with the appointment and retirement of its medical directors; but the recent trend away from a diagnosis of schizophrenia in favour of mania, they attributed to the reintroduction of lithium. Differences will still exist, however, as long as there is no consistency in the method of patient interview. General physicians have for years taught a structured method for physical examination and clearly detailed the procedure. Psychiatrists who depend equally as much on mental state examination have been content to teach this by merely specifying a list of headings. Thus most clinical practice methods, tend to be far too variable for much reliability to be expected. The lack of a structured interview results in some areas being deliberately not covered because certain interviewers regard them as unimportant while other areas may simply be forgotten. Similarly there is no control over style or the use of leading questions. Furthermore, the method for deriving the diagnosis from the assembled data is left to the vagaries of individual intuition. Because case history and mental state are both examined by verbal enquiry it has, for too long, been assumed that they may be obtained in the same 'free ranging' manner. The 'history' may need to cover many different facets of the patient's life and has to serve a number of different aims so that it is difficult to structure succinctly. Mental state, however, is an attempt to establish accurately the presence or absence of key symptoms and signs. Recent experiments have shown that a structured technique is the most precise, economical and reliable method.

The structured mental state interview has become established as an essential research tool over the last decade. Interviews such as the Present Status Schedule by Spitzer *et al.* (1970) and the Present State Examination (P.S.E.) (Wing *et al.*, 1967; Wing *et al.*, 1974) are now extensively used throughout the

world. The P.S.E. was used in the World Health Organization Pilot Study of Schizophrenia (1973) and both the P.S.E. and an adaptation of it, the Geriatric Mental State (G. M. S.), (Copeland *et al.*, 1976), have been used by the U.S./U.K. Diagnostic Project for its cross-national hospital and community studies. The P.S.E. covers the mental state of the patient during the month before interview. It consists of standard obligatory questions followed if necessary by non-specific probes. In this way all symptom areas are considered. 'Cut-off points' for areas where no positive symptoms are identified shorten the interview. As is usual in a clinical setting the data recorded are not necessarily the patient's actual replies but the interviewer's judgement of his response. The wording of the questions can be altered slightly where appropriate and the order changed. The aim is to retain something of the controlled nature of a stimulus/response questionnaire while at the same time preserving the essentials of the clinical interview. The objections that such an interview is mechanical and bound to produce a high rate of positive response are not sustained in practice as videotaped recordings demonstrate. Observational items are included but are less reliable. A standardised interview for patient's history has been used by the U.S./U.K. project but on the whole proved less successful.

Have these measures brought about an improvement in reliability? Using the Present State Examination, Wing *et al.* (1967) were able to demonstrate a 92 per cent agreement rate for 172 patients with schizophrenia examined by their team. In a reliability study between three interviewers interviewing in pairs and using a six category diagnostic code, complete agreement was obtained on 17 out of 20 elderly patients—a consecutive series of admissions with a variety of illness (Copeland *et al.*, 1976). When alternative diagnoses were taken into account, agreement was reached on 19 out of 20 cases. The agreement on the rating of symptoms, as reported by a number of studies, is generally high. However, no satisfactory large scale study for examining the reliability of diagnosis over a wide selection of patients in different clinical settings has yet been done using these instruments. Nevertheless, small studies, usually the adjuncts to other research, indicate that psychiatric diagnosis and symptom rating can now reach acceptable levels of reliability—at least in research settings, and can stand comparison with clinical diagnosis in other branches of medicine.

It has proved difficult to structure and standardise the rest of the diagnostic process, perhaps because most attempts to do so have not followed actual clinical practice. It may have been assumed for too long that a diagnosis is made by a 'sifting' process after a large body of information has been obtained from the examination of the patient—as if the details of the examination were gathered objectively by the interviewer, while his diagnostic judgement remained in limbo, and processed at the end. That this is not the case has been shown by Kendell (1973a) and others. In Kendell's Maudsley experiment, groups of senior registrars and consultant psychiatrists diagnosed patients from tape recordings, some video tape and others sound alone. The patients were a consecutive series of new admissions. Each interview lasted only five minutes during which the patients were encouraged to talk about themselves with the minimum of probing by the interviewer. Agreement on the diagnosis

after five minutes was high, 77 per cent—due no doubt, as Kendell points out, to the raters having been trained at the same school. However, when the five minute diagnoses were compared with the hospital final diagnoses, made much later at discharge (used as the most likely 'correct' diagnosis), the agreement between the two was still an astonishing 60 per cent. At the end of only three minutes of the interview the agreement was also high. It would appear likely, therefore, that most psychiatrists make an intuitive judgement of the diagnosis within the first few minutes of the interview. Not only are they unlikely to change this diagnosis subsequently, but for two thirds it remains the same as the diagnosis reached by others who have reviewed the subsequent course of that episode of illness and its response to treatment. Furthermore, those who heard only the sound did marginally better than those who viewed and heard the full videotape. Thus 'observation' apparently contributed little overall, perhaps even distracting the interviewer from what the patient said. As further support for this, a number of observers who missed the viewings were sent typescripts of the interviews from which to make their diagnoses. These appeared to do best of all, perhaps because they had least distraction, were able to re-read the dialogue and check back, so that important points were not forgotten.

Is it possible that old fashioned intuitive diagnosis, so much despised by research workers, was not a bad method after all? The answer depends on how that intuitive diagnosis is made and whether trouble is taken to check it. It now seems likely that the time honoured method of assembling the facts at length and then attempting to make a diagnosis as objectively as possible at the end, is wrong, and that a sequential method is more in accord with the way the mind ordinarily works. The psychiatrist allows the patient to talk for a few minutes as uninterrupted as possible. As the patient talks the psychiatrist forms an intuitive judgement of the diagnosis from his experience, that is to say, sets up an hypothesis which he then attempts to refute by looking for symptoms which do not fit and oblige him to try something else. In practice, the interviewer also notes 'confirmatory' evidence. This, after all, is the scientific method espoused by Popper (1959).

For research, the final diagnosis should conform to a standard definition. This can only be done by agreeing clear definitions for each diagnostic category with accompanying instruction on how to allocate patients to them. As we have seen no rule of thumb can take all individual differences into consideration, so results will at times be at variance with clinical practice. This is the inevitable price for greatly increased reliability overall. Feighner (1972) and his colleagues in the United States have produced such a method. Although British psychiatrists may find it reflects too closely the American diagnostic approach for their taste, it points the direction which they themselves might take.

Spitzer and Wing and their colleagues (Spitzer *et al.*, 1970; Wing *et al.*, 1974) have both produced computerised diagnoses for their interviews. Again, these reflect the diagnostic prejudices of their originators. However, those who do not wish to accept the computer diagnosis can, nevertheless, use it as a yardstick against which to check the consistency of their own diagnostic methods.

Compared with reliability, the validity of psychiatric diagnosis has been little studied. It is possible, of course, to be highly reliable in a method that has little validity, although not vice versa. A certain amount of evidence has accumulated to support the traditional diagnostic categories. Kraepelin himself describes differences in outcome between dementia praecox and manic depressive illness. This kind of predictive validity is the most important one for testing diagnosis. The diagnosis of a condition ought to be a guide to treatment response and likely outcome. Unfortunately there is no single treatment for functional illness which has a dramatic and exclusive effectiveness in one condition. ECT in severe depression perhaps comes closest to this, but even ECT can be shown to be effective in catatonic schizophrenia and to some extent mania, and by no means all cases of severe depression respond to it, nor can a consistent response be shown in depressed individuals in subsequent treatments. Trials indicate that higher proportions of patients with condition A respond to a certain drug than do those with condition B. Improvement can even be demonstrated using an instrument like the P.S.E. or some other popular scale, when a fall in symptom scores can be shown (Lipsedge *et al.*, 1971; Leff and Wing, 1971) but again this is only true of certain groups of patients. Usually the differences between organic and functional illness are obvious and a cause can be found for the organic symptoms to aid the distinction. For the elderly the distinction is generally thought to be less clear. The studies of the U.S./U.K. project were able to show decisive differences in symptom profile between depressed and demented elderly patients which further differentiated on retesting three months later (Copeland *et al.*, 1976). In the same study Cowan *et al.* (1975) were able to show some concurrent validity using independent psychological tests. These agreed closely with the clinical diagnosis in distinguishing organic from functional illness. It has always been possible to show broad and indeed significant differences between diagnostic groups overall, but these tend to obscure overlapping individuals, a situation to be expected in a diagnostic system based on symptom grouping. If the brain has limited ways of responding to any insult, different illnesses will have shared symptoms. Therefore, where effective treatments aim at symptoms rather than cause they are likely to palliate a number of illnesses.

It is well known clinically that ageing, personality, genetic constitution, the worry of social factors and many other things modify both the symptoms and the outcome of psychiatric illness. In fact, so powerfully and inextricably involved are these factors in each patient's illness it is probably unrealistic to talk, except in the vaguest terms, of the natural outcome of psychiatric illness.

Brown and his co-workers have recently found differences in the course of two conditions, which appear to be differences in aetiology. The life events associated with the onset of acute attacks of schizophrenia can be shown to cluster in the six weeks before onset (Birley and Brown, 1970) whereas for depression they are spread throughout the preceding year (Brown *et al.*, 1975). This leads Brown to distinguish between 'triggering' and 'accumulative' effects. Recently he and his co-workers have found differences between psychotic and neurotic depression (1977): a higher proportion of bereavement before the age of fifteen in the psychotic and of separation of parents before

the age of fifteen in the neurotic. Validity will only be demonstrated finally by showing true aetiological distinctions.

Some further evidence for validity has been adduced using clustering analysis. This method of analysing data is superior to factor analysis for the purposes of deriving classifications. The latter groups only the related characteristics possessed by individuals while ignoring the individuals themselves. For diagnosis it is the individuals who must be classified on the basis of their characteristics. Clustering analysis sets out to do this, but its success depends on whether or not there are reasonably distinct clusters already in the population. If it is forced to produce clusters where there is little natural tendency for them to exist, the results may be inconsistent, and different types of analyses, of which there are now many, may produce different clusters from the same data (Strauss *et al.*, 1973). One of the most successful studies to date is that by Everitt and his associates (1971). They employed the symptom ratings made by members of the U.S./U.K. project (Cooper *et al.*, 1972) at structured interviews on two series of 250 psychiatric patients, one series recently admitted to New York State Hospitals and the other to London Area Mental Hospitals. The authors used two different methods to test consistency in their clusters and performed separate analyses for each hospital group. Each analysis produced clusters identifiable with mania, severe depression, acute paranoid schizophrenia and chronic schizophrenia. Categories such as depressive neurosis, personality disorders, etc., did not form distinct clusters. This kind of study is impressive but, of course, says nothing about the usefulness of these groups. Paykel (1971), did a clustering analysis on data from depressed patients and produced evidence of usefulness in terms of drug response after brief follow up. Copeland (1975) using data from his studies of depression found not dissimilar groupings to Paykel's and was able to show a correspondence with relapse rate five years later (Copeland, 1978).

Many psychiatric classifications have been devised. They have been reviewed by Menninger (1948). A useful comparison of current systems from various countries was made by Stengel (1959). The classification adopted in Britain and many other countries, with variation, and which forms the basis of the psychiatric section of the World Health Organization's International Classification of Disease (ICD) was initiated by Kraepelin's distinction between dementia praecox, and manic depressive psychosis. The International classification and its companion glossaries are far from perfect. The glossary descriptions tend to mix diagnostic criteria, choosing sometimes symptoms, sometimes aetiology and sometimes outcome, in order to distinguish between illnesses. They fail to code separately some important illnesses and give no advice on how to code more than one diagnosis (Wing, 1970; Copeland, 1971). The ICD is the result of international bargaining and tends to suffer from the diplomacy of its compilers. Nevertheless, it has the outstanding merit of being the only internationally agreed system and therefore, the only one by which psychiatrists all over the world can understand one another, provided they try to use it in the same way. The glossaries were compiled for the classifications in the hope of promoting this diagnostic agreement further. However, Kendell (1973b), could find no evidence to suggest that the introduction of the British Glossary of Mental

Diseases (1968) made any impact on the proportion of diagnostic categories reported in official statistics. The ICD does not preclude any clinician or research worker from adopting his own classification but he should demonstrate how that classification related to the ICD so that others can understand how his patients relate to theirs.

A diagnosis alone can convey only a small part of the information required by most psychiatrists for the management of a case. More information could be communicated by the introduction of a multiaxial system of classification like that suggested for child psychiatry (Rutter *et al.*, 1969). It may be important to know from which type of behaviour disorder a child is suffering but it may also be important to know his level of intelligence. His I.Q. can be allocated a category on a separate system. The diagnosis of chronic schizophrenia may be less important than an additional diagnosis conveying the severity of the patient's handicap. The future may lie with such systems but in the end no form of shorthand can provide a sufficient basis for therapeutic decisions about unique individuals.

For the management of a patient a 'formulation', of which diagnosis is only a part, is essential. Such a formulation should summarise the outstanding facts of the patient's development and the symptoms of his present illness; state the diagnosis and argue the differential diagnosis. Then, clearly breaking with fact, it should speculate at level one, on a common-sense interpretation of the origins of his illness and personality, and at level two, if wished, the dynamic interpretation of his behaviour. It should proceed to a statement of investigations required, the treatment plan, the likely course of the illness, its future requirements, and end with a firm guess as to the prognosis. Compared with all this the diagnosis alone may seem at the time a relatively unimportant part. However, if diagnosis is to serve its essential functions as a basis for the compilation of official statistics for planning, for communication between the clinician and his colleagues, and be available for research, it must be as accurate as possible.

Can anyone, other than a psychiatrist, make a diagnosis? Studies have shown that psychologists, sociologists and others can be trained by psychiatrists to give structured mental state interviews. Such raters can be trained to achieve a reliability with psychiatrists for symptom ratings equal to that achieved between two psychiatrists similarly trained (Cooper *et al.*, 1978). Training usually requires between ten and twenty joint interviews with the teacher each followed by a detailed discussion of the ratings. Deriving a diagnosis from those ratings is, however, a different matter. Considerable experience is required as in all intuitive processes if there is to be even moderate consistency. One solution would be to use one of the computer diagnoses; another would be to adopt a system of rules for allotting patients to categories along the lines of Feighner and his colleagues (1972). Both methods have already been mentioned. Research workers have tended to deprecate the practice whereby psychiatrists make diagnoses by reviewing the interview schedules obtained by non-psychiatrists, after the manner of the Midtown Manhattan study (Srole *et al.*, 1962) and others. However, Kendell's Maudsley study (1973a) taken together with that by Cooper *et al.* (1978) suggests that if such interviews were structured but allowed the patient some

minutes at the beginning for uninterrupted speech, there could be no objection, especially if the psychiatrist could review the documents while listening to an audiotape of the interview. It is reasonable from the evidence to suppose that a psychiatrist could make a diagnosis under these conditions which would agree substantially with that made after a detailed examination and observation conducted personally by the psychiatrist. Without a psychiatrist reviewing or otherwise assisting in the diagnosis, problems will arise with that proportion of patients whose illnesses at the time of interview have no specific diagnostic features, sometimes impolitely called the 'ragbag' group; patients for whom a psychiatrist is often prepared, perhaps unwisely, to make a diagnostic guess. Such patients ought to be recorded for research as 'undiagnosed'. However, this would lead to difficulty when comparing results with those of other studies by less inhibited investigators.

Although it should now be clear that for research purposes much has been done to improve psychiatric classification, and to show that with care it can be made as reliably as any clinical diagnosis based on symptoms, in ordinary clinical practice it probably still remains sadly unreliable. This is likely to persist until psychiatrists draw a distinction between history and mental state, and accept that the latter, analogous to the physical examination in general medicine, requires to be taught in a highly structured manner with emphasis on the need for consistent practice. In view of the tendency to make reliable diagnostic judgements early in the interview, the mental state examination probably needs to be ordered sequentially, addressing itself to refuting or confirming that diagnosis, and at each stage suggesting alternative choices, rather than grouped according to mental function as at present. Other aspects of the diagnostic process should be standardised, for example, by the allotment to diagnostic categories by agreed rules, possibly by the introduction of 'undiagnosed' categories for patients with illnesses without specific diagnostic features, and by the provision of instruction on which of two diagnoses to code first. The diagnosis itself could be usefully extended from a uni- to multi-dimensional system. Whatever system is adopted, it must be understood that no group diagnosis can substitute for the individual formulation essential for management, of which diagnosis is only a part. However, diagnosis remains the most useful shorthand we have to aid communication, research and planning. It is for psychiatrists to improve it while freely admitting its limitations.

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19 Some Aspects of the Problem Orientated Medical Record in General Psychiatry

Anthony Fry

Karl Menninger in his book *The Vital Balance* wrote 'Our concern now is not so much what to call something, as what to do about it'. Psychiatry has greatly changed since he wrote that and even more changed since the concern for diagnostic rigour dominated practice at the turn of the century, following the speculations of Kraepelin on the differentiation of the endogenous psychoses (Zilboorg, 1967).

General physicians too have long been aware of the inadequacy of diagnosis, both with respect to describing the complexities of a single patient and for coping with the changing perspectives in a single case that accompany fresh investigations, developments, and so on. In an attempt to deal with these problems a physician called Weed (1968 and 1969) developed what is now known as the problem oriented medical record. This system is used in a number of large units (Guys Group of Hospitals, 1974) in this country but still remains without much support in psychiatry.

This short paper will consider some practical and logical aspects of the system.

General psychiatry in the United Kingdom is practised by teams headed by consultant psychiatrists who are, without exception, medically qualified and tend to use the procedures and methods of medicine. Central to these is the concept of disease. Much of the management of patients is related to the identification of particular diseases or diagnostic categories. From this the treatment and management follow. A useful addition to the traditional medical procedure of formulation and diagnosis is provided by the problem orientated method of description and case record (*Lancet*, 1972).

Current general psychiatric practice in this country tends to identify what are called symptoms, define clusters within groupings of symptoms and derive a diagnosis from that (Kraupl Taylor, 1971/72). The condition so diagnosed then ideally becomes the principal object of treatment. Efforts are directed towards the cure, removal or suppression of the disease or condition diagnosed. This cure will, hopefully, be accompanied by the disappearance of symptoms.

In practice, of course, few psychiatrists would describe their activity as simply as this, but the outward and formal aspect of their practice generally

derives from this paradigm, which is sometimes rather simplistically called the medical model (see tables 19.1 and 19.2). (In both tables descriptions are first given in ordinary language and then in the language of medical practice.)

Table 19.1
Disease within a patient provoking treatment

Ordinary language	Person	(With) Abnormality	(That gives rise to) Concern	(and provokes) Intervention
Medical language	Patient	(With) Disease	(That gives rise to) Therapeutic concern	(and results in) Treatment

Table 19.2
Activities of a physician in relation to a diseased patient

Ordinary language	Observation and Description	Problem definition	Explanation	Categorisation	Intervention or action
Medical language	History and Examination	Formulation	and	Diagnosis	Treatment

In an ideal medical world, a defined and endopathological abnormality, such as a biochemical defect, would, in conjunction with an exopathological event, produce phenomena that can be either exerocepted or interocepted (or both), as signs and symptoms (Kraupl Taylor, 1966). In psychiatry such phenomena might express themselves as physiological, mental or social occurrences. The clinician encountering such signs and symptoms in his patient would ideally explain them all in relation to a single endopathological disturbance. Thus, the achievement of diagnosis might in an ideal medical world be the central goal of medical intellectual effort. Anyone who has attended case conferences in psychiatric hospitals might well believe that all those present in fact felt that to be the case. A great deal of time and effort in the public performance of psychiatry is devoted to diagnosis.

Unfortunately, in psychiatry, much of the energy and effort devoted to the elucidation of diagnosis might be better directed elsewhere, for diagnosis, although useful and appropriate in much psychiatric work, is seldom alone sufficient to describe a case and frequently does not have a great deal of explanatory power (Fry, 1978). A correct diagnosis might be useful in classification. It might also identify prognostic features and indicate some useful treatments but, in many cases, it will fail to explain fully or account for

all the problems presented by the patient. Much diagnosis still has primarily a categorical (Stengel, 1960) function rather than a causal and explanatory function. Diagnosis is one taxonomy, one tool of categorisation, description and communication. In its present form it is useful and has some validity but to some extent it remains arbitrary and no doubt as neurophysiology develops, new functional system diagnoses will replace symptom cluster or phenomenological diagnosis. Such a trend is already evident in general medicine where, for example, immune system disorders have been identified which cut across diagnoses related to the pathology of a single organ.

Diagnosis then is limited because its explanatory power is limited. It is also limited because many of the problems of psychiatric patients cannot be expressed within the framework of any existing diagnostic classification—and finally it is limited because it requires that a large amount of data relevant to a patient be expressed in terms of one or two conditions.

The remedy to these deficiencies does not lie in the abolition of the diagnostic system but rather in its expansion and modification. This has been achieved with some success by the problem orientated medical record (Cross, 1974). This is a system for recording and systemising the data relevant to a particular patient.

Central to the POMR is the formulation of the problem list. This records any feature of a patient which the doctor or any other member of the team identifies as a problem. It is a dynamic record which changes as problems are resolved. In psychiatry there are a large number of phenomena that can be identified as problematic in any given patient, and the selection and definition of problems requires careful consideration.

There are very many ways in which a subject involved with psychiatrists may be observed and correspondingly a very large variety of classes and types of problem that may be formulated. At one extreme will be problems identified by the subject as part of his experience which are noxious or disquieting, for example, depressed mood or anxiety and, at the other extreme, problems identified by a medically qualified psychiatrist but not recognised by a patient, as in the case of a deluded patient who may be convinced that his delusional system represents an accurate view of the world.

The phenomena that concern the psychiatrist may generally be described as mental, psychological, social and physiological. These are described and observed in various ways using the language of everyday speech or more specialised technical terms and conventions. Psychiatrists in particular have used the descriptive phenomenology of Jaspers to describe the form of their patients' mental content.

Now within the complete description of a patient in mental, psychological, social and physiological terms, there will be certain features of that patient that the psychiatrist and members of the multidisciplinary team will designate as problems. That is, they represent features of the patient that give rise to concern in him or others and also require some kind of intervention.

Thus a problem may be a proven diagnosis, for example, schizophrenia or depression; or a physiological entity, for example, congestive heart failure or paroxysmal abnormality of the EEG. Signs or symptoms such as overactivity or flight of ideas may be problems, so might past illnesses or family histories of

illness. High risk treatments, like phenelzine, can be, as can allergies or drug sensitivities, for example, chlorpromazine sensitivity. High risk occupations, like bartender, or poor social and family conditions, can also be problems (Guy's Group of Hospitals, 1974).

In any given case these kinds of phenomena are sought for and then listed in the patient's case notes, and they then form a core of data from which other activities logically proceed. This core is called the 'problem list'. It is recorded in the case notes and in many cases on a specially designed front sheet (see figure 19.1) that goes on to the front of the patient's case notes and is then available for reference. When each problem is entered in the notes it is dated, the date recording the time when the problem was first noted. A second date records when the problem was first changed or resolved.

GUY'S GROUP OF HOSPITALS		OPD		Consultant
PROBLEM LIST		Surname First Name Date of Birth Address	Mrs. JC 9/11/'22	Unit No. Sex
Sheet Number:				
	CURRENT & ACTIVE PROBLEMS	DATE		INACTIVE PROBLEMS
	Any problem of actual or potential clinical significance requiring treatment or follow up	First noted or changed	Resolved or date of past problem	Problems not requiring any treatment or follow-up
1	Depressed Mood → Depressive Illness	18/10/76 15/11/76	15/12/76	
2	Suicidal thoughts →	24/10/76	24/11/76	
3	Unable to work	24/10/76	15/12/76	
		1954		Depressive illness
		1975		Death of spouse
4	Cognitive impairment → Diminished performance scores on WAIS	24/10/76 2/11/76	5/1/77	

Figure 19.1

Problems are further identified as 'active' or 'inactive'. 'Active' problems require immediate attention and 'inactive' problems are potential problems or

problems that cannot be actively tackled in any useful or productive way.

The attention of the therapeutic team is directed towards the modification of the active problems. The problem list thus not only identifies problems but also gives a list of implied goals that may be readily comprehended.

Problems should be defined in as much detail as the initial information permits. In many cases a problem may clearly require further elucidation. In such a case the problem is followed by an arrow, for example, 'disturbed behaviour →'. In such a case further investigation is being attempted in order to clarify the problem which might in a few days be amended as shown below.

1. Disturbed behaviour →

Manic phase, manic depressive psychosis.

A more detailed example of the front sheet problem list is given in figure 19.1. This is placed to the front of the case notes and is usually prepared by the houseman in consultation with senior medical staff shortly after the patient's admission or out-patient assessment.

For example, the patient, Mrs J. C., is seen in the out-patient department on 18.10.1976, with depressed mood. She is noted at that time to have had a previous depressive illness in 1954 and also to have lost her husband in 1975. These last two occurrences will of course be subsequently classified as inactive problems, in that they are probably related in some way to the patient's present difficulties but do not require any active intervention. The patient is seen again a few days later when she is noted to have suicidal thoughts and also to have given up work because she cannot concentrate or remember things. At this time she is admitted and a problem list is prepared. This initially comprises four active problems: depressed mood, suicidal thoughts, inability to work, and cognitive impairment. The first two and the fourth clearly require further elucidation; the most probable underlying diagnosis is depressive illness. There is, however, a slight possibility of organic impairment, and the medical staff are keen to exclude this.

In-patient admission and investigation include tests by the psychologist, who notes diminished performance scores on the W.A.I.S. on 2.11.1976. However, the patient's condition is now more characteristic of a depressive illness and treatment with ECT is begun. The patient shows a fairly rapid response to ECT confirming the diagnosis of depressive illness, which is entered under problem 1 on 15.11.1976. The ECT is continued and the suicidal thoughts which had previously been present disappear and this is first noted on 24.11.1976. This is then recorded in the resolved problem column. Three weeks later the patient's other symptoms have improved sufficiently for her to go home and return to work (15.11.1976); this too is noted. Out-patient testing on 5.1.1977 reveals normal scores on the W.A.I.S., which is noted in the resolved column. Thus a dynamic and easily read account of the patient's progress is made. It is readily altered as the patient alters and it is accessible and easily understood by all members of staff.

In many cases where the diagnosis is clear-cut and obvious, the problem list can further direct the attention of the therapeutic team to non-medical factors that may be of great importance to the case—say, for example, poor housing and marital problems. For example, in a case of depression the diagnostic

statement would be manic depressive psychosis, manic type 296.1, and the problem list would comprise:

Active problems	(1) Manic Depressive Psychosis Manic type 296.1
	(2) Poor housing
	(3) Marital problems
Inactive problems	(1) Puerperal psychosis following birth of second child

In other cases where the diagnosis is not clear, the use of POMR can at least identify particular symptoms for treatment and often can introduce some measure of accord at a case conference that might be divided on the diagnostic category appropriate to the case.

Consider a young man of eighteen who has not worked since leaving school and who recently has been behaving strangely and shows some depression of mood. The differential diagnosis might be:

- (1) Simple schizophrenia
- (2) Personality disorder
- (3) Adolescent crisis

A clear elucidation of which is the correct diagnosis may take months or years. A problem list for such a patient might be:

Active problems	(1) Depressed mood
	(2) Suspiciousness of other people
	(3) Unemployment
	(4) Difficulty in relating to women
Inactive problems	(1) Poor record at school
	(2) Elder sib on drugs

Therapeutic effort may be directed to each of the active problems. The goals of the therapeutic team are clearly stated and there is a basis for some constructive action which can be monitored in the case notes. If at a later date a diagnosis becomes clear, it can be introduced into the problem list as an active problem.

It will be clear from the preceding examples that 'a problem' defines anything that identifies or contributes to what it is about the patient that gives rise to therapeutic concern. Anything about the patient that might require the therapeutic attention or notice of the doctor is a potential problem.

'Problem' in the POMR sense should be distinguished from a problem in the logical sense. In the logical sense a problem is a question proposed for solution in contrast to the POMR problem which generally requires some operation, action or intervention to be performed or has the potential of requiring such action or intervention. Of course some POMR problems are also logical problems in that they not only require intervention but also explanation. For example, a man with a spider phobia poses the problem of his phobia. This is something that requires medical intervention. At the same time there is the logical problem of the origin of his phobia. Why is he afraid of spiders? Is it some unrecognised feature of his past experience or his

constitution that has contributed to this phobia? It is of course the first kind of problem with which the POMR is most generally concerned.

Such logical problems in psychiatry may of course be amenable to causal explanations or a sufficient account may be given of them in terms of their meaningful emergence from other meaningful antecedents, that is, they may be understood (Fry, 1975).

It will be seen from figure 19.1 that the designation of phenomena as problematic in the absence of them giving rise to immediate therapeutic concern, depends to some degree on making postulates about their possible connection to other phenomena that are problematic. Thus, the designation of 'flu', death of spouse, and 'possibility of redundancy' as problems depends on whether they be assumed to have a possible connection with the present problems or that they may at a future date become more significant. The nature of that connection will be contained in general principles accepted as true by the observer and deemed relevant in the special case under consideration.

In general, mental events, and it is mental events that are the first and most obvious concern of the psychiatrist, are over-determined. Further, their determination may be described in relation to mental or physical occurrences (Fry, 1976).

Frequently the psychiatrist can only speculate about the meaningful origins of mental phenomena, he can never be quite sure. His designation of phenomena as problematic will depend on these speculations and on the general principles of cause and effect that he applies to mind and brain.

In contrast, physical medicine, if it deals only with pathological events late on in the progress of a disorder can usually define more exactly the nature of causal connections and designate with some certainty what is and what is not a problem.

The difficulties that confront the psychiatrist are not sufficient to prevent the use of the POMR but they introduce an element of speculation into it and the identification of problems will vary from observer to observer, depending on the theories or general principles that he uses to link his data. One of the virtues of the POMR is its practical bias. The psychiatrist may speculate about a large number of problems but only a small proportion of them are open to interference or therapeutic endeavour and so qualify for the designation of active.

Without doubt, diagnostic rigour has brought great benefit to psychiatry (Kendell, 1975) but in the context of clinical practice it does have limitations.

The hope that phenomenological classes would correspond to endopathological disease entities has not been fulfilled. Much treatment in psychiatry remains symptomatic and some (Foulds and Bedford, 1975) have gone so far as to suggest that disease entities, far from being mutually exclusive, are in fact inclusive.

Much modern practice is eclectic and crosses old barriers that once existed between, say, a psychotherapeutic and an organic approach. Social factors are increasingly recognised as sociology, and anthropology and epidemiological studies produce ever increasing evidence of the multifactorial nature of much psychiatric disorder.

An intellectual framework that takes note of all these developments is required. The diagnosis and formulation have attempted to do this but the diagnostic statement is by definition very limited and the formulation, although more general, is not systematic or useful for statistical purposes.

There have been many descriptions of problem orientated medical case records in psychiatry (Ryback, 1974; Hays-Roth *et al.*, 1972) but as yet this approach has not gained wide acceptance in this country.

It is hoped that this brief description of the principles involved and the logical basis of the system will again draw the attention of British psychiatrists to this system. It is simple, readily understood by all members of the therapeutic team, and by other physicians; and, perhaps most important of all, it is practical and functional. It is entirely suitable for pragmatic goal orientated psychiatry and it diminishes the sometimes excessive preoccupation of psychiatrists with diagnosis. At the same time it can be used in conjunction with traditional diagnostic procedures.

Such a system can only benefit patients and assist the practitioners of this most difficult and complex branch of medicine.

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20 Multiple Choice Examinations in Psychiatry

W. H. Trethewan

Although now widely used, Multiple Choice Examinations (MCQs) are still regarded with suspicion by many examination candidates. All kinds of reasons are advanced which suggest that, while they may possibly be satisfactory in testing factual knowledge in other disciplines, they are not a suitable method for measuring psychiatric aptitudes. As no evidence for this supposition has ever been advanced, it can only be concluded that such opinions are based merely on prejudice, and on the natural anxiety, coloured by 'a touch of paranoia' which so many examination candidates exhibit when confronted by any new or unfamiliar procedure.

I first became impressed by the MCQ method while acting as examiner both in medicine and psychiatry in a final M.B. examination. The students on this occasion, before presenting themselves for the familiar ordeal—two essay papers, a long case, short cases, and the customary oral examination (known almost with a touch of affection as 'urines', because among other things, of a need to show proficiency in testing this fluid for various untoward ingredients)—had been given an MCQ examination, the results of which were concealed until after the long wearisome ritual was over and the fate of the wretched examinees was finally decided. At this juncture the MCQ results were made known. Conceding that the orthodox examination results had been correctly determined, it was found that the MCQ had missed only one of the half-dozen or so candidates whom the examiners had failed, while correctly predicting the few who were worthy of honours or distinctions, as well as the performance of 'the grey majority' who while not particularly good or bad were at least adequate enough to be allowed to pass.

But what do MCQs actually test? And are they really applicable to psychiatry?

Clearly MCQs primarily test factual knowledge. There are hints that some questions may also test powers of deduction, but these are very difficult to set. It could also be suggested that success in an MCQ test is possibly and in some degree related to general intelligence, as well as to the mastery of facts; but this is unproven. However, it seems likely that more intelligent candidates, lacking some degree of factual knowledge, may sometimes be better able to work out the correct answer to a question than those less well endowed. But is this necessarily an argument against the use of MCQs? Astute candidates probably quite often deceive their examiners, particularly in oral examinations, by guessing the answer which seems most likely to please the

examiners or by subtly leading them on to a discussion of topics about which the examinee may feel he is competent.

The main argument open to those who maintain that MCQs are not as applicable to psychiatry as to other subjects, is that in psychiatry facts are of negligible importance. While it is true that a knowledge of facts alone will never determine whether a candidate will become a good or bad psychiatrist, or whether his clinical judgement is sound or indifferent, it seems obvious that if he has no background of factual knowledge on which to base his judgements then, whatever his other skills, his judgements cannot possibly be sound. While it is true, of course, that many of today's facts will in due course become the fictions of tomorrow, there is, nevertheless, a body of 'hard' knowledge which every would-be psychiatrist surely must have readily available. For example, among the harder facts are those pertaining to the side effects of psychotropic drugs; contraindications for their prescription; legal considerations covering the admission and discharge of patients from hospital and so on. Knowledge of these is easily testable by the MCQ method. But so are some of the 'softer' perhaps more disputable bits of knowledge, providing always that the questions are carefully set and based on a current consensus of common knowledge. MCQ examinations are, it is sometimes said, unfair on the more obsessional candidates, to whom the finality of a definite answer is a threat, but no more so surely than any other kind of examination in which a candidate must, in the last resort, demonstrate that he is capable of making up his mind and of giving a definitive opinion?

Another argument which is often advanced is that while MCQs may demonstrate an ability to retain, recall and reproduce factual knowledge, they do not, as essay questions may, demonstrate a candidate's literary skill and his ability to formulate facts in an orderly manner.

While this is a tempting belief, the sad truth is that the majority of candidates, in a desperate hurry to demonstrate how much they know, seem to be able to do little more than splash down a hotch-potch of facts in an illiterate and mis-spelt fashion. How often does 'aggression' deprived of one 'g' still appear in essay papers? Furthermore, if an examiner was genuinely to take account of literary ability, style and formulation, his pass rates might be unduly lowered; even more so when in the small hours, and in the face of increasing fatigue, almost indecipherable scrawls begin to resemble oriental hieroglyphics.

There is also the question of the subjectivity of essay examiners, a matter clearly demonstrated by the high proportion of discrepant marks awarded by examiners marking independently. For example, in a Preliminary Test examination sat by 326 candidates, pairs of examiners were asked to mark on an 11-point scale (45–55; 50 being the pass-mark). Equal marks, or marks discrepant within one point were awarded in 161 cases (49 per cent) while in the case of the other 165 candidates (51 per cent) the marks awarded were 2 or more points discrepant, in 76 of these (23 per cent) being as much as 3 to 6 marks discrepant. While a pass mark was awarded by both examiners in 150 cases (46 per cent) and likewise a fail mark in 60 (18 per cent) in no less than 116 (36 per cent) this was also discrepant, one examiner awarding a pass and the other a fail mark.

There is of course, no such degree of subjectivity in marking an MCQ examination; for once the panel of examiners have agreed, often following lengthy discussion, what the correct answers should be, the marking is done by computer. What is of more interest perhaps, is to observe the degree of correlation there is between the MCQ mark a candidate gains and the consensus of opinion or otherwise of the essay examiners.

In the examination already referred to 114 of 117 candidates who obtained a clear pass mark on the MCQ were also passed by one or both essay examiners. Only 3 who passed the MCQ were failed by both examiners. Likewise, 130 of the 167 who gained a clear fail mark on the MCQ were also failed by one or both essay examiners. The remaining 37 who failed the MCQ were passed by both essay examiners there being a somewhat greater discrepancy here than in the correlation of pass results. Taken over all it will be seen that the MCQ results were concordant with those of one or both essay examiners in 244 of 284 cases (86 per cent) and discordant in 40 (14 per cent). It should be noted that the results of the remaining 32 candidates, bringing the total to 326, have not been included in this analysis, because these were sufficiently borderline to allow a deficiency of marks in the MCQ examination to be compensated for by a proficiency of marks awarded by the essay examiners, or vice versa; their performance overall being considered as just about satisfactory, thus permitting them to pass the examination. As these marks were all borderline they, too, can be justifiably considered as concordant rather than discordant.

The predictive value of an MCQ examination may also be observed from a consideration of the results of a Membership Examination (one picked at random). Without going into unnecessary detail the results of this particular examination, which 219 candidates sat, permit the following main conclusions to be drawn:

- (1) Taking 49.5 per cent as a borderline pass mark for the MCQ examination, the results correctly predicted success or failure in the whole examination in 173 cases (79 per cent), 99 of whom (45 per cent) passed and 74 (34 per cent) failed.
- (2) Thus, although accounting for only a quarter of the total marks the MCQ predicted what the final result would be in just about 4 out of 5 cases.
- (3) In all instances where the results were discrepant, in that the candidate failed to pass the MCQ but passed the whole examination, none the less, this was because he (or, of course, she) passed the clinical examination and gained sufficient marks in all other parts to allow a marginal pass over all.
- (4) In nearly all cases in which the MCQ mark was satisfactory but in which the candidates were failed, this was on account of failure in the clinical examination.

There is indeed a considerable correlation to be observed between performance in the MCQ and performance in the clinical examination. 102 of the 122 passing the clinical also passed the MCQ, while of those who failed the MCQ, 58 passed the clinical and 39 failed.

$$(\chi^2 = 24.66, \text{d.f.} = 1, P < 0.0005.)$$

It almost begins to look from these results that essay questions could be abandoned with reliance for factual knowledge being placed on the MCQ, and reliance for clinical judgement being placed on more extensive clinical and *viva voce* examinations. But, may be it is too soon as yet to abandon traditional procedures altogether.

Even if it is accepted that MCQs have proved to be a valuable method of examining a candidate's factual knowledge there are certain pre-requisites which must be stressed. The first is that the questions must be good ones, in that they should neither be too hard, too easy, or ambiguous—an accusation often levelled against multiple choice questions, most often, it must be said, by poorer rather than better candidates. The best questions are those which are the best 'discriminators' by which is meant those questions which are answered correctly by those candidates who do best in the examination taken as a whole, and vice versa. It is important to emphasise that whether a question is a good, bad, or indifferent discriminator can only be revealed following computer analysis, which is therefore a *sine qua non*.

The Newcastle system which has several users, including the Royal College of Physicians as well as the Royal College of Psychiatrists, not only prints out the marks gained by every candidate but also gives detailed statistical information about each of the questions and their component parts. This enables the observer to remove questions which discriminate badly and to modify others accordingly. Although those who are skilled can often guess whether a question is likely to prove satisfactory, this cannot be done with absolute certainty so that when the computer results are known, surprises are not too uncommon. Because of this it is often said that multiple choice questions should not be used in an examination until they have been tried out on a 'guinea-pig' group of volunteers, and their discriminative powers analysed. While this is an ideal, it is one which is impossible to put into practice. But it does not matter so much as might be supposed; for if among, say 60 questions, 10 turn out to be not very good discriminators, this deficiency operates neither to the advantage or disadvantage of good or bad candidates, as those in either group are likely to do as well as the other; overall performance being determined by the remaining more highly-discriminative questions. Of course, if the proportion of poorly discriminating questions is allowed to become too large then obviously chance will play too great a part.

To illustrate this the results of the discriminative analysis of some of the questions of the Preliminary Test of March 1974 (published in Notes and News) may be scrutinised. In view of the number of candidates who sat, a correlation coefficient of any question in excess of 0.100 or 0.150 indicates that the question was satisfactory from the point of view of discrimination; the higher the correlation the better. Of the 60 questions set, 23 had a correlation coefficient between 0.100 and 0.400; no less than 24 having a coefficient between 0.400 and 0.500, while in 10 others this ranged from 0.400 to 0.600. Only 3 fell below 0.100; 2 of those having a negative or minus correlation. It can be seen therefore, that this was overall a very satisfactory MCQ examination.

To underline some of the points made two examples are offered. First here

is a question which 'performed' well (correlation 0.664):

Q. 'The following statements are true of prospective but untrue of retrospective studies:

- (a) Patients can be randomly assigned to treatment categories or groups (0.439)
- (b) Evaluative measures can be modified on the basis of feedback (0.297)
- (c) Information from clinical files can be used in the analysis of results (0.405)
- (d) An interview with the patient's relatives is a necessary procedure (0.448)
- (e) All the relevant information can be obtained from existing records (0.417).

(*Note.* (a) and (b) were considered to be *true*; (c), (d) and (e) *false*. The percentages of candidates giving a correct answer were (a) 72.6: (b) 51.7: (c) 60.2: (d) 52.2: (e) 70.6.)

Here in contrast is a question that 'performed' less satisfactorily (0.104).

Q. 'REM sleep time is decreased by:

- (a) Barbiturates (0.330)
- (b) Lysergic acid diethylamide (0.067)
- (c) Heroin (0.005)
- (d) Chlorpromazine (0.065)
- (e) Nitrazepam (-0.289).

(*Note.* The agreed *true* answers were (a), (c) and (d) while those considered to be *false* were (b) and (e). The percentages of candidates giving a correct answer were: (a) 86.6: (b) 47.8: (c) 29.3: (d) 38.7: (e) 21.4. Obviously this was a poor question which the majority of candidates may have found to be too difficult, in that they gave 'don't know' answers for (b), (c) and (d) in 34.3, 43.2 and 31.8 per cent of cases respectively. Such a question could be modified and improved but alternatively might be better abandoned.)

Apart from greater objectivity and analysability of the questions by computer there is other information about an MCQ which the computer can give which may be advantageous. Because computer analysis works out the mean and standard deviation of the candidates' performance in any particular examination, the overall difficulty of one examination as against another can be compared and equalised. In bringing the marks into line with a 45–55 point marking scale, used in other parts of the examination (*v. supra*) half, one, one-and-a-half, etc., standard deviations above and below the mean allow a simple and satisfactory comparison to be made. This of course implies that an MCQ examination is also competitive, but this is also true of all examinations, however the pass-rate is determined. It could be argued that difficulties in comparison could arise out of variations in the quality of the candidates from one examination to the next. However, if the number of candidates is sufficiently large, their range of ability is likely to cancel out such variations as may occur, as indeed the computer analyses demonstrate.

Finally, let us peer over the shoulder of someone trying to set a multiple choice question, remembering that in the end his skill in doing so can only be confirmed by computer analysis.

First the stem is all important. Note that a blunt statement is better than a question, which can give rise to ambiguity. Here, however, are two different alternatives:

- (1) Which of the following occur in anorexia nervosa?
or
(2) The following are generally recognised features of anorexia nervosa.

(N.B. The inclusion of the words 'generally recognised' in the second alternative imply that this is a matter about which most authorities that is, the majority (over 50 per cent) could reasonably be expected to agree about.)

Following the stem here are some possible alternatives:

- (a) *Vitamin C deficiency* (Could be *true* for stem 1, less likely or probably *false* for stem 2.)
- (b) *A history of overweight in early adolescence is common* (This could reasonably be marked as *true* for both of the stems but what does 'is common' mean? These last two words are probably better omitted.)
- (c) *Lanugo hair* (Probably *true* for both stems.)
- (d) *Loss of axillary hair* (Note that this could conceivably occur in anorexia nervosa so that stem 1 might render the question ambiguous though not in the case of stem 2. The question could also conceivably lead to confusion with (c)—so either (c) or (d) should be omitted.)
- (e) *Abuse of purgatives* (This could be tricky because of difficulty in defining the word 'abuse'. 'Unnecessary recourse to purgatives in an effort to lose weight' would be much less equivocal but so strongly suggests an affirmative answer as to be likely to reduce the discriminative quality of the question. Only the computer once again, is likely to reveal whether this question will be satisfactory in practice.)
- (f) *Dysmenorrhoea* (This is satisfactory for stem 2 but not, once again, for stem 1, for although amenorrhoea, not dysmenorrhoea, is a 'generally recognised' feature of anorexia nervosa; if stem 1 were used some might insist that dysmenorrhoea could occur in the early stages or following recovery and mark the question *true* on this account.)
- (g) *None of the above* (Although in view of the fact that (b), (c) and (e) would probably be marked as *true* by most candidates and for this reason few, if any, would mark (g) as correct, it has been included to underline a common mistake in setting this type of multiple choice question in that a positive answer to (g) necessarily excludes a positive answer to any of the other questions. This is hardly logical when the examinees have been instructed that any, all or none of the possible answers given may either be *true* or *false*.)

In conclusion, it is hoped that this paper will serve as an introduction to what is clearly a highly complex subject, having many ramifications, some of which still remain to be explored.

Finally, although multiple choice questions are not only more objective and may save the examiner from the familiar tedium of marking papers, they are themselves extremely difficult and tedious to set, presenting a problem which can be a formidable undertaking even to those who have experience of the

procedure. In addition, and despite some who might wish to deny it, multiple choice examinations seem to be both more searching and at the same time fairer than some of the more traditional examination procedures. So long as we have need of examinations, and the time for these has regrettably not yet gone, it is highly likely that the MCQ examination in psychiatry, as in other subjects, is here to stay.

SECTION 4

PSYCHOLOGICAL

TREATMENTS

21 The Nature of Psychological Healing

David Goldberg

The word *MEDICINE*, in its original, colloquial meaning, refers to the art of healing. Healing includes both the restoration of normal function to damaged tissue, and the restoration of a sense of well-being after experience of subjective distress or malaise. It is interesting to note that while present day medical education contains systematic instruction on processes of histological healing, little or no instruction is given about psychological healing.

This is because the word medicine no longer means the art of healing, but refers to the diagnosis, treatment and prevention of disease. The classification of disease used was, until recently, dominated largely by pathological anatomy, and the model was extended to cover those morbid states where no anatomical change is demonstrable: for example, to conditions like migraine, asthma, depression and schizophrenia.

Conditions such as these were given honorary status, as it were, as bona fide diseases, and the assumption was made that these conditions can be reduced to the same 'faulty biological machinery' model as is used for ischaemic heart disease or piles. 'Treatment' therefore refers to pharmacological and physical procedures for modifying faulty biological machinery, so that students are taught about drugs and surgical operations rather than about psychological methods for producing well-being. Doctors have thus become biological tinkers, producing psychological, subjective improvements in their patients by using agents which modify the biological aberrations that are supposed to underlie diseased states. Where psychiatry is concerned, the existence of such defects is established by shaky syllogisms, such as the following one:

- (1) Depression is cured by tricyclic drugs.
- (2) Tricyclic drugs modify the deep amine pool.
- (3) Therefore depression is cured by modification to the deep amine pool.

The fallacy here is that the major premiss—'Depression is cured by tricyclic drugs'—is not universally true, since many depressions are equally well cured by placebo, while some are undoubtedly *not* cured by tricyclic drugs. But although the conclusion—that depression is cured by modification to the deep amine pool—is therefore unsound, doctors continue to give major emphasis to tricyclic drugs in the treatment of depression, to the relative neglect of psychological methods of helping depressed people.

Part of the problem seems to be that doctors tend to assume that disease is present whenever patients present to them with illnesses. This is an understandable assumption but it is not always correct, and it certainly leads to

unnecessary prescribing. Since different authors use the words 'disease' and 'illness' in various ways, it would perhaps be clearer if I said what I mean by them. I will follow Scadding by defining a disease as 'The sum of abnormal phenomena displayed by a group of individuals with a specified common characteristic by which they differ from the norm of their species in such a way as to place them at a biological disadvantage'. The emphasis of such a definition must be on functional—that is to say, physiological and psychological—abnormalities rather than on structural abnormalities: since a structural abnormality does not place an individual at a biological disadvantage unless it interferes with function in some way. Illnesses, on the other hand, are distressing subjective experiences which may or may not accompany diseases, and which may occur when it is not possible to demonstrate a disease.

A disease then, is a systematically observed abnormality which places the group of patients possessing it at some biological disadvantage; it is certainly not a 'thing' with an independent existence which mysteriously attacks from without. Further, although an illness may be part of a disease, there is no meaningful sense in which a disease 'causes' the illness which may be part of it. Illnesses, consisting as they do of subjective experiences such as malaise, dysphoria, pain and fatigue, are notoriously susceptible to non-specific aspects of healing procedures such as placebo effects and the doctor-patient relationship.

To return to our earlier example, depression will always be an illness when it is severe enough to distress the patient: but it must be accepted that many illnesses are transient and self-limiting. But where the nature of the mood disorder is such that there is an increased risk of suicide then depression must also be considered a disease, since the individual is at a biological disadvantage.

But in a group of depressed patients, merely because there may be continuity in the epiphomena of illness, it does not mean that any associated diseases are the same, or respond in the same way to specific therapies. Psychotherapy, faith-healing—and even, for that matter, the non-specific aspects of behaviour therapy—are treatments for illnesses which may accompany diseases of various sorts.

Difficulties arise, however, when purely subjective experiences are reduced to hypothetical underlying physical processes: first, the 'disease' is treated to the relative neglect of the patient who is ill, so that other ways of helping the patient are neglected if they seem irrelevant to the hypothetical underlying disorder; secondly, the hypothetical disease is reified and seen as something alien and bad that has afflicted the patient: something more real than the symptoms on which its existence has been postulated. Finally, the idea that the overlapping syndromes of psychiatric illness are 'really' specific diseases encourages the simplistic notion that they should be 'attacked' with specific treatment. This ludicrous situation was parodied as long ago as 1840 by Johnson:

The lecturer on medicine exhorts the pupil to lose no time in combating the disease. The instant the malady shows itself, 'aux armes!' is the cry—we rush to the encounter; driven back at the first attack, we retire but scorn to

yield, and, flourishing our weapons, we precipitate ourselves a second time upon the foe.

A gentleman who had just seen a patient, ordered his assistant to compound a mixture. 'Put into it' he said, 'a little opium, a little arsenic, a little prussic acid, a little strychnia and a little quinine. These' he continued, smiling, 'I call my great guns, and it will be hard indeed if they all miss fire'. Thus, it appears that all this artillery-talk is not mere flourish of metaphor, but has a very evil influence upon actual practice.

Disease is considered an enemy; drugs are held to be weapons, as it were, and physicians are the soldiers who are to wield these weapons for the defence of their compatriots. Hence the sole reliance of the soldier-physician is in his weapon, his drug, which he grasps on the first signal, and never abandons, as long as he perceives a glimpse of victory.

Johnson went on to describe what he called the *moral treatment* of hysteria, but what we should now describe as psychotherapy:

It is evident that the first point which must be gained by anyone who imposes on himself the task of healing the afflicted mind—the first point and the most difficult—is to acquire the esteem and affection of the patient. Unless this first step is satisfactorily made all is hopeless; but this step, once made, the onward path becomes less thorny.

In the clinical sciences, a great deal can be achieved by studying groups of patients, by establishing norms and by finding ways in which one group of subjects systematically differs from another. It is called the nomothetic approach, and it has been responsible for most of the advances that have occurred in scientific medicine since the time of Rudolf Virchow. It is the best way of studying diseases.

The nomothetic approach should be contrasted with the case-history or *idiographic* approach, which alone can help us to understand how illness can have meaning for a particular individual. I would like you to listen to the words of a young neuropathologist who decided to come to terms with the nature of the morbid process in conversion hysteria, and found, rather to his surprise, that he had changed from the nomothetic to the idiographic approach:

Like other neuropathologists, I was trained to employ local diagnoses and electro-prognosis, and it still strikes me as strange that the case histories I write should read like short stories and that, as one might say, they lack the serious stamp of science. I must console myself with the reflection that *the nature of the subject is evidently responsible for this*, rather than any preference of my own. The fact is that local diagnosis and electrical reactions lead nowhere in the study of hysteria, whereas a detailed description of mental processes such as we are accustomed to find in the works of imaginative writers enables me, with the use of a few psychological formulae, to obtain at least some kind of insight into the course of that affection.

These words were written in Vienna in 1892. The young neuropathologist's name was Sigmund Freud.

Since then alienists have become psychiatrists, and no psychiatrist doubts the importance of the detailed case history in helping him to come to terms with the complexities of the individual case. But minor emotional disorders are common, and time is short, so that instead of formulating the patient's illness in psychosocial terms, the busy practitioner assumes a disease, and prescribes a drug for it.

In his book *Awakenings*, the neurologist Oliver Sacks (1973) writes:

We rationalize, we dissimulate, we pretend: we pretend that modern medicine is a Rational Science, all facts, no nonsense, and just what it seems. But we have only to tap its glossy veneer for it to split wide open, and reveal to us its old dark heart of metaphysics, mysticism, magic and myth.

There is, of course, an ordinary medicine, an everyday medicine, humdrum, prosaic, a medicine for stubbed toes, quinsies, bunions, and boils; but all of us entertain the idea of another sort of medicine, of a wholly different kind: something deeper, older, extraordinary, almost sacred, which will restore to us our lost health and wholeness, and give us a sense of perfect well-being.

For all of us have a basic, intuitive feeling that once we were whole and well; at ease, at peace, at home in the world; totally united with the grounds of our being; and that then we lost this primal, happy, innocent state, and fell into our present sickness and suffering. We had something of infinite beauty and preciousness—and we lost it; we spend our lives searching for what we have lost; and one day, perhaps, we will suddenly find it.

Poets have always known of this existential incompleteness: John Donne wrote:

There is no health; physicians say that we,
At best enjoy but a neutralitie,
And can there be worse sickness, than to know,
That we are never well, nor can be so?

The sense of what is lost, and what must be found, is essentially a metaphysical one; a longing for a general change in the quality of existence: for everything to be all right again. It is essentially a magical wish, and it is embodied by a desire for magical therapy, for 'Wondercure'.

It is here that medicine steps in, with its notion that health can be reified, can be somehow turned into factors or elements—fluids, chemicals: things which can be measured and assessed. Health is reduced to a level, something to be titrated or topped up in a mechanical way.

Sacks writes: 'metaphysics in itself makes no such reduction, its terms are those of organisation and design. The fraudulent reduction comes from alchemists, witch-doctors, and their modern equivalents, and from patients who long at all costs to be well'. Sacks does not mention that the modern equivalent of witch-doctors are greatly influenced in their clinical practices by the drug industry, which has a very strong financial interest in Wondercure.

Our need for miraculous cures is betrayed in our nomenclature: vitamins are 'vital amines'; biogenic amines are 'life-giving amines'. The drug industry is even less subtle, with names such as Motival, Allegron, Sinequan, Optimax and Quaalude to encourage our magical fantasies.

Doctors are not always the reluctant middlemen between the cupidity of drug companies and the magical desires of patients: being merely human, it is difficult to resist the metamorphosis into 'Superdoc'—the physician who, after all, is best suited to prescribe 'Wondercure'. Alas, Superdoc is merely a witch-doctor in modern dress.

Aubrey Lewis wrote that:

Psychiatrists, like other people, used to look for single causes for single diseases: ideas about aetiology were therefore simple, one-eyed, and usually wrong.

Faith in Wondercure is, of course, sustained by the notion that even in the sphere of mental illnesses there are specific remedies for specific diseases.

I have suggested that there is a magical unscientific element in much prescribing, and that there is a hidden agenda to many doctor-patient encounters, with the patient fumbling with some metaphysical complaints while the physician pontificates and tries to fit the patient's symptoms into one of the syndromes taught to him at medical school. Should he fail to be able to do so, he typically loses interest in the case. I would not like you to think that surgeons get off scot-free. The countless normal appendices that are removed up and down the country are not monuments to their diagnostic incompetence, they are testimony to the belief that many people still have in the efficacy of having somebody symbolically remove badness from their bodies. They have their counterparts in the bits of offal magically produced from people's abdomens by the present-day psychic-surgeons in the Phillipines, or the worms and bits of bone that witch-doctors produce from patients' bodies by sleight of hand, but which they tell the patient were lodged in their bodies by witchcraft.

You will all have seen patients who have not improved on antidepressants from their G.P. get better on antidepressants prescribed by the hospital. Yet our drugs are no stronger than those available outside, and the idea that we somehow prescribe them better is an understandable piece of vanity largely unsupported by evidence. The cathedral is just a more effective place for prayer than a wayside shrine: we are effective because healing is a matter of hope and expectancy: it cannot be entirely reduced to chemistry.

This brings me, conveniently, to autobiography. My undergraduate teacher of psychiatry was William Sargant. His teaching strongly emphasised the similarity of psychiatric illness to physical disease, and the extreme efficacy of drugs in the treatment of psychiatric illness. Prescribed by him, drugs worked that did not work when prescribed by lesser men. It was no surprise to me when phenelzine—known to be highly effective in reactive depression at St. Thomas's—was shown to be no better than placebo when tested by the M.R.C. (Of course, really, we should say 'no worse' than placebo—but we will return to this important point later.) One cannot observe Dr Sargant without being impressed by his power as a psychological healer; and it seemed to me

then, as it seems to me now, that his power derives largely from his faith in the drugs that he uses, and his ability to communicate hope and an expectation of improvement to his patients. Evans-Pritchard (1937) has described how witch-doctors among the Azande indignantly deny that their therapeutic power derives from hereditary magic: they insist that prophetic and therapeutic powers are derived solely from their medicines. In many primitive societies illness is seen as a misfortune involving the entire person; no distinction is made between mental and physical illnesses and any symptom may be attributed to supernatural causes.

In his recent study in New Guinea, Gilbert Lewis (1975) explains that, in the Sepik, illnesses are not distinguished from one another by symptoms or physical signs, since illnesses are classified by their cause; such as one of the many varieties of spirit possession, or sorcery, or taboo violation. Treatment depends on identifying the cause, and since in their view causes are not discernible from clinical signs, exact description of these by the patient was not relevant. Instead, healer and patient work together to agree on the cause of the illness. This, of course, calls to mind the most appalling varieties of modern psychotherapists and behaviour therapists, to whom description of the form of the disorder is irrelevant: all that one needs to do is to prescribe for the imagined cause—a double-binding mother, maladaptive learning, and so on.

Healers in primitive societies who use states of trance as a medium for healing, are called shamans. The shaman may be a deviant person—sometimes a homosexual—who has low status except when his powers are evoked, when he typically arouses respect tinged with awe. His powers may derive from private mystical experiences, or because he himself is a cured patient. When his power derives from an elaborate course of training he typically has high prestige.

The shaman may make his diagnosis by performing certain acts and then offers a remedy which may be a medication or the performance of suitable incantations. His healing power derives from the *patient's expectation of help* rather than from the incantations, since widely different rituals may produce the same effects. The patient expects help in the case of the shaman because he believes him to possess special powers and to be able to communicate with the spirit world. The patient expects help from us because we have undergone an elaborate course of training and understand scientific medicine: but that is not, I think, the whole story. Doctors are perceived as being close to the phenomena of birth and death, they are in command of pharmaceutical and surgical procedures that powerfully affect our biological functioning, and their power partly derives from their being the descendants of the priest-healers. Fortunately for them, patients come to doctors with powerful expectations of help.

Let us consider a single primitive healing ceremony in some detail, concerning the treatment of 'espanto' in a sixty-three year old Guatemalan Indian woman. This was her eighth attack. Her symptoms seem similar to those that would lead a psychiatrist to diagnose an agitated depression. The Indians attribute it to loss of soul.

The treatment began with a diagnostic session attended not only by the

patient but by her husband and a male friend. The healer felt her pulse for a while, while looking her in the eye, then confirmed that she was suffering from 'espanto'. He then told her in a calm, authoritative manner that it had happened near the river when she saw her husband foolishly lose her money to a loose woman, and he urged her to tell the whole story.

After a brief period of reluctance, the patient 'loosed a flood of words telling of her life frustrations and anxieties . . . During the recital . . . the curer . . . nodded noncommittally, but permissively, keeping his eyes fixed on her face. Then he said that it was good that she should tell him of her life.' Finally they went over the precipitating incident of the present attack in detail. In essence, she and her husband were passing near the spot where he had been deceived by the loose woman. She upbraided him, and he struck her with a rock.

The curer then told her he was confident that she could be cured and outlined in detail the preparations that she would have to make for the curing session four days later. She was responsible for these preparations, which involved procuring and preparing certain medications, preparing a feast, persuading a woman friend or kinsman to be her 'servant' during the preparatory period and healing session, and persuading one of the six chiefs of the village to participate with the medicine man in the ceremony.

The ceremony itself began at four in the afternoon and lasted until five the next morning. Before the healer arrived, the house altar had been decorated with pine boughs, and numerous invited guests and participants were assembled. After they were all present, the healer made his entrance, shook hands all around, and a large meal was served. The patient did not eat, but was complimented by all present on her food. Then the healer carried out a long series of rituals involving such activities as making wax dolls of the chief of evil spirits and his wife, to whom the healer appealed for return of the patient's soul, and elaborate massage of the patient with whole eggs, which were believed to absorb some of the sickness from the patient's body. This was followed by much praying by the healer and the chief before the house altar, and by rites to purify and sanctify the house. All this took until about 2.00 a.m., at which time the ceremony came to a climax. The patient, naked except for a small loin cloth, went outside. Before the audience, the healer sprayed her entire body with a magic fluid that had been prepared during the ritual and that had a high alcohol content. Then she had to sit, naked, and shivering in the cold air, for about ten minutes. Finally she drank about a pint of the fluid. Then they returned indoors, the patient lay down in front of the altar, and the healer massaged her vigorously and systematically with eggs, then with one of his sandals.

Finally, the healer broke the six eggs used in the massage into a bowl of water one by one, and as he watched their swirling whites he reviewed the history of the patient's eight 'espantos', pointing out the 'proofs' in the eggs. The sinking of the eggs to the bottom of the bowl showed that all the previous 'espantos' had been cured and that the present symptoms would shortly disappear. The healer pronounced the cure finished. The patient roused herself briefly on the bed and shouted hoarsely, 'That is right'. Then she sank back into a deep snoring sleep. This ended the ceremony and

everyone left but the patient's immediate family.

The patient had a high fever the following few days. This did not concern the healer, whose position was that everyone died sooner or later anyway, and if the patient died, it was better for her to die with her soul than without it. He refused to see her again as his work was done. She made a good recovery from the depression and afterwards 'she seemed to have developed a new personality. . . . The hypochondriacal complaints, nagging of her husband and relatives, withdrawal from her social contacts, and anxiety symptoms all disappeared'.

Like many healing procedures—varying from cardiac transplant surgery to charming off warts or behaviour therapy—cures are held to validate the treatment method, but failures cannot shake it.

The healer provides an explanation for the patient's otherwise frightening symptoms which reassures the patient, since an otherwise mysterious phenomenon—in this case agitated depression—becomes comprehensible.

The healer uses tricks to increase his credibility and validate his magical powers. In this case he tells the patient of an event she did not know he knew, as well as giving her alcohol and carrying out the six eggs trick. (Incidentally, this same procedure is described in the *Malleus Malleficarum* using molten lead dropped into cold water in order to indicate that a patient has not been bewitched.) The medicine is given to the patient when she is drunk, cold and emotionally aroused, and may be expected to have a maximum placebo effect.

Such elaborate healing rituals are an integral part of the culture in which they occur, and they are accompanied by predictions that cure will occur at a later stage of the healing procedure—as in the statement 'your depression won't really lift until you have been taking these tablets for 10–12 days'.

The combination of trickery with the manipulation of expectancy is seen in many different cultures. Let us consider an example from our own:

Recently a patient in Cornwall with severe facial warts was referred by his dermatologist to a wart-charmer, having failed to benefit from orthodox modern medical treatments. The patient started by telling the wart-charmer—who turned out to be a house painter—that he didn't believe in wart-charming. The wart-charmer replied non-committally that that did not matter but he would like the patient to say how much small change the wart-charmer had in his pocket. The patient sheepishly guessed a figure, whereupon the healer took his money from his pocket and examined it without showing it to the patient, or telling him how much there really was. 'I'll take you on: take this herbal medicine and do not shave for three months. On no account examine your beard to see what is happening, and in exactly three months shave off your beard without examining your skin first.' The patient followed these instructions carefully and, as you have guessed, was cured. The combination of trickery designed to increase suggestibility, expectancy and hope is exactly the same as the Guatemalan example.

Evans-Pritchard describes in great detail the tricks used by witch-doctors to apparently remove worms and bones from their patients' bodies which were

thought to have been placed there by witchcraft. Like present day psychiatrists removing conversion symptoms with various dramatic somatic treatments, witch-doctors still believe in the efficacy of procedures they know to be produced by their own trickery.

In the espanto example there are elements of confession, atonement, and re-acceptance by the patient's social group. The linkage of confession and atonement with healing is of course still surviving in religious healing procedures today, and can itself be traced to the linkage between disease and transgression.

Finally, many of the more effective healing procedures stir the patient emotionally: in general terms, it seems likely that emotional arousal is beneficial, especially if it is followed by reintegration of the patient within his social group and increases in self esteem.

We have also seen the use of increasing the patient's self esteem—in the Guatemalan example by the patient having her cooking praised. This can be combined with periods of rest in which little is expected from the patient because they are thought possessed (or 'ill', in our terms), followed by re-establishing the patient in her group in a way which may allow her to re-experience rewards for her own activities. These features are well seen in the next example, of the treatment of spirit possession among the Luo of Kenya.

Treatment, which as usual is expensive and involves dancing and feasting, is undertaken by a female shaman who summons the spirit possessing the patient and finds out what it wants. Often the victim has to be temporarily 'hospitalised' in the shaman's home, thus enjoying a pleasant respite from the work-a-day world of the hard-pressed Luo housewife. In the course of the therapy, the spirit agency involved is not so much permanently expelled as brought under control. And once pronounced fit, and restored to the bosom of her family, the wife must henceforth be treated with respect and consideration lest the dreaded affliction recur (Whisson, 1964).

Armed with these thoughts, let us consider events at Lourdes. Over 2 million pilgrims visit each year, including over 30 000 sick who expect, but usually do not experience, cure. However, most of the pilgrims seem to derive psychological benefit from the experience. The pilgrims pray for the sick and the sick for each other, not for themselves.

It is not my present purpose to involve myself in the arguments surrounding the many miraculous cures reported at Lourdes, but rather to draw your attention to some of the features of the healing process.

Apart from the sudden loss of hysterical conversion symptoms, the organic illnesses that respond take some time to do so: the processes seem to be the same as those involved in normal healing, but they are allegedly strengthened and accelerated. Gaps of specialised tissue such as skin are not restored but are filled with scar formation as in normal healing. No one, for example, claims to have regrown an amputated limb at Lourdes. The preparatory period and the fact that the patient seems to become the centre of interest of his group seems to be important, and emotional excitement connected with these preparations and the journey may be essential for cure to occur. Lourdes does not heal those who live nearby. Having arrived, the actual visit to the grotto is a highly

emotionally charged event in a social setting. Like the healing ceremonies of primitive tribes, the events at Lourdes represent a climactic union of the patient, his family, the larger group and the supernatural world by means of a dramatic, arousing, aesthetically rich ritual that expresses and reinforces a shared ideology. The same aesthetic richness was witnessed by the author at Buddhist healing ceremonies in Burma: it is in striking contrast with the institutionalised drabness of outpatient treatment in the National Health Service.

Cure seems to depend on the patient's expectancies—those that 'interpose a strong intellect between themselves and the Higher Power' are not helped. An elegant experiment by Rehder confirms that cure depends on the patient's state of mind rather than on anything the healer does. Three sick patients were chosen—one with chronic gallbladder disease, another with cachexia after major surgery, and a third dying of carcinomatosis. In the first experiment a local faith-healer tried to cure them by absent treatment without their knowledge. Nothing happened. Then Rehder told them about the faith-healer, built up their expectations, and finally assured them that he would be treating them from a distance at a time he actually knew the healer would not be working. Dramatic improvements occurred in all three and were permanent in the second patient.

Summarising, we can say that while anxiety and despair can be lethal, confidence and hope are life giving. In our society the physician validates his power by prescribing, just as a shaman in a primitive tribe may validate his with some trickery during a healing ritual.

I hope that you are beginning to see why I think it would be a pity if the future produced a situation where physicians had become organ specialists and health technicians, and psychiatrists had fully taken over the priest—healer functions. Like a primitive man, I believe body and mind to be indivisible. The physician can no more afford to disregard the psychological adjustment of his patient than the psychiatrist can afford not to understand how the patient's body works.

Although the non-specific factors that I have described so far powerfully induce psychological healing in all disease, where major disease is concerned, specific, non-placebo effects become important. In psychiatry, I have in mind penicillin for GPI, vitamin B for Korsakoff's syndrome, phenothiazines in acute schizophrenias, and tricyclic antidepressants in psychotic depression. It is to the glory of scientific medicine and the nomothetic approach that treatments for these major diseases exist.

No-one with any of these conditions would be well advised to undertake psychoanalysis, go to Lourdes, or visit a faith-healer. But the majority of illnesses are not like these: they take the form of mixed affective states with or without somatic symptoms or certain other, typical patterns of neurotic symptom formation.

For these common conditions patients consult doctors and other health professionals in huge numbers. The help they get is often very real, but I am arguing that it owes most to the non-specific factors already described. An important example of a non-specific treatment factor in our culture is the placebo effect. The first point to make is that placebos—that is to say,

medicines which are inappropriate to the complaint under treatment—can be of three sorts: true drugs, purported drugs and deliberate counterfeits such as the pharmacological drosses prepared for drug trials. Giving penicillin to someone with a cold is an example of a real drug used as a placebo, while the many patent medicines—acne cures, virility restorers, blood refreshers and so on—are examples of purported drugs.

Let us consider the case of treating all sore throats, however trivial, with penicillin. Many of those that get better would have done so anyway if they were due to virus infections, so that the patient's sense of security and well-being while on the penicillin must be thought of as a placebo effect. But contained within the population of people who improve may be some people who might have had a mild secondary bacterial invasion if they had not been on penicillin—so here the benevolent effects will only be partly placebo effects—and a few whose sore throats were due to penicillin sensitive bacterial invasion, in whom the good response to the drug were the direct results of the drug itself, rather than placebo effects. And even in these patients, some of their sense of well-being may well be due to the placebo effect of being on an 'active' drug.

The situation seems to me to be exactly analogous to the treatment of depression with tricyclic drugs. Evidence showing that these drugs are effective in the treatment of depression is almost entirely based on hospitalised depressions. Many of the drug trials in general practice do not show that imipramine is any better than placebo. And the vast majority of depressed patients are treated in general practice. Presumably such populations contain a small proportion of patients with a depression helped by tricyclic drugs, but the effect is lost by the sheer volume of the placebo response.

Instead of being upset at the difficulty of demonstrating drug—placebo differences in general practice, we should ask ourselves why patients receiving placebos do so well. We have already seen that no shaman or witch-doctor worth his salt would dream of trying to do without a placebo.

Beecher (1955) has reviewed the remarkable therapeutic power of placebos to relieve subjective distress in conditions as diverse as angina pectoris, post-operative wound pain, headache and cough. About 35 per cent of the population are marked placebo reactors. They are not distinguished from non-reactors by intelligence and not recognisable by off-the-cuff impressions, not 'whiners' or 'nuisances', and not distinguished by age or sex! But they do tend to be acquiescent, to attend church regularly, to think hospital care 'wonderful', and to talk a lot. Placebos administered in hospital, with the patient surrounded by images of authority and care are more effective than when they are taken alone at home. Finally, and very interestingly, their effect is greatest when symptoms—either anxiety, depression or pain—are greatest. Patients with low symptom levels often get worse on placebos.

Before we consider why minor depressions should respond to placebos, I must mention some recent formulations about depression that are not couched in 'deep amine pool' terms. Engel has drawn attention to the affects of helplessness and hopelessness that precede many episodes of major physical illness, and has related these affects to the experience the patients report of feeling 'given up' by those about them, and so entering a state of 'giving up'

with its accompanying affects of helplessness and hopelessness.

Seligman (1975) has recently published experimental work which relates depression to uncontrollability and anxiety to unpredictability. An individual who learns that he cannot control outcomes in his life by his own behaviour learns helplessness in Seligman's formulation: in particular the experience of loss leads to an expectancy that responding will be futile, as no reinforcements are available. This leads to hopelessness with its affective counterpart, depression.

Jonathan Price (1967) has speculated on the evolutionary significance of mood, and put forward his view that depression is a way that an animal at the bottom of a dominance hierarchy signals ritual submission.

It is now possible to assemble six powerful reasons why patients receiving tricyclic placebo improve in drug trials of depression carried out in the community.

- (1) The patient's belief that he is receiving a real drug, combined with the majesty of scientific medicine, produces a strong expectancy that cure will occur.
- (2) The prediction made by the healer that improvement will occur automatically decreases hopelessness and increases the patient's feelings of controllability. The healer is on the patient's side, and by his offer of follow-up visits effectively offers to monitor the return to effective instrumental responding.
- (3) The '10 to 12 days' effect. The prediction that the depression won't really lift for 10 to 12 days allows powers of suggestion maximum effect: it is in the best traditions of native healers, shamans and witch-doctors.
- (4) The expression of concern by the healer represents grooming behaviour by someone higher in the dominance hierarchy than the patient feels himself to be.
- (5) Labelling the patient as 'ill' and in need of treatment can be helpful, *pace* the infuriated cries of American sociologists. The expectancy of others for the patient to display effective instrumental responding may be reduced by being identified as 'sick'. Instead of swearing at her for only providing baked beans on toast for his dinner, the returning husband compliments his wife on having prepared anything at all. Such attempts that the patient does make to control her environment therefore meet with reward, and eventually to a lessening of the vicious circle.
- (6) Finally, and by no means least, in order to be given a drug the patient will have had to discuss depressive symptoms with the doctor, and this means that a state of loneliness and existential solitude will have been breached and shared with another person.

When one recalls that Beecher (1955) has also shown that patients who react to placebos react even more strongly to active drugs, and then remember that, in practice, it is active drugs that are used in the treatment of depression in the community, the success of these drugs is even easier to understand. Their ghastly side-effects are powerful reminders to the patient that they are on a real drug, so that hope and expectancy can interact in the best traditions of

psychological healing.

It is worth remembering that there are now almost as many different kinds of psychotropic drug as there are schools of psychoanalysis: and, like the latter, there is little to pick and choose between them in terms of therapeutic efficacy. This supports the view that the pharmacological contents of drugs used in minor disorders are no more important than the truth of the doctrines associated with the various psychotherapeutic schools.

It can be seen that, where medical-model psychiatry is concerned, the non-specific factors involved in the healing procedures are broadly similar to those used in primitive cultures, except that the healer relies on his prestige to increase the patient's suggestibility. Trickery is used very little, and active drugs are commonly used as placebos.

If we now contrast a native healer, a successful psychoanalyst, a behaviour therapist and a somatic psychiatrist, we must conclude that many things about them are remarkably similar (see table 21.1).

Patients go to all of them expecting to get well. All of them use the idea that something 'bad' has somehow 'got into' the patient: the native healer may use the idea of spirit possession, the analyst a 'complex' acquired in early childhood, the behaviour therapist the idea of maladaptive learning, and the psychiatrist says 'I'm afraid you've *got* depression'. In all four the postulated cause has no objective reality: it is something psychological, a hypothetical construct to account for subjective distress. In all four the postulated explanations may seem far-fetched to those who do not share the healer's assumptions.

All of them use their explanation of the patient's distress to formulate a treatment programme for the patient which will have the effect of greatly increasing expectancy of improvement in the patient.

Differences between them reside largely in the explanatory schema favoured by each, and the nature of the associated treatment ritual. As one might expect, trickery is reserved for the unsophisticated.

Do they differ in results?

No-one has so far succeeded in showing that they do. The best comparison between behaviour therapy and interpretative psychotherapy showed them to be neck and neck with one other. They certainly differ in time—analytically derived therapies taking longer than the other three; and native healers usually being quicker than either of the remaining two.

If I have so far stressed the common ground that exists between modern forms of psychological healing and primitive healing, you should not think that I am about to conclude that progress has been slight, and that we may as well revert to treatment methods that are quick and dramatic. Not only am I an example of Western man—but most of my patients are too. It would not be acceptable for me or for the patients to explain their problems in terms of spirit possession. I recently treated a schizophrenic patient who declared that he was not ill, but was possessed by a spirit. Yet he expected me to keep him in hospital and treat him with drugs, not turn him out and tell him to seek exorcism.

Effective psychotherapists have skills that are not shared by unsophisticated healers. To come to terms with the nature of someone else's puzzling or

Table 21.1
Non-specific treatment factors in four types of psychological healing

	Native healer	Effective interpretive psychotherapy	Behaviour therapy	'Medical model' psychiatry
<i>Universals</i>				
Expectancy of cure	+	+	+	+
Explanation leads to reassurance	Elaborate: Spirit possession, Taboo violation, etc.	Elaborate: Early childhood experiences	Elaborate: Defective learning experiences	Medical diagnosis passes as an explanation
Increased suggestibility	+ (i) trickery (ii) placebos	+ 0 0	+ 0 0	+ Reserved for hysteria Active drugs typically used as placebos
Rituals	++	++	++	+ Essential: 'Power of scientific medicine, etc.'
Increased expectancy leads to hope	+	+	+	
<i>Optional extras</i>				
Emotional arousal	variable	usual	variable	variable
Catharsis	variable	usual	unusual	variable
Increased self-esteem	variable	usual	usual	often absent

frightening psychological experiences is rather more difficult than jumping to facile conclusions and recklessly starting some arbitrary treatment programme. Somatic and behavioural reductionists alike may scoff, but it is rather difficult to do well, although fatally easy to do badly. It requires a combination of empathic characteristics which are not easily learned, careful interviewing skills and a fair amount of time.

Compared with the other three classes of healer, psychotherapists have difficulties in using their often complicated explanations of symptoms in a way which reassures the patient, and in particular builds up the expectancy that change will occur as a result of the visits to the healer. Native healers do not doubt their ability to remove symptoms, somatic psychiatrists do not doubt the power of their drugs, and there is no confidence like the Brave New World optimism of the behaviour modifiers. But psychotherapists often doubt. And doubt is soon communicated to the patient.

Psychotherapy can be likened to a journey on a lake in a small boat. Ideally, the patient should be rowing and the therapist should be steering, and there should be a mutually agreed destination. In ineffective psychotherapy—which is, of course, one of the commonest varieties—the destination is not stated, so the rudder is unnecessary, and there is often not any prior agreement about who—if anyone—should be doing the rowing. There may not even *be* any oars. In either case, the boat drifts aimlessly in the dynamic mists. The patient may not be reassured by the interpretations which he is offered as explanations of his symptoms, and there are no increases in self esteem. Worst of all is the development of hopelessness, which may affect both parties, and which is the enemy of constructive change.

Effective psychotherapists—and I have known many of them—are those who can instil hope and produce an expectancy of change in their patients. They can usually best achieve this by working towards stated behavioural or experiential goals. I would argue that a good psychiatrist is someone who has a mature appreciation of the scope and limits of the major specific therapies—both somatic and behavioural—but who otherwise can practise the non-specific skills of the effective psychotherapist.

I have dealt so far with four classes of psychological healer, but anyone who supposes that general practitioners and physicians spend much of their time prescribing specific treatments for objectively demonstrated diseases is naive. Often the disease is objective enough but the specificity of the treatment for it seriously open to question. And quite often both are pretty vague.

Since not all doctors possess the skills of the effective psychotherapist, yet emotional disorders susceptible to non-specific treatment effects are so common, it is perhaps fortunate that the principles of psychological healing described so far apply to simple doctor-patient encounters in which the doctor apprehends some disorder and prescribes a pill for it. An advantage of this simple version of the medical model not usually acknowledged by its sociological detractors is that it contains within it the strong expectancy that the patient will take the medicine and get better. It is also very easy for the doctor to do.

Why not encourage doctors to explore the psychosocial circumstances that are related to minor affective disorders, and discourage them from prescribing

pills? There is no doubt that medical educators should do this but it is most improbable that doctors will stop prescribing.

As we have seen repeatedly, prescription of a placebo is part of healing rituals all over the world. The obvious solution—the preparation of a phoney drug Richard Asher described as 'Mist oculi mei cum Betty Martini' is quite impracticable, since it would be instantly exposed by a public-spirited TV documentary within a week of being released. So it would seem that we will continue to use real drugs. One advantage of prescribing dangerous drugs such as tricyclics is that it increases the doctor's sense of competence and self-assurance: he feels, often wrongly, that he is doing a valuable therapeutic job—'fighting' disease, and so on—and this will undoubtedly enhance the placebo responses he produces.

Fortunately, those few severe depressions which benefit from tricyclics probably get them, while finally, the many others who benefit from a placebo response get that too.

It therefore seems to me to be likely that production and sales of 'wondercure' are likely to be very buoyant in the foreseeable future.

I will end by asking you in what ways are modern doctors superior to native healers? Certainly, we prescribe more active drugs than they do—although the vast majority of prescriptions are for symptomatic medicines, tonics, placebos, minor tranquillisers and sedatives. When we treat pneumonia with an antibiotic, diabetes with insulin, or surgically remove an early carcinoma, we are certainly doing what no native healer could do. But the majority of doctor-patient encounters are not like this, and it ill behoves us to allow the panoply and glitter of scientific medicine to blind us to the primitive realities concerning how psychological healing occurs.

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22 Brief Psychotherapy

Bernard K. Rosen

Development

Brief psychotherapy is one of the techniques that has developed from psychoanalysis but which has become increasingly influenced by other therapeutic approaches. Ironically, although brief psychotherapy is often contrasted with psychoanalysis, the latter was originally a brief therapy. Freud's treatment which involved the catharsis of repressed thoughts and emotions, impressively shortened the treatment of patients with psychological and physical disorders. For example, an early case 'Dora' suffering with hysterical conversion was apparently successfully analysed in 11 weeks (Freud, 1905). Bruno Walter the conductor, developed a paralysis of his conducting arm after the birth of his first child. Freud cured him in 6 sessions (Sterba, 1951).

Some of the factors that caused the lengthening of psychoanalysis have been summarised by Malan (1963). They include particularly the discovery of resistance and transference, which in turn were considered to be related to conflicts arising in early development. A successful outcome of treatment required analysing 'deeper' and earlier experiences, thus gradually lengthening treatment into the present-day period which often lasts several years.

An earlier attempt to counter the development of longer analyses was made by Ferenczi (1920) whose 'active therapy' suggested a more confronting, directly involved therapist role. In 1925, he and Rank published a restatement of psychoanalytic technique, drawing attention to the concept of acting-out, in this context meaning the propensity of patients to live out their unconscious impulses in action. They suggested that analysis of this behaviour did not necessarily require analysis of childhood. This was an early statement of the concept of 'here and now' which plays an important part in the technique of brief psychotherapy.

Probably the most important psychoanalytic influence in brief psychotherapy was that of Alexander and French (1946). They stressed the need to concentrate on current issues, on understanding ego functions rather than infantile memories and the need to adopt a flexible empirical approach. Alexander (1963) warned against allowing the patient to regress to 'preconflictual early infantile material as a manoeuvre to evade the essential pathogenic conflicts'. In particular he considered the central therapeutic factor to be 'the corrective emotional experience'. This experience occurred as a result of the patient's realisation of a discrepancy between his transference response and the reality of the therapist-patient relationship. Alexander advocated manipulation of the relationship by the therapist to maximise the

discrepancy by what amounts to 'role play' techniques.

Although brief psychotherapy remains based on psychoanalytic principles, it is clear that other conceptual frameworks have influenced its development. The growth of behaviour modification techniques emphasised the need to define problems and goals. Behaviour therapy demonstrated that attitudinal change can actually follow behavioural change rather than the converse as suggested by psychoanalytic theory. It became clear that long lasting effective improvement could occur after short periods of treatment, culminating in Eysenck's now historic challenge to psychotherapy (1952) which undoubtedly prompted an examination of psychotherapeutic technique including a search for briefer treatment methods.

The other major influence came from the work of Rogers (1951) and the phenomenological school. This approach concerned itself with an attempt to empathise with the patient in a non-judgemental manner. It eschewed deterministic theory in favour of the patient's view of the world and his problems. Unlike psychoanalysis which implies the frailty of civilised human conduct against the ever present dark dangers and secrets lurking in our unconscious mind, the client-centred approach is essentially an optimistic view. The patient has a 'tendency to self-actualise' (Maslow, 1962), or in other words to develop inherent potentialities consistent with his own self concept. There is no doubt that the atmosphere of optimism is an important feature of brief therapies.

Technical Aspects of Brief Psychotherapy

Problem Definition

It is now generally agreed that the essential feature of brief psychotherapy is the selection of a focus of treatment. Unlike lengthier approaches which tend to have open-ended treatment goals, brief psychotherapy involves the identification of limited, self-contained problems amenable to treatment. This is not to say that the selected problems are unconnected with others, or that their genesis is necessarily a recent one. It would seem, however, that problem selection should conform to the following criteria:

- (1) The problem is capable of operational definitions. This means that the problem can be defined as operating on the individual or on his environment in specific ways. The problem must therefore be seen as having a cause or a number of causes, and as having a development. It must cause specific consequences in stated circumstances and would be amenable to modification using the techniques derived from the therapist's theoretical framework.
- (2) There is agreement between therapist and patient about the problem. Naturally, this presupposes that the problem can be stated in such a way that it has meaning for both the patient and the therapist. In practice, this frequently poses difficulties. For example, a patient presenting with the problem of 'depression' is expressing in abbreviation a feeling state which

has considerable internal meaning for him. A therapist may conceptualise the problem as 'unable to express angry feelings towards his mother', but this may be unacceptable to the patient as a statement of understanding. The task of the therapist is therefore to translate a conceptual formulation into a statement which both encompasses the patient's problem and his own understanding of it. Clearly, to be successful, this must be acceptable to the patient. What appears to occur is a delicate negotiation over different (sometimes conflicting) ideologies so that a basis for a therapeutic alliance can be created (Lazare *et al.*, 1975). This process may be independent of the therapist's particular school of thought and has been well described by Frank (1963). The problem itself as a focal point in brief psychotherapy rather than traditional reliance on insight formation has gradually gained importance. McGuire and Sifneos (1970) see the task of therapy as learning problem solving techniques.

- (3) The problem is capable of solution within the therapy time. Clearly, the restriction of therapy time is crucial in the selection of the problem and will tend to cause a concentration on problems either of recent origin or whose manifestations are recent. There is good evidence that the more highly specified the problem is initially the more successful will be the outcome (Gould *et al.*, 1970).

Therapy Time

Considerable variation exists between writers on this subject with reports of between 1 and 200 sessions (Small, 1971). The most common number appears to be 6 to 20 which has evolved from clinical practice as being the optimal number for change to occur. Some therapists limit therapy time from the onset by planned agreement with the patient (Mann, 1973). Others (Malan, 1963; Wolberg, 1965) although emphasising the brevity of treatment to the patient do not set limits at the onset but introduce the termination phase when the main goals are being achieved.

Generally, each session is of the classical '45 or 50 minute hour' although attempts to alter this have been made. Castelnuovo-Tedesco (1970) found that two-thirds of patients and three-quarters of the therapists using brief psychotherapy in 20 minute sessions reported improvement.

Curiously, although the time aspect of brief psychotherapy is perhaps its major innovation, there is little information about its experimental manipulation. Lorr *et al.* (1962) attempted to relate frequency of sessions to outcome. In a well-designed study, patients were randomly assigned in seven out-patient clinics to treatment settings involving once weekly, twice weekly and biweekly sessions. No difference in outcome was detected between the treatment groups.

Therapist Behaviour and Characteristics

Brief psychotherapy is not 'easy' therapy and makes considerable demands on the personality and skills of the therapist. Unlike long term psychotherapy, the therapist plays a far more active role. It is unusual for the 'psychoanalytic

couch' to be employed and the aim is to reduce fantasy about the therapist. The need to foster a positive (that is protective, 'good parent') transference in the patient (Gillman, 1965) is generally agreed. However, it is also recognised that 'negative' feelings frequently occur and their expression may need to be encouraged during the course of therapy (Mann, 1973). The capacity of a therapist to build up a trusting relationship with his patient rapidly may be more a function of how things are said than what is said (Truax & Carkhuff, 1967).

The therapist attempts at all costs to prevent the development of prolonged dependency. Apart from a face to face approach, attempts are made to relate the discussion to the treatment focus and to encourage the translation of insights into adaptive behaviour or a change in previous patterns of behaviour. It may be useful to even formalise this into specific tasks to be completed between treatment sessions. This process utilises the cognitive approach of psychoanalytic technique combined with the activity directed emphasis of behaviour therapy.

Certain common occurrences should warn against the development of dependency problems. These include:

- (1) An incapacity to formulate treatment goals.
- (2) An entirely uncritical view of treatment and the therapist.
- (3) The production of new symptoms or problems shortly after the onset of treatment.
- (4) Arriving consistently and excessively early or late for sessions.

Interpretations

The criteria relating to interpretations in general (Menninger, 1958) apply also to brief psychotherapy and in particular the necessity for accurate interpretations should be stressed. In addition, some important qualifications apply to this therapy.

- (1) Interpretations, if made, remain at the here and now level. Attempts to encourage regression by 'deep' or ambiguous interpretations are not generally encouraged. As McGuire states: 'It is made with the idea of consolidating what has already been perceptually ordered, learned and uncovered in therapy, and not to broaden the area of inquiry or to foster further uncovering' (McGuire, 1965).
- (2) The understanding of termination issues is vital in brief psychotherapy and is often the subsidiary focus of therapy almost from the start. Some writers (Mann, 1973; Rosenthal and Levine, 1975) believe that termination is a central pivot of therapy and theoretically there are good reasons why this should be so, as will be discussed later. Anxieties about termination become apparent throughout treatment often in a disguised form. Common examples include forgetting the number of sessions or what has happened in previous sessions, a return of previous symptoms or even the development of new ones, expressions of anger or criticism of the therapist or similar figures and the development of depressed feelings.

It is quite common to find cases in whom the initial formulation of

treatment goals is clearly a restatement of a central core of anxiety about separation.

- (3) Transference is a problematic area. Malan (1963) considered that early development of transference and its interpretation had a positive bearing on outcome. Sifneos (1967) warns against the development of a transference neurosis but refers to the need to foster a positive transference. This theme is mentioned by others (Gillman, 1965; McGuire, 1965). On the other hand the phenomenon of transference is intimately concerned with expectations and there is good evidence that initial expectations in therapy have an important influence on its course and outcome (Hoehn-Saric *et al.*, 1964). The interpretation of transference immediately creates a more intimate atmosphere between therapist and patient as it acknowledges the presence of aspects of a relationship not previously recognised. In making such uncovering comments therefore, the therapist needs to be aware of likely influence on future events. On the positive side may be the facilitation of a trusting relationship which may be novel for the patient ('the corrective emotional experience'). Against this is the possibility of an atmosphere of threat or a tacit collusion with the patient against goal directed behaviour. There are probably no therapeutic formulae on this point. It must always be remembered, however, that in contrast to longer forms of therapy, there is considerably less time for 'working through'. Perhaps Gillman (1965) sums it up more effectively from his own theoretical standpoint:

'In brief interpretive therapy, the therapist brings his psychoanalytic understanding to focus on the presenting problem but, following the patient's lead, permits the patient to use his unique resources to reach new solutions.'

Process of Brief Psychotherapy

It seems likely that the course of any therapeutic encounter goes through a number of more or less equivalent phases. It is certainly possible to identify the same events occurring in long term therapy, but it is also clear that in brief therapy events are accelerated and modified by time limitations. Although there is no clear dividing line between the phases of treatment, and themes are common to all, the following is an outline of a fairly typical course of successful treatment.

(1) Assessment and preparation phase

This usually lasts about 1 to 2 sessions and consists of the following:

A delineation of the patient's symptoms and problems.

An outline of the patient's development with particular reference to life events in relation to current problems, previous patterns of response to stress, behavioural and attitudinal response to current problems and unaffected areas of the patient's life.

Assessment of patient's motivation for treatment.

Identification of behaviour likely to cause difficulties in therapy—persistently low self esteem apart from the effects of the current problems.

Difficulties with previous therapists.

Conflicts about dependence.

Formulation of a working hypothesis and the subsequent treatment goal described in terms that are understandable and acceptable to the patient.

A discussion with the patient of the number of sessions required, and of what is required of the patient to achieve the goal. I find it useful also to arrange the times of subsequent meetings for the remainder of therapy at this point.

(2) The activity phase

The early part of this phase is marked by a renewal of interest and self-esteem in the patient. He begins to work hard at self-examination and at looking towards achieving therapy goals. He reports satisfaction with treatment. He may encouragingly compare the present treatment with previous treatment approaches. The patient reports satisfaction of friends and family with treatment. The patient begins to understand his current problems in relationship to previous problems. He makes connections between his development and his present situation. He begins to enact changes in his life and to experiment with new patterns of behaviour. I have found that the process can be enhanced by designing tasks or 'homework' for the patient to complete between sessions. The nature of the task is derived from the content and direction of the session and is fairly flexible in its character. It can vary between some specific piece of behaviour, for example making a difficult phone call, talking to spouse about a previously avoided subject—or merely considering a problem that requires a decision, for example what are the pros and cons of leaving my present job? Why am I so angry about my sister's boyfriend?

(3) The termination phase

The onset of termination may occur any time from about half way through therapy. The onset may be heralded by a return of previous symptoms or an apparent intensifying of the patient's problem. The patient may introduce new themes, often related to early childhood experience. He may complain of new problems. Sometimes the patient suddenly misses a session for the most 'understandable' of reasons. As termination approaches, the patient's anxieties may be more obviously stated. He worries about coping in the future and may become critical and angry with the therapist. The presence of depressive symptoms is common at this stage. This phase of treatment constitutes a real challenge for the therapist who has to contend with an apparently dissatisfied patient, his (the therapist's) own anxieties and the problems of separation. A successful conclusion of this stage involves allowing the expression of feelings whilst supporting the patient's gains in therapy. If feelings related to termination are not expressed, an effort to explore their possible presence should be made. This is not to say that all patients will experience a high level of anxiety or depression about termination.

It is also important that the therapist avoids two common pitfalls at this stage.

- (1) The patient's progress has been so satisfactory that the therapist is seduced into expanding the original goals of therapy.
- (2) The therapy goals have been only partially achieved. Under this circumstance, the therapist needs to decide whether some further sessions are likely to make a significant difference and to what extent his own anxieties are influencing his perception of the situation. My own experience is that the latter is frequently the case.

Selection of Patients

Perhaps the question should really be: selection of patients for what? For it is clear that brief psychotherapy techniques show sufficient variation to make it likely that patients responding to one approach may not do so to another. Some writers have recently described differing models of brief psychotherapy with relative indications for each (Sifneos, 1967; Patterson and O'Sullivan, 1974; Leeman and Mulvey, 1975; Heiberg *et al.*, 1975).

Formal diagnostic categories are of limited value in defining selection as they are based on clinical phenomena rather than the dynamic of the patient's presentation. Their greatest value is in terms of exclusion.

(1) Diagnosis Characteristics

The following illnesses are not suitable for treatment by brief psychotherapy:

Organic psychosis
Schizophrenia
Affective psychosis
Alcoholism and drug addiction

The following illnesses are probably best treated primarily by behavioural psychotherapy but brief psychotherapy may be useful as an adjunct to treatment:

Phobias
Obsessive compulsive rituals
Sexual disorders including male and female sexual dysfunction, exhibitionism, fetishism, transvestism

Brief psychotherapy should be considered as the primary approach in:

Personality disorders
Anxiety neurosis
Depressive neurosis

(2) Problem Characteristics

Brief psychotherapy is particularly indicated for patients who have problems in:

- (a) Interpersonal function
- (b) Role function

More specific problems include reactions to death, separation and disturb-

ance in long term relationships, unexpected and uncontrollable changes in the life situation (Stein and Macleod, 1969).

Brief psychotherapy has been employed successfully in treating psychiatric symptoms associated with physical illness and its medical or surgical treatment. The problem must be capable of resolution by psychotherapy. Problems associated with prolonged financial or social disadvantage are generally not suitable.

(3) Patient-Therapist Characteristics

Of all the selection criteria, those are the least clearly worked out although it is likely that they are the central determinant of outcome (Frank, 1974). Malan (1963) suggested the important characteristics were:

Patient motivation for change (the most important)

A capacity and willingness to explore feelings

An ability to accept interpretations

The therapist is able to understand the material

A therapeutic plan can be formulated

Other patient characteristics considered desirable have included:

The presence of specific chief complaints

Flexibility and capacity for an affective response

At least 1 meaningful past relationship

Employment

Not too extreme a personality structure

Evidence for placebo response (high suggestibility)

Chronicity of illness was not found to be of prognostic importance by either Malan (1963) or Stewart (1972). This is a rather surprising finding as it tends to run against the usual inverse relationship in all specialties of medicine between chronicity and prognosis. In general, one has to agree with Small (1971) who in a review of the literature was unable to find any consistent factors in the selection of patients. This obviously partly relates to the large numbers of techniques subsumed under the heading of brief psychotherapy.

Mechanisms of Change

It is obvious that the restriction of time which forms the basis for the structure and practice of brief psychotherapy will have a profound effect both on patient and therapist behaviour. For the patient, time restriction may act as a pressure for change and as an incentive to achieve the treatment goals. In long term therapy the same process is sometimes seen in the termination phase and in some ways brief therapy can be seen as an abbreviated termination. The issues of loss and separation and the need to work through grief occur in brief therapy and it is likely that their successful resolution is the key to change in some patients. It is not surprising, therefore, that patients presenting with features of anxiety and depression are often so suitable for this approach. Some writers see the separation issue as the central one in presenting psychopathology (Bowlby, 1969). Any therapy which highlights the tem-

porary association between therapist and patient will clearly provoke manifestations of separation anxiety. At another level, time appreciation and reality testing are clearly related topics. Mann (1973) in an interesting exposition of this point sees the process of change as an increasingly adaptive response on the part of the patient to time limitation. He makes the comparison between the child's relationship to the world which has a timeless quality to it and the increasing need to recognise time restraint to achieve an adult stance. This is a theme which was noted by Piaget (1932) and also forms part of Freud's concept of the development of the ego and the reality principle. For this reason, attempts are sometimes made to emphasise time limits (by planning sessions at the onset, arranging times in advance, repeated reminders about the number of sessions).

Limitation of time has other profound effects on patient perception of treatment. The first is that for many patients who present in a state of chaos, limited time provides an atmosphere of hope and arouses renewed efforts at goal directed behaviour. The subject of patient and therapist expectations was well reviewed by Frank (1968) who concluded that outcome in psychotherapy may be a function of placebo response, and the patient's immediate response to the therapy situation. In addition patient responses to treatment could be enhanced by pretreatment education. Hoehn-Saric *et al.* (1964) devised a role-induction interview which gave instructions about the nature and expectation of therapy and the required role of the participants. Patients who had received this interview improved significantly compared with a control group at the end of brief therapy.

Structuring of therapy in this approach and the provision of concise treatment goals introduces a note of potential controllability into areas where previously chaos reigned. A useful model for understanding this concept in learning theory terms has been provided by Seligman (1975). His thesis is that depression arises as a response to situations where the subject finds himself unable to exert any controlling effect as a result of his own efforts. A state of learned helplessness arises which is accompanied by affective, motivational and cognitive changes seen clinically as depression. A similar explanation applies to anxiety except that the main component is helplessness derived from unpredictable learning experiences rather than uncontrollable ones.

Results of Brief Psychotherapy

Sadly, psychotherapy in general has generated many more hypotheses than proven results. The literature abounds with reports of highly successful treatments, yet remarkably few rigorously organised evaluative studies have been carried out. A good historical review of this controversial area has been written by Malan (1973) who also contributed one of the most useful studies (1963). It was particularly important for its attempt to develop a methodology and for its exhaustive analysis of results. In this study, 21 patients were treated over 3 years by 7 skilled and experienced therapists. All problem areas and treatment goals were defined at the onset of treatment which lasted from 10 to 40 sessions. Follow-up assessments occurred for at least 6 months. Apart from

selection criteria and process variables mentioned earlier, the results suggested '... it is possible to obtain quite far reaching improvements not merely in "symptoms" but also in neurotic behaviour patterns, in patients with relatively extensive and long standing neuroses'. In other words, the results of brief therapy were greater than expected from the time involved in treatment. Benefits tended to spill over into other areas of the patient's function. Another important finding was that outcome was not related to severity or length of illness.

Shlien *et al.* (1962) compared patients treated by client-centred and Adlerian oriented methods in time-limited (20 sessions) and unlimited conditions. The result showed that the time-limited group reported improvement by the seventh session whereas the control group had not reported improvement at that time.

By the end of therapy, the time-limited group reported as much improvement on the experimental measures as the control group reported at 37 sessions. Shlien concluded that brief therapy was more efficient than long-term therapy. The importance of the time factor as the major determinant was confirmed by the similar results achieved for both theoretical approaches.

Comparisons between brief psychotherapy based on dynamic principles and behavioural therapy have generally shown them to be of equal effectiveness. Gelder *et al.* (1967) compared psychotherapy and desensitisation in the treatment of agoraphobia. Patients treated behaviourally improved more rapidly initially but at 2 year follow-up, results were similar for both methods. Sloane *et al.* (1975) compared 94 out-patients with anxiety neurosis or personality disorder who were treated with behaviour therapy or psychoanalytically based therapy. Behaviour therapy patients improved more at 4 months but at 2 years after initial assessment there were no significant differences between the groups in work or social adjustment. Paul's study (1967), however, demonstrated that behaviour therapy was more effective than insight methods in the treatment of monosymptomatic phobia and that the difference was maintained at follow-up. However, his subjects were college student volunteers rather than patients seeking treatment which may distort any comparison with other studies.

Some studies have made comparisons between different modalities of brief psychotherapy. Nicholls (1974) compared a cathartic technique inducing high levels of emotional arousal with a more traditional analytical approach. Each group had an average of 9 treatment sessions. The emotive group improved significantly more than the insight group on measures of behavioural goals and ratings of personal satisfaction. However, some caution should be exercised in applying the results among a group of University Health Service patients to other patient populations.

A major contribution to our knowledge of outcome and process in brief psychotherapy has been made by Frank and his fellow workers at Johns Hopkins University School of Medicine (1974). Some of their findings have been reported earlier. Their studies over 25 years suggested the beneficial results of psychotherapy were the activation of patient's expectations and the learning of social skills. In particular, they investigated the effectiveness of placebo response to improvement and found that improvement curves for

placebo and brief psychotherapy were remarkably similar. In addition, placebo response appeared to be independent of personality characteristics and could vary from time to time in the same individual, suggesting an interaction between the patient's state at a particular time and qualities of the treatment situation. It seems likely that much of the effect of brief psychotherapy depends on so-called non-specific factors (Strupp, 1970).

Some support for this notion was provided by Uhlenhuth and Duncan (1968) whose study suggested improvement occurred in two phases. In the first, patients showed greatest improvement in affective factors and those patients with a higher initial level of depression improved more. In the second phase, all types of symptoms improved and seemed to be related to pretherapy characteristics of patient and therapist.

In summary, the main trend of empirical work in this field suggests that brief psychotherapy is at least as effective as long term psychotherapy in many cases. The implications for future practice and training in psychotherapy seem obvious, particularly in a service which currently lacks facilities and personnel in this area.

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23 Marital Therapies: An Eclectic Approach

Sidney Crown

Marital therapy has established a firm place in the armamentarium of the psychotherapies. Examination candidates for higher qualifications in psychiatry have ceased to behave, when asked about it, as though the marital relationship lies somewhere outside psychiatry. At a theoretical level, marital therapy may be said to have come of age with the publishing of a review of research in the field by Gurman and Kniskern (1977). It is of particular interest that this review will appear in the second edition of Garfield and Bergin's *Handbook of Psychotherapy and Behaviour Change*, possibly the most outstanding textbook of the psychotherapies yet published. Gurman and Kniskern (1977) made an exhaustive and critical review of available studies of improvement rates and showed that, when both spouses are involved, marital therapy produces positive change in about two-thirds of clients. This contrasts with individual therapy for marital problems in which the improvement rate is less than half (48 per cent).

In this communication I would like to outline briefly the major approaches to marital therapy and to suggest that, whatever technique of therapy is adopted, a convincing argument can be made for having regard for basic psychodynamic considerations both in advising a particular therapy or combination of therapies and in their execution. This general approach may not only maximise therapeutic effectiveness, but also diminish the risk, now documented with all forms of psychotherapy, of making clients worse.

Major Theoretical Influences

Contemporary marital therapy utilises four major theoretical influences: psychodynamic theory, learning theory, humanist-existential theory and social systems theory. Brief comment is necessary on each of these.

Psychodynamic Aspects of Marriage

It is not easy to state briefly the essence of the psychodynamic approach to marriage (Dicks, 1967; Crown, 1976a). Two broad factors might be stressed. first, the emphasis on unconscious factors; secondly, the emphasis on complementary needs between partners and their interdigitation.

Unconscious factors are of importance, complexity and considerable controversy. In essence all that is required is to recognise that parts of cognitive, affective, motivational and attitudinal structures are beyond the

threshold of conscious awareness and yet influence our behaviour. The problem has been further complicated by the tendency to reify 'the unconscious' rather than to talk in terms of unaware or non-conscious factors. This seems to me unnecessary and I have detailed the argument elsewhere as applied to psychosomatic relationships (Crown, 1975). However, the term 'unconscious' has become so much a part of everyone's language—including many behaviour therapists—that to try and change it and to use the word 'non-conscious' or 'unaware' leads one to pompous and stilted expression. Most psychodynamic marital therapists, however, would remain uncompromising in suggesting that attention must be paid to unconscious factors in marital, just as in other therapies.

By complementary needs is meant the tendency for people to marry others whose personalities complement their own both at a conscious and often at an unconscious level. At a conscious level a withdrawn man might marry an extroverted woman to act as his social protection and barrier; and at an unconscious level a dependent, submissive man might marry an assertive, independent partner. These combinations can often lead to a healthy marital adjustment. Less healthy would be an example involving a man beset with guilt and the need for self-punishment who married a woman who has her own inner needs for a partner whom she can dominate and punish. This marital constellation is not unusual in relation to alcoholism.

Learning Theories

What is important about learning theory as applied to marital therapy is its emphasis on behaviour, on the antecedents and consequences of behaviour, on the attempt to define rigorously behaviours in a marriage which may have led to marital problems. What follows from this is the development of a number of methods to modify aberrant marital behaviours. The approach is essentially symptomatic rather than dealing with supposed underlying causes particularly when, as with the psychodynamic approach, these causes may implicate the unconscious mind. This is not to say that the modern learning theories do not have a place for cognitive factors interposed between stimulus and response. On the contrary, the learning theory most applicable to psychotherapy, social learning theory, as developed originally by Dollard and Miller (1950) and more recently by Bandura (1969), pays considerable attention to the plans, strategems, attitudes, thoughts and mental sets of the organism. The difference lies in the greater emphasis on behaviour, and on the use of relatively simply defined concepts such as fear as opposed to more abstract entities such as defence mechanisms.

The modification of behaviour as applied to marriages has stimulated a variety of therapeutic approaches. Some of these involve the application of procedures such as desensitisation, or operant conditioning, taken from individual behaviour therapy; more recently, however, a number of approaches have been developed relating to marriages such as contract therapy (Liberman, 1970; Stuart, 1969), sex therapy (Masters and Johnson, 1970; Kaplan, 1974) and social skills training (Argyle, Bryant and Trower, 1974).

Humanist – Existential Theory

The humanist – existential approach lays emphasis on the wholeness and immediacy of human experience and in particular on not attempting to reduce human experience either to supposed inner drives and emotions as in psychoanalysis and related approaches nor to environmentally induced behaviour, as with theories of learning. Individual fulfilment, identity, self-actualisation, emphasis on the here and now of feelings and relationships, doing what 'feels good' or 'feels right', a dislike of intellectualisation and of theory of any sort characterise the humanist – existential approach (see, for example, Bugental, 1967). With regard to marital therapy the humanist – existential approach emphasises that people should be encouraged to work out and 'do their thing' whatever their 'thing' proves to be. The need to constantly develop, change and negotiate the marital relationship is stressed as in the 'open' marriage model formulated by O'Neill and O'Neill (1976) contrasted with the conventional 'closed' model of marriage. While this may be of little relevance to middle- and older age groups, many younger people do come to psychiatrists with coupling problems influenced by some aspects of humanist – existential theory and therapy so that its relevance is to the establishment of a viable therapeutic alliance.

Social Systems Theory

A systems approach has been developed by a number of marital and family therapists (see, for example, Haley, 1963). The systems approach stresses that partners within a marriage, their children and others in the nuclear and extended family live within an intricately balanced psychosocial system in which alterations of one of the parts affects other parts. Thus one member of the family may be *designated* the patient, the under-achiever, the trouble-maker, the sexually dysfunctional. Alteration through therapy which might achieve greater effectiveness on the part of the designated patient may lead to crucial alterations in the relationships with other members of the family or between the partners in a marriage so that the marital or family system is altered and possibly threatened.

The implications of this approach for marital therapy is that potential therapeutic manoeuvres should be considered in the planning stage as well as in the execution of therapy both for their effect on the partners and also on other relevant members of the family particularly children. One aspect of this point of view was developed in an interesting paper by Crisp (1966) in which the wider social repercussions of behavioural interventions were considered.

Marital Problems

Marital problems are basically either of relationship, particularly of communication, or sexual problems. Sometimes these seem to exist in isolation but most often they present together.

Relationship Problems

Quite unrelated to intelligence, social background or general effectiveness in major areas of life such as work, couples, often in long-standing relationships, seem partially or almost entirely out of touch with one another from the point of view of establishing any authentic, meaningful or fulfilling relationship. 'Communication' is of course a vague concept derived from the humanist – existential tradition mentioned earlier. Like so many concepts deriving from this tradition or from the psychodynamic tradition, it is useful clinically but difficult to define operationally. To some extent one accepts a nominal, that is, an accepted but unstated definition. Some behaviourists bring the concept down to earth when they suggest that communication consists simply in adding up how much couples talk to one another. That there is more to it can, however, be seen from the two extremes: one member of a couple might chatter endlessly and score high on a behaviourist marking system and yet communicate no meaningful information to the partner; another person might have long periods of silence, thus scoring low behaviourally, but very high on non-verbal communication.

From a clinical point of view the operations actually involved in marital interaction can be used to evaluate communication between couples. The technique is to ask questions about matters which are of obvious importance in any relationship such as decision-making, finance, spare-time interests, friends, family planning and contraception, religious education of children and so on. Discussion initiated around these topics rapidly not only reveals the quality of the relationship and the communication but also leads on to other areas which may be of importance to a particular couple. An example would be a marital problem presenting because the wife, involved in aspects of the womens' movement, feels she cannot communicate meaningfully with her husband about her having a fulfilling occupation, but feels she might achieve this communication through the intervention of an outside counsellor.

Psychosexual Problems

Psychosexual problems are now conventionally classified into those of sexual dysfunction and sexual deviation. Using conventional notation, sexual dysfunction in the male consists of erectile problems to which the term impotency is now applied; and ejaculatory problems, either premature ejaculation, by far the commonest ejaculatory problem, or delayed or non-ejaculation, both much less common. In the female the sexual problems are of sexual arousal or lack of it including muscular spasm (vaginismus) and dyspareunia (superficial or deep pain on penetration). The other sexual dysfunction in the female is orgasmic incapacity, either primary, the female who has never had an orgasm, or secondary orgasmic dysfunction, that is, in someone who has previously not suffered from this. In addition in both sexes there are problems both of actual and of varying sexual appetite. Also, following intercourse, there are problems which occur because of the relationship between the couple as for example an elaborate washing ritual in a woman immediately after intercourse or the male partner who insists on

sleeping in another bed after love-making. Problems of sexual deviation also present in marriage and have been discussed in detail by the writer elsewhere (Crown, 1976b). The paradox of the sexual deviant is their frequent ability to sustain a loving relationship with a member of the opposite sex so that bisexuality, and the rather rare sexual deviations such as transvestism, transsexuality and exhibitionism may present as marital problems; also complicated problems on the borderline of relationship and sexuality especially the sado-masochistic relationship of the punisher and the punished is a not infrequent psychosexual problem.

Having stated the problem areas it is necessary now to consider the assessment of a marriage, followed by the major types of marital therapy. The thesis of this article suggests two things: first, that psychodynamic considerations are helpful whatever type of marital therapy is primarily relevant; and, secondly, that flexibility—in therapies and therapy combinations, in changes of therapy and other adaptations to the therapeutic problem—is basic to effective, contemporary marital therapy.

Assessing a Marriage

Assessment is a three-stage process: first, a preliminary assessment of one partner, then the other and then a joint interview; secondly assigning the couple to a therapy or therapies; and thirdly building in a flexibility component allowing for modification of the treatment approach if this should prove necessary.

The preliminary assessment should be relatively uncommitted as to the treatment to be offered. It is convenient to interview initially the partner who 'presents'. This may be a self-presentation, or the particular person may have been 'sent' by the partner to get him- or herself 'sorted out'; or a particular member of the marriage may have been pressured to come either by a friend, acquaintance or general medical practitioner. At the end of this interview the reason for seeing the partner should be explained in commonsense terms: if this is a marital problem, both partners must be involved in the treatment. The second interview is then arranged and following this a joint interview.

The joint interview was pioneered in this country by Dicks (1967) and is a powerful technique for revealing the quality and the form of the interaction between the marital partners. At the end of this joint interview I then have a full and honest discussion of all appropriate treatments explaining where necessary what the different treatments involve. The couple should ask any questions they wish and it may then be necessary to have yet another session for the couple to go away and discuss the pros and cons of the various treatment modalities and then make their decision, with the help where necessary from the therapist, about which approach to therapy they feel might help them most.

Types and Combinations of Marital Therapy

The two most widely used marital therapies are psychodynamic marital therapy and behavioural marital therapy. Psychodynamic marital therapy is concerned with causes. The assumption is that once the causes have been discovered through a verbally mediated therapeutic discussion, insight may be achieved and that this combined with working-through or practice (Crown, 1973) will achieve the desired modification in, say, a relationship or a sexual problem. The technique of psychodynamic marital therapy is detailed by Dicks (1967), Crown (1976a), and Schmidt and Lucas (1976). The essential therapeutic intervention is of reflecting problems back to the couple for their further consideration thus altering the couple's attitude, approach and, hopefully, insight into the problem. A second therapeutic strategy is interpretation in which the hypothesised underlying meaning to a problem is put to the couple for their consideration, as, for example, one might interpret the sado-masochistic aspect of a relationship between an alcoholic and his wife. In interpretation a new angle is put on the material which, by definition, the couple has not thought of previously. Occasionally a third type of intervention, confrontation, has to be used in which a couple may, for example, be made aware that the consequences of rigidly entrenched and apparently unmodifiable positions must inevitably be a break-up of their relationship.

The behavioural marital techniques themselves cover a broad spectrum. On the one hand techniques from individual behavioural psychotherapy might be used, for example, conceiving a sexual problem as a sexual phobia and using a technique of systematic desensitisation to treat it. Thus anxiety aroused in a man by the nude vulva may need a programme whereby he might be desensitised to the sight, feel and perhaps smell of this organ. Details of behavioural therapy techniques which are appropriate to marriage problems are discussed by Crowe (1976 and chapter 24) and Mackay (1976).

The second major group of behavioural marital therapies are usually called contract therapies (see, for example, Stuart, 1969; Liberman, 1970). Essentially this approach consists in the systematic recording of aspects of behaviour that one or other partner objects to in the other and 'contracting' through partners offering to alter a unit or units of their behaviour provided the other alters equivalent units of behaviour.

A third important group of techniques which lies theoretically somewhere between the psychodynamic marital therapies and the behavioural marital therapies are usually now called the specific sex therapies. Originally these were pioneered by Masters and Johnson (1970). Simplified details of these techniques can be found in a number of publications (see, for example, Zussman and Zussman, 1976; also see chapter 25, this volume). These techniques all propose a systematic approach to sexual problems. Initially detailed sexual histories are obtained. The second stage involves a general series of exercises—sensate focus—to teach the couple to give and to receive sensual pleasure. In the third stage specific techniques are used for specific sexual dysfunctions, for example the 'squeeze' technique for premature ejaculation.

Psychodynamic Behaviourism or Behavioural Psychodynamics ?

Behavioural marital techniques and sexual therapies may be applied as the sole therapy but they may be more effective if included as part of a therapeutic regimen rather than as the whole, or the only, therapy. The overt suggestion of combining psychodynamic and sexual therapies has been most explicitly developed by Kaplan (1974). This approach involves phasing-in behavioural techniques as and when these are appropriate within the general background of psychodynamic marital discussions.

The combined technique is, in my opinion, extremely powerful. In particular it has two advantages: first behavioural modification techniques if used solely to achieve heterosexual behaviour ignore psychodynamic factors such as, for example, that a woman who marries a bisexual man is usually aware, at some level of consciousness, about this problem before marriage and therefore may be presumed to have an unconscious need to marry such a man. Producing a change in the sexual aspect of this marital relationship, without placing this in the context of ongoing joint psychodynamic discussions, could be very dangerous to the survival of the marriage. Secondly, it is never easy, even with the increased insight produced by psychodynamic marital discussions, to achieve concomitant behavioural change of the common sexual dysfunctions. The addition of specific behavioural modification techniques used within a context of psychodynamic discussions provides greatly increased therapeutic power to help the many marriages that have a combined relationship and a psychosexual problem whether this latter is of sexual dysfunction or sexual deviation.

Other Marital Therapies or No Therapy: The Need for Flexibility

The psychodynamic and behavioural approaches to marital therapy bear the main thrust of this paper. It must not be forgotten in the assessment process, however, that there are many therapies available and that it may be felt, for a variety of reasons, that a couple would be better helped by, for example, discussions based on personal construct therapy (Bannister, 1975), counselling techniques (Newsome, 1976), group marital therapy (Gurman, 1971; Burbank, 1976), one of the several techniques of the humanist-existential therapies such as encounter therapy or Gestalt therapy (Marteau, 1976), or social skills' training (Argyle *et al.*, 1974).

In my opinion both the decision-making regarding type of marital therapy and its execution should include an explicit flexibility factor. This involves explaining that the best possible decision regarding treatment is not necessarily made initially; a treatment added or a treatment subtracted might be appropriate. Psychotherapists who regard themselves as 'psychodynamic', 'behavioural', or 'humanist-existential' become steadily more and more wedded to, and limited to, one form of approach and one form of therapy. A major need in marital therapy is to be flexible.

Finally it should not be forgotten that it may be wise to suggest no

treatment. This may be when there is no true motivation from one partner or even antagonism towards any change; or when a long-standing adjustment has been made to a particular problem. This may arise, for example, when one or both members of a marriage complain verbally about sexual frustration but communicate to the therapist at a non-verbal level that they could not tolerate any change in the *status quo*. Or a marital relationship may be so fragile and vulnerable that any interference might be thought dangerous. There is nothing to be gained from meddling in a complicated relationship and making it worse; far better to be felt to be inadequate by the couple but at least not interfering.

Ethical Considerations

Decisions regarding marital therapy can be particularly agonising when children are involved. I do not believe that psychotherapists practice within a social or ethical vacuum. The ethical implications of psychotherapeutic interventions should be considered, particularly the changes they might produce in people's lives. The ethical implications of psychotherapy are no less compelling than in more dramatic fields such as organ transplantation, or the decision when to turn off a machine artificially ventilating the lungs of an unconscious, electroencephalographically 'dead' patient. These ethical issues regarding psychotherapy are discussed elsewhere (Crown, 1977).

Conclusion

Marital therapy should form part of what every psychiatrist can offer patients. Its background is broad-ranging deriving from the traditions of psychodynamics, learning theory, humanist-existentialism and social systems' concepts. The joint interview is the cornerstone of diagnosis and treatment. While psychodynamic discussion and behavioural modification technique (including specific sex therapies) are the most widely used treatment modalities, flexibility of approach is necessary to maximise therapeutic effectiveness. An understanding of psychodynamic principles is relevant to the selection, and helpful in the effective application, of any marital therapy or combination of therapies.

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24 Behavioural Approaches to Marital and Family Problems

Michael J. Crowe

Among the new areas of psychiatric interest to be tackled by behavioural approaches (Crowe, 1976a) marital and family problems have a special place. Traditionally, behavioural therapies are carried out in the clinic for the individual, and except in a few instances (for example in the treatment of obsessional rituals and the behaviour of autistic children) there is little attempt to restructure the patient's home environment in order to perpetuate the change in behaviour achieved during therapy. In the treatment of marital and family problems, however, important parts of each person's environment, namely his or her spouse, parents and children, are in the clinic at the time of the therapy, and are expected to change their behaviour, just as much as the designated 'patient' changes his, in order to solve the family or marital problem. This change of emphasis is, of course, not unique to behavioural approaches, and as we will see later, many other techniques have been used in marital and family therapy. But the particular interest for behavioural therapists in this area relates to the development of new techniques for changing interpersonal behaviour, and the ways of generalising such changes from the clinic environment to the home environment.

The techniques we shall be reviewing in this article are divisible into two groups: (1) contract therapy, operant-interpersonal therapy and other task-setting techniques; and (2) communication orientated therapy. (The approaches used to treat sexual dysfunction are discussed in chapter 25.) Some other behavioural techniques may be applicable to marital and family problems, for instance bug-in-the-ear techniques to improve mother-child interaction and the use of mothers as the trainers for language acquisition in their autistic children, but as these techniques are more closely related to individual therapy, they will not be discussed in detail.

Differences between Behavioural and Other Approaches to Conjoint Therapy

Behavioural approaches have certain features in common, and many of these features distinguish them from other forms of psychotherapy. They are psychotherapeutic in the broadest sense of the term, in that the aim is to improve the situation complained of by the patient through his interaction

with the therapist, rather than through drugs or physical treatments. They are distinguished from other forms of psychotherapy by a close observation of behaviour, a concentration on problems complained of as the goal for therapy, a general reliance on principles of learning, an empirical approach to innovation, a general tendency to use directive interventions and a commitment to objective evaluation of efficacy. Within the field of marital and family therapy, one can usefully think of a spectrum of approaches, (table 24.1) with

Table 24.1

Schools of family and marital therapy	Styles and duration of intervention
1 Contract Marital Therapy Operant—Interpersonal Treatment (Stuart, Liberman, Turner)	Behavioural Short term
2 Systems Theory/Crisis Intervention (Minuchin, Haley, Jackson)	Systems Medium—short term
3 Communication training Family sculpting (Satir, Ackerman, Bloch, Bowen)	Systems Medium—short term
4 Group-analytic (Skynner)	Analytic thinking Challenge technique Short term
5 Mourning (Paul)	Analytic Short-term
6 Tavistock approach (Dicks, Martin, Williams)	Analytic Fairly long term
7 Analyst-reactors (Wynne, Friedman, Sonne)	Analytic—mostly with schizophrenics— Very long term

behavioural approaches at the most directive, problem-orientated, simplistic end and psychoanalytic approaches at the most reflective, growth-orientated, all-embracing end of the spectrum. In between the two ends are various other approaches which are more or less active, more or less directive and more or less problem orientated, but which have other distinctive features which place them in a complicated pattern in relation to each other. Structural family therapy (Minuchin) for instance is directive, uses some techniques derived from operant conditioning (though unacknowledged by its practitioners) and in addition uses conceptualisations about alliances and social distance between family members, the aim being to achieve a balance which leaves no family member in the 'scapegoat' role. Satir's approach, on the other hand, focuses on communication as the goal of the therapist: by judicious interventions, she 'translates' what has been said by one member of the family so that its implications for another member are altered, and thus attempts to restructure the communication network (Satir, 1964). Skynner (1976) and others

challenge the family by taking sides with one or other member, and thus displaying the fragility of the balance within the family: the balance often alters radically as a result. Some family and marital therapists work extensively on the family's past: members will be sent to interview their aged relatives, to find the source of the problems they suffer from now in the relationships within previous generations: or the family will be asked to enact earlier conflicts in a kind of statuesque way (family sculpting) indicating by their bodily postures and distance from each other their emotional relationships: or the family tree (genogram) will be drawn up in the session with its concomitant catharsis of feelings towards dead or distant relatives: or a process of mourning will take place, initiated by the therapist, for a dead mother or father whose loss is disturbing the family balance.

There is thus a wide variety of approaches to family and marital therapy, and some of the features they have in common will be mentioned in the section on 'process of treatment' (below). We will now focus attention on a detailed description of the various behavioural approaches.

Operant-Interpersonal (Contract) Approach for Couples

Based on the concepts of Thibaut and Kelley (1959) that in social interactions the participants are always striving to achieve maximum 'rewards' for minimum 'costs', Stuart (1969) devised an approach to the treatment of marital and family problems which he called an 'operant-interpersonal' approach. He takes an oversimplified, but nevertheless useful, view of marital problems, with three basic assumptions:

- (1) That, of all the possible alternatives for habitual interaction between marriage partners, the existing one is the most rewarding and the least costly in terms of effort. Thus, if a man spends every evening in the public house drinking and playing darts, despite his wife's disapproval, then the rewards of drinking and dart-playing must be greater than the rewards of staying home, and the cost of drinking, in terms of accepting his wife's disapproval, must be less than the cost (in boredom and frustration perhaps) of staying home.
- (2) That most married people expect a fairly equal sharing of rewards and duties (costs) between the partners; and
- (3) that, in unsuccessful or problematic marriages, this sharing has either reached a very low level, or else is extremely unequal.

In unsuccessful marriages, then, each partner has great difficulty in persuading the other to do what he or she wants: and thus he or she resorts to negative means of control (in the form of nagging, violence, threats, punishment or refusal of cooperation in the sexual relationship). This negative control is designed to make the delinquent partner change his or her ways, the assumption being 'if you stop doing what I am complaining about, I will stop complaining'. However, this type of control has grave disadvantages: it usually occurs well after the event, it makes the complaining spouse socially and physically unattractive, the desired behaviour is carried out grudgingly, if

at all, and such behaviour is unlikely to be repeated spontaneously (cf. Skinnerian operant conditioning principles). The only advantages of the complaining behaviour lie in its relatively low cost, the absence of a necessity for forward planning, the assumption of righteousness on the part of the complainer and the relief of feelings that it carries with it. When other forms of negative control are used, such as sulking, silent periods or absenting oneself, there is an added problem that the interaction breaks down, and cooperation may be entirely lost.

Stuart's remedy for this situation relies on what might be called the 'give-to-get' principle, in which some kind of exchange of positive behaviour is negotiated between the couple. The therapist asks the couple what they would like each other to be doing, and such wishes must be expressed in (or translated by the therapist into) specific, positive and repeatable terms. Thus 'showing more affection' must be specified as (to take an example) 'kissing me before going out in the morning and on his return in the evening'. 'Nagging less often', on the other hand, which is a negative goal, has to be replaced by some such formula as 'listening to what I say for a few minutes, without criticising'. Such goals as 'buying a new washing machine' or 'taking me on a cruise' should be avoided, as the chance of frequent repetition is small; on the other hand 'spending half an hour a week talking about holidays' would be fairly suitable. Other types of specific, repeatable behaviour which could be used might include gardening, cooking meals, house repairs, sexual intercourse, baby-minding, etc. What is expected is that, as a result of the exchange of positive behaviour, the couple become more attractive to each other, and that the whole relationship is improved, to the point that the exchange of rewarding behaviour becomes automatic.

It should be emphasised that the therapist's part in these negotiations is not simply confined to asking the couple what they want. He must be able to empathise with the husband and wife, and judge whether a behavioural goal is acceptable to the partner who is being asked to carry it out. With experience of seeing couples, it is often possible to suggest a helpful task which has not emerged in the direct questioning of the couple, but which could be seen by the doer as practicable and by the receiver as rewarding. It is also quite possible in this approach for the therapist to reinforce desirable behaviour by praise or non-verbal eye contact, or to model for the couple the kind of approach he advocates. Again, some role playing of the specific task in the clinic is sometimes helpful to see if what the husband is going to do during the week (for example greeting his wife in a certain way on return from work) is going to be acceptable to her.

Regarding the practical details of carrying out operant-interpersonal therapy, it is usual, after an initial history-taking session with each partner separately, to see the couple conjointly once a week or once a fortnight for five to ten visits, and to set a number of tasks for them each week. The tasks can be set conveniently on a form such as that shown in figure 24.1. It is usual to set two tasks each at first, and to set tasks which are easy, and therefore likely to be carried out: it may be useful for example to use a piece of behaviour which is already carried out regularly as one of the tasks, so as to ensure an initial 'success'. The tasks for the husband are monitored by the wife and those for

BEHAVIOUR CHECKLIST

Name
Date

	Husband's task (checked by wife)			Wife's task (checked by husband)		
	1.	2.	3.	1.	2.	3.
Mon						
Tues						
Wed						
Thurs						
Fri						
Sat						
Sun						

Figure 24.1

the wife by the husband, in the form of ticks against the relevant task for the relevant day.

It often happens that what seems initially to be a practicable task is not performed, so that the couple return the next week with a blank column where seven ticks should have been placed. At this point the therapist has the difficult decision to make whether to criticise the partner for not doing what he promised, whether to scrap that particular task as being too difficult, or whether to explore, perhaps in a more dynamic direction, the difficulty encountered in carrying out the task. Sometimes it is possible to do all three, but experience shows that a partner who omits to carry out one task is likely to do so again with another, and to be relatively poor at changing his behaviour in a positive direction however easy the task. Here it is sometimes possible to look at the problem from a broader point of view, perhaps bringing in aspects of the relationships with the couples' own parents, or the subtler forms of interaction within the relationship such as refusal to take responsibility, insisting on being one-up or one-down, or difficulty in sharing good feelings.

When, on the other hand, the tasks have been performed, and have been rewarding to both partners, there is usually a general improvement in the marital relationship. The procedure then is either to continue the tasks from the last week, to set new tasks which might be more difficult, or to explore whether this is an appropriate time to deal with other aspects of interaction. A problem that sometimes emerges at such times is a sexual difficulty which could not be approached earlier because of the severe marital misunderstandings or arguments. This is then dealt with as seems appropriate (see chapter 25). In cases where the task-setting is extremely successful, it is often possible to finish the treatment in three to five sessions. In cases where difficulties arise it may be necessary to continue beyond ten sessions and sometimes also to undertake individual supportive or drug therapy for one partner. In the author's experience, it is rare for a couple to do badly in the first three sessions and then succeed later with any combination of different approaches. Whether this means that the marital problem is exceptionally difficult or reflects the effect of the first experience in therapy (good or bad) on subsequent expectations is not clear.

The following *case report* will illustrate the use of operant-interpersonal therapy.

The husband, aged 55, presented initially with impotence. No physical cause had been found by the referring doctor, but he noted in his letter that the wife, aged 51, was 'aggressive and abusive' towards her husband. In fact, the couple's main complaints were not concerned with sex: the husband complained of tiredness and of his wife's criticism, especially in front of the office staff, and the wife complained of quarrels and unhappiness.

At first, the wife was reluctant to enter conjoint therapy, and it took the therapist some time to persuade her to come with her husband 'for his sake'. However, she soon became more co-operative, and explained that her husband had, up to three years before, been a quiet, kind, helpful man, who 'put his family first'. He had then undertaken the direction of a new company (providing night security) to which he had become 'married', and spent many nights working and others receiving phone calls in the early hours. The husband described his wife as a good cook, a hard worker and good mother. When asked what they would like of each other, he asked her to stop nagging and criticising; this was interpreted as: 'listen to what he says in the evenings about work' and 'give him the soft answer in talking about work'. She asked him to 'kiss her goodbye in the mornings' and 'let her know what time he would be home in the evenings' – her tasks were specific enough to be used as they stood. They were also given some instructions for the 'sensate focus' technique of Masters and Johnson (1970) with a ban on intercourse.

The next week they reported that their marriage had been better than at any time in the past three years, with hardly a cross word spoken. The husband reported feeling much more aroused sexually when his wife did not nag him, and in fact they had broken the ban on intercourse on two occasions, with a good erection each time. A new task was negotiated, that the husband would arrange for a new roster at work so as to leave him free on some weekends and some evenings, while his wife would leave the whole question of dealing with the staff to her husband.

Their sexual relationship fluctuated over the ten-session course of treatment, eventually settling down to a mutually satisfactory level. Their marital relationship continued at an excellent level, satisfactory to both, although the wife had some doubts as to the husband's ability to keep up his changed behaviour when they were no longer coming for therapy. Two years later, they continued to be successful sexually, and ironically, the wife's desire began to lessen when she knew her husband could perform adequately. They had some arguments, but these did not reach a very acrimonious level, and they were dealt with in a conciliatory manner. The security firm was running very well, and the wife was making no complaints about it.

Operant-Interpersonal Approach with Families

Less has been published on this approach with families than with couples. Liberman (1970), Friedman (1972) and Stuart *et al.* (1974) have written generally about such approaches to families, and it seems that the initial focus

is usually on the behaviour complained of in the designated patient. For example, a contract might be made between a teenager, who stays out late at night and is uncooperative in the house, and the parents: the sort of tasks might be that the adolescent should complete his homework from school and do simple household chores in return for permission to stay out late on some evenings in the week. The general result of this tactic is to remove the teenager's behaviour from the area of conflict, and to make clearly understood rules of behaviour for both parties. From then on, assuming that the parents and the teenage 'patient' achieve a better contract for their interaction, one might explore the amount of individuality that the adolescent is allowed in the home—are his opinions heard, is he given individual responsibilities, does the family sometimes do what he wants? Here, one is already in a different type of approach, looking at the family system from experience of other family systems, and the wishes of the parents and the adolescent, although taken into consideration, may not be the only basis for task setting. Another factor is the age of the child. Most therapists have an in-built idea of the amount of freedom and responsibility which can safely be given to a child of a given age. Usually this increases with the age of the child, but some families give too much and others too little responsibility, just as some children have too much and others too little confidence in this respect. Again, some kind of negotiated compromise is usually necessary.

In other families, especially those with younger children, the problem may be one of disruptive behaviour, and there the approach of operant conditioning is applied in a rather different way. Usually the parents have 'tried everything' to make the child less naughty—and this usually includes physical punishment, withdrawal of privileges, verbal correction and various 'shaming' procedures. What they have usually omitted to notice is that such children are seeking above all for attention, and that any attention, even in the negative form described above, leads to a repetition of the behaviour which elicited it. The solution to the dilemma is not to react to the behaviour at all, but observe it closely: this is often very difficult for impulsive parents of low intelligence, but a few sessions with the child and a therapist may help to change the parental behaviour. In extreme cases, it may be necessary to use a 'time out' form of procedure, in which the child is placed in an unfurnished room for, say, five minutes each time he misbehaves. But to appear to ignore the behaviour complained of is not enough: the parent must pay more attention to the child when he is playing constructively or doing things the parent values. This is also hard for parents to appreciate at times, but if they can build up new habits of interaction with their children in this way, the behaviour may soon become automatic, and the child's former attention-seeking behaviour will emerge only at times when the parent is tired, depressed, under strain, or in other states of low vigilance and low ability to plan.

The situation is very similar to that in the married couple, where nagging, violence and other negative means of control which are easy, tension-relieving and do not involve planning, have to be replaced by mutual reward, which involves taking more individual responsibility, asking one's spouse for certain favours and then rewarding him or her by favours in return. The stick is, in a word, replaced by the carrot.

Communication-Training Approaches for Couples

Amongst the general rules given later in this chapter for the conduct of family and marital therapy is an insistence on clear communication: the therapist should make sure that messages are understood by the receiver in the sense intended by the sender. Stuart (1969) states that clear communication must be insisted on, but he means this in the sense of partners telling each other clearly and specifically what they want. Other behavioural therapists tackle the communication process in much more detail, and some of the techniques they employ will now be summarised.

Liberman *et al.* (1976) have used a group approach for couples which includes some training sessions for the couples in expressing positive (or at least more acceptable) sentiments to each other, instead of the critical comments they are accustomed to make. They train the couples to respond appropriately to unpredictable outbursts of hostility. There is also an emphasis on the non-verbal aspects of communication, such as loudness and tone of voice, eye contact, facial expression, gestures and posture, all as outlined in their earlier paper (Liberman *et al.*, 1975). The therapists in the group act as models for the group members of 'good' communication, and they also give prompting and feedback to the group members to improve their performance in these communicational tasks. This is of course not the only aspect of Liberman's treatment programme, which includes homework tasks and exchange of 'pleases' as in operant-interpersonal therapy.

A similar group-orientated approach is described by Turner (1972) in which he attempted to vary the make-up of the groups systematically as part of a research project: some groups contained couples, some men only and some women only. The techniques described in detail by Liberman were used, and there was a specific part of each session where couples were asked to report 'successes' from the previous week.

Manipulation of communication patterns using videotape feedback has been reported by Eisler *et al.* (1973). In an experimental design they showed that videotape feedback could increase the non-verbal interaction of married couples (looking at each other) but that this improvement was more marked when instructions to look at each other were combined with the videotape feedback.

A fuller description of the use of videotape for providing feedback is given by Patterson and Hops (1972). They advocate giving the couple a particular problem to solve or question to discuss, recording the interaction on videotape. The tape is then played back to the couple, and the therapist points out where they have shown positive interaction and where negative: the couple are then asked to repeat the exercise, increasing positive interaction.

Perhaps the most technologically advanced form of feedback is described by Thomas *et al.* (1972). They put husband, wife and therapist in separate soundproof boxes, with microphone links between them and a system of coloured light signals for the spouses to use for communication with each other—green for approval and red for disapproval. For the training sessions, the lights function normally, and the husband can signal his approval or disapproval to the wife, and the wife to the husband, referring to what has just

been said. For the assessment sessions, the lights do not function, and the 'red' and 'green' signals are instead fed on to recording tape for later analysis.

The following *case* will illustrate the use of communication-training in marital therapy. The couple were in their early 30s, and they presented with an acknowledged relationship problem, expressed mainly as periods of hostility between them lasting anything between 30 minutes and 3 weeks. His contribution to this was to be over-critical and to demand an unreasonable level of toleration and understanding: hers was to become silent and refuse to tell him what was the matter, 'because that would let him off the hook'. Therapy began with an attempt at operant-interpersonal treatment, and the tasks, which arose from their wishes for each other's behaviour to improve, were for the wife to be very punctual with her cooking when entertaining guests, and for the husband to restrict his spending on vintage wines. In addition, they were asked to sit together for 10 minutes each day, and to talk about sad feelings and happy feelings but not angry feelings: if angry feelings came up in either of them, they should be rephrased as 'hurt'.

The next week, there had been less open hostility or silences, and they had tried to rephrase angry feelings as hurt feelings. She had been especially efficient and sociable at a dinner party they had given, and he had tried to thank her, by saying 'I really want to say in all sincerity that I thought you were a perfect hostess tonight'. She had found this phrase pompous and sententious, and, when asked by the therapist, said she would have preferred to hear something like 'Thanks for tonight'. He found that phrase unacceptable, as it was not clear or specific enough, and a compromise was found in 'Thanks for cooking so well and being so nice to my family'. A discussion followed about the necessity for the transmitter of a message to edit it so as to be acceptable to the receiver, and the receiver to extend his or her area of tolerance to messages. It seemed that she was particularly sensitive to insincerity and he was sensitive to criticism—he had felt wounded when his wife dismissed his first attempt to thank her as pompous.

Over subsequent visits many such interchanges were replayed and rephrased: an incident when their baby-sitter was late and both became angry and blamed each other; an incident when the husband asked their two-year old son whether he wanted his father or mother to get out of bed first, and the son's reply of 'mummy' caused her to resent her husband; and an incident when after a good lunch with friends the husband was reluctant to leave and drive home although the wife was getting anxious about their son being a nuisance. In each case a new form of words was discovered which would avoid the extreme sensitivities of both husband and wife, but could be acceptable to the sender of the message in that it would express the discontent.

In the fifth session, both came with apologies to each other: for the husband's critical remarks to his wife in the previous session and the wife's 'getting stupidly upset' about her husband's earlier infidelities. They were both praised for taking the blame for their own attitudes, and a suggestion emerged that when the wife appeared solemn or kept silent the husband should ask her not what she was angry about but what she was hurt about. The plan of sitting together and discussing feelings was continued.

Further 'sore spots' were identified in the next two sessions: the husband

was sensitive to criticism over his lack of direction in his work situation: the wife was sensitive to criticism over her mothering skills and angry over his untidiness. In one session, he was being excessively critical and she cried, which he did not notice until the therapist pointed it out, whereupon the husband comforted her. Their physical relationship, which had been rather infrequent, also began to be discussed: it was non-existent from session 5 to session 8, but then began again, after an exchange in which both of them were near to tears. At the same session they discussed their habit of going to bed independently, a habit which the husband thought interfered with their sex life. A suggestion was made for simultaneous bed time to be combined with the evening talk-sessions.

After this session, in which the therapist suggested hand-holding in the session and talks each evening with one's head in the other's lap, the relationship moved into a positive phase. They described each other as co-operative and relaxed: he was especially pleased that she expressed loving feelings, and she was pleased at his consideration and the trouble he took to relax their guests. Physical relations were frequent and satisfactory. Occasional quarrels occurred, but were solved without major difficulty. The therapist warned them to be on guard against using their ultimate weapons—verbal criticism by the husband and sulky silence by the wife.

At 6 month's follow-up there was no sign of deterioration.

Communication-Training Approach with Families

A most interesting variant on the communication therapy approach has been initiated by Alexander and Parsons (1973). They worked on the simple theory that in families which produced delinquent sons, there was a tendency for one parent, usually the father, to talk in long monologues, especially when correcting the children. In a controlled trial they demonstrated the superiority of an approach in which the therapist encouraged short verbalisations with frequent interruptions by all family members, which were to be accepted and not resisted by the speaker. A particularly impressive feature of the outcome was the decrease in subsequent convictions among the sons in the treated families. This work, which has some similarities to that of Minuchin (1974) and Haley (1971) (structural approach) is still somewhat experimental, but if it is confirmed in future studies it could rationalise the technique of family therapy in these and other types of family.

The Process of Therapy, and Wider Issues

The approaches to marital, family and sexual problems outlined here all make use of the conjoint interview as the central therapeutic situation, and for some psychiatrists the move from individual to conjoint interviewing is not easy to make. The conjoint interview is a situation in which an ordinary question-answer format, as in history taking and mental state examination, is often inappropriate: it can even intensify the problem, for instance by reinforcing

the family's impression that the person who is the focus of the questions is indeed mentally ill. Equally inappropriate, as a rule, is the group-therapy or psychoanalytic approach of sitting in silence until something emerges which stimulates an interpretation: here the family system may get completely out of hand, and the interaction may intensify to a point where the therapist is unable to make himself heard, or people leave the room, or control is lost in other ways. Another trap for the unwary therapist is the dominating or excessively talkative family member who monopolises his attention to the exclusion of all the others, either with his or her own psychological problems or with the problems of whoever is being presented as the 'patient'.

In other situations, the therapist may get into difficulties, not through the family's approach to him, but through his approach to the family. For instance, in trying to be fair to both sides in a marital problem he may find himself continually coming into conflict with one or other of the spouses who takes such opposition as a sign of rejection or hatred. The therapist may also find that, in trying to impose his view of the family system on the family, he goes too quickly, and unites the family (who believe they are there to help the son with his delinquency, etc.) against the therapist: this will often lead to defaulting. A similar outcome can result from an attempt to change a couple's sexual attitudes too radically, or in an insensitive way.

There are, of course, many solutions proposed for the kinds of procedural problem outlined here. However, some of these solutions seem to be common to most approaches to family and marital therapy, and can be deduced from many different descriptions of approaches to conjoint therapy covering the spectrum from the most behavioural to the most psychoanalytic. (see table 24.1) I have systematised them into a series of ground rules for conjoint therapy, as follows.

- (1) *Insist on clear communication.* This is, of course, implicit in the communication training approach outlined above, but it is also an essential component of therapy directed towards other aspects of family functioning. It is often sufficient to ask other family members if they understood what was just said, and perhaps to ask them to repeat it in their own words. In other cases, it may be necessary to translate what has been said, and again check that it has been understood. The primary aim here is that the clear communication, whether it is of wishes for behaviour or of feelings and opinions, should be carried on into the home situation after the family therapy meeting.
- (2) *Work on relationships rather than individuals.* Families and couples are prone to focus on one individual as the cause of all the difficulty. One can sometimes get out of this by asking all the other family members about their problems, however slight, and then focusing equally on them; or one can ask the other members how the patient's problem upsets them. Either way, attention is taken off the 'patient' who often feels a sense of relief at that point. Other techniques for removing attention from the symptom are by 'prescribing it' (Jackson and Weakland, 1961), or by labelling it as an important form of communication, or by focusing on the humorous side of it. In all these ways, 'scapegoating' of the designated patient is reduced.

- (3) *Balance accommodating and restructuring.* This phrase derives from Minuchin (1974) and means that the previous rule, which is a way of attempting to alter the family's system of interaction, should not be applied too vigorously at first. Thus if, in the first session or two, the family members strongly resist any attempt to focus on anyone but the 'patient', the therapist should go along with this at first, and only when he has got their confidence should he begin the process of putting the problem in terms of family or marital interaction. Postner *et al.* (1971) showed that therapists who interpreted feelings too soon in family therapy had a high rate of defaulters in comparison to those who were more gentle in their initial approach.
- (4) *Take sides judiciously.* The family or marital therapist is rarely seen by both parties to a quarrel or disagreement as being neutral: most often both sides see him as hostile, but do not tell him so. By taking sides intentionally, he can 'throw his weight about' in order to achieve a new balance better than the 'pathological balance' existing because of the problem behaviour.
- (5) *Support anyone you have criticised.* The therapist is often seen by the family or couple as a very powerful person, whose criticisms, however kindly phrased in the form of interpretations, can seem very hurtful. He can even create a new scapegoat by this means. Such an event is less likely if the therapist is careful to work on positive and future behaviour rather than on past, negative behaviour: and in any case criticism should be tempered with support for the person criticised. Skynner (1976) has suggested that you should not knock someone down in family therapy without being prepared to pick him up again!
- (6) *Remain flexible and avoid being 'cornered'.* Some family members who like to have control of situations may try to get control of the therapist: this can lead to a power struggle between that member and the therapist, or it can result in the therapist being neutralised and negotiating with the family on one member's terms. What is important in this sort of situation is for the therapist to avoid starting a battle which he can't win. He may legitimately begin to mobilise opposition to the dominant member from within the family, but he should remember that it is often necessary to back down, change the subject or otherwise escape from awkward exchanges which he cannot handle. An opportunity will normally emerge at a later point to return to the issue, in circumstances more favourable for change. A good technique for the therapist faced with an impossible situation where he is feeling under pressure is for him to say so: or he can express his own confusion, and suggest perhaps that the family is confused, and ask them to help him sort things out.
- (7) *Encourage individual responsibility* within the family (commensurate with age and development). Bowen (1966) has talked of separating individuals from the 'family ego mass', and most types of family and marital work include an attempt, as far as possible, to get each member to take responsibility for himself and not for others. Many family and marital problems revolve round the issues of dependency and over-protection, and those which do not (such as genuine illness in one

- member) may be made worse by such overprotection.
- (8) *Be prepared to change course in response to feedback.* This again applies to most approaches to family therapy. Certainly in sexual dysfunction and marital work the goal may have to be altered quite radically during the course of therapy. In behavioural work it is, of course, important to set goals for each session which are *likely to be achieved*, and to take the family or couple through treatment at a pace they can withstand. Again, it is important to check from time to time whether the family think that the conjoint approach is being fruitful: if they all say 'no' the therapist should reconsider his tactics and if necessary stop treatment.

In family and marital therapy many other issues arise which cannot be discussed in detail here. For instance, the question whether to work alone or with a co-therapist: when to decide that one family member's depression, psychosis, etc., has reached a point at which more traditional treatment is essential: whether to accede to one family member's request for an individual interview: how to intervene when a conflict of interests arises between the designated 'patient' and another family member: how to handle relations with outside agencies such as children's homes: and what to do when a couple who have had conjoint therapy each ask the therapist's aid in the divorce court. Such issues often arise and are by no means trivial, but the discussion of them is beyond the scope of the present article.

Indications for Behavioural Approaches

The prime indication for attempting the behavioural approach for couples and families is good motivation. This may seem self-evident, but it is not always clear what the motivation is at the beginning of therapy. In general, couples or families who are referred with the phrase 'Mr. and Mrs. X have consulted me about their marital/sexual/family problem' are well motivated for conjoint therapy: couples or families who are referred with the phrase: 'Mr. X has had 17 years of treatment for his alcoholism and personality disorder, and we wondered if some marital and family therapy would help' are not well motivated. It is largely a question of attitudes and expectations, and sometimes the second type of referral can lead to good results if the family are persuaded that looking at their interaction can lead to a change in the 'patient's' symptoms. However, in two studies in which the author has been involved (Crowe, 1976b; Crowe *et al.*, 1977) referral by general practitioner direct, and an absence of psychiatric history, have been favourable prognostic factors. The question remains open whether it is the nature of the psychiatric problem, the length of history, or the degree of indoctrination in the sickness model which is the most important factor adversely affecting prognosis.

Regarding more specific problems and their response to family or marital therapy, there is a notable lack of descriptive classification in the area, so that one is forced to use *ad hoc* categories in which to place families or couples. I will restrict myself to a few suggestions as to types of problem which are generally appropriate or inappropriate.

- (1) *Overprotection and dependency.* This can be either way round, with the

husband or the wife being the dependent partner; or it may involve a mother-child or father-child relationship. If there is no specific illness (for example schizophrenia or physical disability) involved, such problems are usually quite rewarding to treat, providing the therapist can persuade the dependent partner to produce some specific wish for the protector to modify his behaviour. However, the therapist is sometimes outmanoeuvred by an admission to hospital in an 'emergency' which restores the status quo. When serious illness is involved, one can still attempt to modify the effects of the illness on the family's dynamics, but with less ambitious goals and perhaps more of a supportive or palliative approach.

- (2) *Marital problems* can present in various forms. The combination of the nagging partner married to the passive partner is relatively amenable to conjoint therapy, especially of a behavioural type, but the therapist must beware of taking the nagging partner's word as law. The 'symmetrical' couple (Dicks, 1967) is characterised by mutual antagonism, recriminations and dependency: here some communication training may be useful in helping them to rephrase their complaints (see above). Morbid jealousy is perhaps a specific type of excessive dependency by the jealous partner and some form of covert rejection by the other: operant-interpersonal and communication approaches are not often useful, but sometimes paradoxical tasks (Minuchin, 1974) or exploration of past family influences can be of help. Marital problems where divorce is threatened and where there are third parties involved seem to be less suitable for treatment; again, the motivation for remaining together and improving the relationship is not clear.
- (3) *Problems presenting in children*. Here, given good parental motivation, problems such as conduct disorder and neurosis usually clear up quite quickly with conjoint therapy. One is then left with a marital problem which can be tackled directly with the parents, or through continued family interviews. It is usually advisable to discuss sexual problems between the parents at interviews which exclude the children.
- (4) *Sexual dysfunction*. Although full discussion of this topic is outside the scope of this chapter, it should be noted that most types of sexual dysfunction are suitable for conjoint therapy, even those presenting with a background of paraplegia, neuropathy or pelvic pathology. A good sexual relationship, even if not sexual intercourse as generally understood, can often be restored given good motivation.

Limitations of Behavioural Approaches

Some of the limitations of conjoint therapy of a behavioural type are implicit in the above statement about indications. Clearly a couple or family who do not carry out tasks will be hard to treat, although some therapists have initiated an ingenious system of forfeits, whereby failure to complete tasks results in loss of money deposited with the therapist. An unexpected limitation emerged in the research work reported above (Crowe, 1976b): operant-

interpersonal treatment was significantly more effective in those of poor educational background than in the well educated, a finding opposite to the well-known limitation of traditional psychotherapy. If this finding is confirmed in future research, it might be explained by a tendency for better educated couples to find the approach too simple—to 'see through it'. Little is known about indications for the communication training approach, but there seems to be, if anything, a bias towards its being more useful for better educated couples.

Another problem with the behavioural approaches is that they take for granted the capacity of the couple to make and keep an agreement with each other to change behaviour. Some couples find it very difficult to relate to each other in this essentially adult way, and use manipulative or game-playing tactics to avoid such a commitment. The therapist can then either interpret what they are doing in transactional or dynamic terms, can set an unavoidable task (such as something they each do regularly already), or can set a paradoxical task such as 'prescribing the symptom'. However, in all three ways he is then moving away from a purely behavioural approach and into an eclectic 'systems' or 'dynamic' approach where the rules for his behaviour are rather different.

A further limitation in the behavioural approach concerns situations in which there is an undoubted conflict which remains unresolved: for example, where a wife has recently lost her mother and has not mourned her loss, and is thus unable temporarily to carry on her marital and sexual life as before. In this and similar situations a behavioural approach may precipitate a crisis when the tasks are not carried out, and force a confrontation with the conflict: but the situation may not be resolved without the wife being helped to adjust to her mother's death.

Various schools of family therapy may insist on mourning as the central therapeutic activity, or make the family members explore their families of origin, or work through the transference problems with the help of the therapist(s). It seems to the author that in some cases these rather time-consuming approaches may be necessary, but it would seem sensible to use the brief and simple behavioural approach as the first option, and only move into other approaches in the minority of cases that do not respond to the simple one.

Outcome Studies

This is not the place for an exhaustive review of outcome research in marital and family therapy. In the field of marital therapy Gurman (1973) and Jacobson and Martin (1976) have provided good reviews of outcome studies, and only some of the more important ones will be mentioned here. Ely (1970) found that 16 hours training in Rogerian techniques in 11 couples improved the expression of feelings, and the ability to clarify each other's expression of feelings, significantly more than in 11 control couples. Hickman (1970) found significantly greater improvements in spouses' attitudes to each other in 10 couples given communication training than in control couples. Azrin *et al.*

(1973) showed than an operant-interpersonal package of treatment based on Stuart's principles produced more improvement in marital adjustment than a period of 'cathartic' counselling (somewhat similar to dynamic marital therapy) given to the same 12 couples just before the operant treatment. Liberman *et al.* (1975) treated 2 groups of 4 and 5 couples respectively with couple group therapy: one group received communication and contract therapy, whereas the other did not. The communication-contract group were superior on one measure, that of interpersonal behaviour in a test situation: otherwise the groups were indistinguishable. The present author has recently completed a study of marital therapy with 42 couples (Crowe, 1976b), in which a directive technique (based on Stuart's approach and some of Masters and Johnson's techniques) was contrasted with an interpretative approach (based on that of Skynner and some systems theory techniques) and a control approach involving non-directive intervention. 14 couples had each approach, for an equivalent time. The directive approach was significantly superior to the control approach on 'target problems', sexual and general adjustment, at the end of treatment and up to 18 months' follow-up, with the interpretative treatment showing intermediate effects.

In the field of family therapy, a review by Wells *et al.* (1972) deals with early studies, only one of which, by Langsley *et al.* (1969) was impressive for its size (300 families) and the controls used. Using brief crisis-orientated family therapy, they prevented hospitalisation in 150 randomly assigned cases, and found that such cases were as well adjusted as the hospitalised cases after treatment, that they returned to work significantly more quickly and were significantly less likely to undergo subsequent hospitalisation. Alexander and Parsons (1973) used short-term communication training (see above) and contracts in the families of delinquents; they showed more improvement in communication in their treated families and a significantly lower rate of re-conviction in the delinquent boys than in control families treated by dynamic or Rogerian family therapy. Stuart *et al.* (1974) have shown that a behavioural contracting procedure with school children and their families was significantly superior on some measures to a control procedure involving free ranging group discussions.

Conclusions

The behavioural approaches to family and marital therapy are relatively new and untried, but in the eight years since Stuart's first article they have been proved to be effective in several controlled trials, and doubtless more such work will be carried out. It can be concluded from the existing controlled work that such approaches have so far proved consistently more effective in the short term than earlier methods: but not many follow-up studies have been carried out, nor have behavioural tasks of the give-to-get variety been contrasted with paradoxical tasks such as prescribing the symptom. There is no doubt that, so far, behavioural approaches have been less sophisticated in theory and in practice than, say, systems or dynamic approaches. This simplicity means that they are not difficult to teach, and are easy to apply: but

it may also lead to important non-behavioural factors being overlooked if the therapist is not prepared to be vigilant and flexible in his approach.

Indications for such treatment are not yet very clear, although, given good motivation, behavioural problems, for instance problems involving sexual dysfunction, overprotection-dependency, mutual expressed hostility and behaviour disorders in children may be expected to respond most readily. Limitations may be found in respect of established psychiatric disease, drug dependency and other problems that are not easily understood in terms of disordered behaviour alone.

Future developments may be expected in the combination of the three major approaches (operant-interpersonal, communication training and sexual dysfunction work) with each other, and with other compatible techniques such as paradoxical task setting, role playing and psychodrama. Group treatment of couples and families may also be explored more extensively.

Clearly there are difficulties involved in psychiatrists making the conceptual leap from the individual to the interpersonal or family model of pathology, but once it has been made, a new form of environmental manipulation for the amelioration of symptoms becomes possible, and it seems to the author that greater familiarity with these approaches can only benefit the practising psychiatrist.

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25 Treatment of Sexual Dysfunctions

Patricia Gillan

An increasing number of patients with sexual dysfunction are requiring treatment, but methods of applying effective treatment for such disorders are being investigated in only a few places. The most effective form of treatment for sexual disorders is based on behaviour therapy and learning theory.

Learning Theory

Three main principles associated with learning theory should be stressed. First, sexual behaviour is learned, usually through trial and error. This means that ignorance of sexual behaviour is quite a common thing as formal 'sex education' is rather a recent innovation and most people are misinformed. Secondly, learning theory stresses that rewards and punishments play an important part in what sort of sexual behaviour is actually learned. Rewarded behaviour will be more reinforced and practised than punished behaviour, which usually will be discarded. Lastly, learning theory stresses the idea of drive and this can vary both in frequency and urgency, some people having more sex drive than others. The theoretical background of such treatment stems from Pavlov's Classical Conditioning and Skinner's Operant Conditioning.

Anxiety Reduction Therapy

1. Wolpe and Systematic Desensitisation

The pioneer of sex therapy who applied learning theory directly to treatment was Wolpe (1958), who is widely recognised for his work on Behaviour Therapy. Wolpe mainly devised an *anxiety reduction* model for the treatment of sexual dysfunction and other forms of anxiety or phobias. Most Wolpeian therapy is based on desensitisation of patients. Initially muscular relaxation is taught and then the patient makes a graded list of his fears; these fears are gradually worked through until he can imagine the most frightening items, but without fear. He is then asked to try this method in 'real life' by attempting to remain calm and relaxed with his partner during foreplay in the bedroom but going only as far as he wants. The moment any anxiety is experienced he is advised to stop. In this way the patient gets nearer towards the goal of sexual intercourse in a relaxed and calm state.

2. Masters and Johnson Therapy for Densensitisation

Although Masters and Johnson (subsequently referred to as M & J) do not term themselves behaviour therapists, their methods are very similar to that of Wolpe. Their therapy consists of a graded series of behavioural recommendations, progressing from simple massage tasks to sexual intercourse at a later stage of treatment. Like Wolpe they ban intercourse initially. Their method is to discuss a specific task with the couple and ask them to try this at home in private. Target behaviours are clearly defined at each stage and communication and attitudes are important between partners. During the programme the tasks are arranged so that anxiety is reduced and sexual behaviour is rewarded.

Initially a massage task referred to as 'sensate focusing' by M & J is suggested. Sensate focusing consists of the couple massaging non-genital areas of their bodies, using a body lotion. The emphasis is upon caring, pleasure, relaxation, communication and feedback. The principle of 'give to get' is discussed because each partner can receive pleasure if the right pressure is provided and care is taken when touching the other partner. Relaxation and touching form the foundation for all stages of treatment.

The next step of treatment is called *Genital sensate focusing* by M & J and is mutual genital touching for pleasure. Patients are asked to avoid striving for orgasms, as these will come when they are ready. Instead they are asked to enjoy touching one another genitally and to try a 'teasing technique' in which they stop touching each other and then start again, repeating this several times. When the couple become sufficiently confident the woman kneels or sits astride her partner who lies flat on his back. She guides his penis into her and takes charge of insertion and initial movements.

3. Additional British Desensitisation Items

If the M & J model is examined in terms of desensitisation some extra bridging tasks might be useful. Many British patients need to be desensitised to massage in the nude and recommendations to turn the light low, or to start off while still wearing some underwear can be made. If they complain about the cold bedroom a warm bath is recommended. The next stage of M & J therapy can present even more problems as many British patients, especially women, do not know how to masturbate and are ignorant about the clitoris. Before mutual genital touching is suggested an initial stage of self-focusing seems logical. Individuals can touch and explore their genitals in private, and invite their partner to be present when they feel confident. Lobitz and LoPiccolo have described nine stages of masturbation and these have proved very effective. Another bridging method stage between manual and vaginal sex is that of oral sex. After 'genital sensate focusing', oral sex can be described to patients. Taking turns in kissing the genitals is recommended rather than mutual kissing which the French call 'soixante neuf' or '69', which is sometimes difficult to achieve simultaneously.

British therapists also describe and discuss the female superior position (FSP) followed by other positions with patients. M & J recommend the 'lateral

position' which is a scissor-like position; rather difficult to achieve easily, but pleasant after practice. The 'man above' or 'missionary position' is recommended only at the end of treatment as it has so often been associated with failure. Many British patients find the 'lateral position' difficult and prefer a rear position in which the woman kneels and the man mounts her from behind, or she lies on her side facing away from her partner, who faces her and inserts from behind. Many couples need education about positions and enjoy experimenting during therapy.

4. Basic Masters & Johnson Principles

M & J therapy is a very intensive type of treatment and takes place on a daily basis. The couple book into a hotel, if they are not resident in the St. Louis area. Critics have suggested that the M & J success rate is so high, because patients have to pay exorbitant sums of money for their treatment, but in fact about a third of the patients do not pay anything for their treatment, and the results of this group are no worse than for the paying group. Motivation has to be good as most of the patients have to wait at least one year and some two years, for their treatment. It has been argued also, that staying in an hotel is rather an artificial background for therapy because it creates a 'honeymoon' atmosphere. Alternatively, it can be argued that treatment under such perfect conditions, where work and family commitments cannot be given as an excuse for failing to carry out their homework, is an advantage.

Another M & J principle is that of a 'same sexed relationship' between patient and therapist supposedly to give a balanced point of view and avoid sexual stimulation. To prepare for this therapy, the female therapist befriends the female patient and the male therapist adopts a supportive role for the male patient. Thus, in an ordinary therapy session for a couple, the seating would be arranged so that the couple would sit opposite the therapist of their own sex maintaining eye contact only with the person of their own sex. But this is an artificial situation for a couple who relate sexually to each other rather than to persons of their own sex, could not be described as a real life situation, and can be criticised as a technique because both male and female therapists have need on other occasions to examine the couple physically, and might not be regarded as impartial.

5. Controlled Studies of 'Anxiety Reduction Therapy'

No study has been done to control for the 'same sexed relationship' between patient and therapist mentioned previously, nor has there been a study to evaluate how such treatment should be spaced. In most European clinics it is just not practicable for patients to be seen on a daily basis, including weekends. Most British sex therapy clinics operate on a once a week, or fortnight, appointment basis. British clinics experience a high 'drop-out' of cases after initial sessions. M & J are very vague about their drop-out rate (table 25.1).

Obler (1973) treated male and female University staff and students more successfully by desensitisation combined with role-playing, than by tradi-

Table 25.1
Treatment outcome: Percentage of improved cases

	Masters and Johnson	Lobitz and Lo Piccolo	Oxford	Maudsley	Mean (%)
Female disorders					
Primary Anorgasmia	83	100		75	86
Secondary Anorgasmia	77	33		90	67
Total Anorgasmia	8	66	72	83	75
Low Drive			77	50	64
Vaginismus	100		75	100	92
Male disorders					
Primary Impotence	59			100	80
Secondary Impotence	74			71	73
Total Impotence	67	66	47	86	77
Premature ejaculation	98	100	55	86	85
Delayed ejaculation	83		80	100	88
Low Drive				66	66

tional group therapy and 'no-treatment' controls. No details are given as to the nature of their sexual problems.

Kockott *et al.* (1973) did not show a significant improvement of desensitisation on 'routine treatment', compared with no treatment, but patients did report less anxiety in sexual situations after treatment. When the unimproved patients were given 'couple therapy' with modified M & J instructions and sex education, eight out of twelve improved. However, this study should be regarded cautiously, because it was not properly controlled.

Crowe (1976) carried out a controlled trial on marital therapy and measured the effectiveness of directive therapy (based on Stuart's contracting and M & J techniques) with an interpretative approach and a control procedure. He found that in terms of sexual adjustment the directive procedure was superior, and this was confirmed at follow-up.

The Oxford research on M & J methods directed by Bancroft (1976) has been reported from which it was established that an ingenious way of controlling for M & J behavioural instructions was to include a 'postal group'; desensitisation with a counselling approach controlled for attitude modification and patient/therapist interaction. There were 12 couples in each group. There was a trend in favour of M & J therapy, but this was not significant. A comparison of therapy given by one or two therapists showed no significant difference, although there was a weak interaction effect (significant at the 10 per cent level) showing that the use of two therapists may have an advantage in the full M & J procedure.

Table 25.1 shows the success rate for American and British clinics—the Maudsley clinic results to be published by Crowe, Czechowicz and Gillan do not include early drop-outs (two sessions only). The Maudsley results include

some psychiatrically disturbed patients and 'improved' covers the range 'highly improved to improved but with a poor prognosis'.

Stimulation Therapy

1. Low Sex Drive

Traditionally, anxiety reduction has been stressed for the treatment of sexual dysfunction. Another method of treatment for impotence and female dysfunction is called Stimulation Therapy and this is a way of increasing sex drive when the patient's libido is low or almost non-existent. One of the commonest referrals for sex therapy is because of drive discrepancy in a relationship; one partner suffering from a low drive, which would not matter if the other partner's sex drive was low also.

2. The 'Stimulation Model' in Masters and Johnson Therapy

M & J therapy could be said to include a stimulation model, since during sensate focusing partners learn to touch each others' bodies and rediscover the sensations of touch, smell and body contact; seeing each other naked and listening for sighs of pleasure, laughter or deep breathing. This learning takes place in pleasurable, non-sexually demanding circumstances in which they stimulate each other to pleasure by the 'give-to-get' principle of satisfying one another sensually.

One of the most powerful ways of increasing drive is to deprive a person of something, but to tempt them with it at the same time. During genital sensate focusing sessions, partners know that they are not allowed to have full sexual intercourse without the consent of their therapist. Consequently, they feel frustrated and their sexual desires are heightened. Sex can be compared with hunger and both can build up after a period of deprivation. The longer one goes without making love, the more eagerly one attempts to set about it. Forbidden fruit is usually very attractive and tempting.

3. Lobitz and LoPiccolo Stimulation Techniques

Lobitz and LoPiccolo's (1972) research on therapy describes a number of techniques to stimulate patients who have sexual problems. Techniques include masturbation, fantasies, the use of erotic books and pictures, and vibrators. Anorgasmic women are taught how to touch themselves genitally and enjoy this activity.

Another technique introduced by them is that of 'orgasmic or positive conditioning' towards the partner, the purpose of which is to channel the pleasurable feelings, so that they become associated with the partner. Just before orgasm the women is asked to vividly imagine her partner and think of him throughout orgasm. On subsequent occasions she is instructed to switch her fantasy or attention to the image of her partner at successively earlier stages until eventually she needs no extra fantasies, and her partner alone can

turn her on. This technique can be used for males or females. Critics should not accuse Lobitz and LoPiccolo of encouraging women to be hooked on masturbation independently of a partner, as the technique involves partner imagery and later partner presence. This technique has proved successful, particularly in cases where couples have started their therapy with negative and hostile feelings towards each other.

4. Stimulation Therapy

Patricia and Richard Gillan have described other ways of increasing sex drive, and these methods have included: teaching patients to appreciate their senses and the quality of their lives; communicating and establishing better contact with people by discerning and expressing their own emotions more clearly, thus becoming more aware of other people's feelings; the use of erotic audio-visual material; the recommendation of films; the development of fantasies.

During Stimulation Therapy erotic pictures can be presented to the patients. These can range from drawings of nudes to Japanese and Indian erotic prints, looking at Alex Comfort's book 'The Joy of Sex' and pictures of sexual intercourse. It is a myth that women cannot be turned on by this type of material; often it is a matter of relaxation and doing away with inhibitions and embarrassment, especially when photographs of genitalia are shown. Disinhibition opens the door to enjoyment and sexual pleasure. Sounds and written material can also be used to disinhibit people, and patients are encouraged to enjoy sex accompanied by an Indian late evening raga or West Indian reggae. There are sex tapes available on the market now and suitable books and magazines.

Stimulation Therapy also includes learning how to fantasise. Most low drive patients have a limited fantasy life and can be taught to further in their imagination what happens to the characters in a story or picture, where a sexual encounter or adventure is portrayed. Therapists can help to shape patients' fantasies. Another way is to take a patient on an imaginary 'guided fantasy trip' and get them to imagine themselves as some historical character seducing somebody. Another powerful method of evoking fantasy is to resurrect fantasies which used to be used in adolescence. Films like Buñuel's *Belle de Jour* and *Emmanuelle* can help to provide food for fantasy. Live sex shows might also help some people who can then see how others make love, become reassured about their own performance, and even create some new techniques for themselves. For patients still unable to fantasise some clinics provide 'Suggested Fantasy Lists'. Nancy Friday has written two books devoted to female fantasies, *Forbidden Flowers* and *My Secret Garden*, both of which are recommended.

5. Controlled Studies of Stimulation Therapy

Lobitz and LoPiccolo's success rate for primary anorgasmia is 100 per cent as all their women became orgasmic, but with secondary anorgasmia only one in three succeeded in treatment, and this was attributed to their poor marital relationships. There was no control group in this study. Men also responded

to the same sort of techniques, which involved a fine if the client failed to carry out his homework. The problem with this research is that so many variables are involved, although results are good.

In 1973 the author reported a study which included presenting erotic stimuli to 10 impotent males. Eight out of ten improved, but these men were also given modified M & J therapy, with relaxation, masturbation and oral sex instructions, so improvement could not be attributed solely to stimulation therapy. In 1974 the author tried to tease out some of the erotic audio-visual variables in her first study by randomly allocating 14 impotent males, 5 low sex drive and 5 anorgasmic females to either an experimental group receiving treatment by auditory or visual stimuli only, or to a relaxation control group which in addition discussed non-sexual topics. After six sessions, results showed no significant difference between visual and auditory stimulation groups, but both were superior to the controls, according to rating scales used to measure the pleasure and frequency of intercourse. Stimulation therapy brought about improvement in 66 per cent of the men and 57 per cent of the women. Further treatment (averaging 10 sessions) for controls and stimulation failure cases showed a 75 per cent improvement, when further stimulation was combined with modified M & J therapy and Lobitz and LoPiccolo masturbation instructions. Women who received further treatment included three patients with primary anorgasmia who all became orgasmic, but one woman with secondary anorgasmia failed to become orgasmic. This was an improvement for the primary anorgasmic cases only. In the study of anorgasmia with stimulation therapy alone none of the women became orgasmic, although women with low sex drive reported improvement. With further treatment 71 per cent of the men became potent.

Asirdas and Beech (1975) have reported the successful outcome for male impotent patients after they were shown erotic slides. This technique is called 'Positive Conditioning' by Asirdas and Beech, but could be called 'Stimulation Therapy'.

Recent group therapy for low sex drive women is proving to be very promising. Couples attend on a weekly or fortnightly basis and so far 10 low sex drive women and their partners have been treated out of which 8 out of 10 have improved. Annon and Robinson (1975) have reported high success rates in Hawaii with the use of video-tape treatment with a waiting list control. Fourteen out of fifteen women increased their frequency of masturbation after viewing videotapes of a therapist and a couple discussing self-stimulation, or masturbation techniques associated with orgasm. Five out of six women who had never masturbated before started doing so after viewing the tapes. Only one woman who had never experienced orgasm before was able to do so solely as a result of viewing the videotapes. Further treatment consisting of specific masturbation instructions resulted in 14 out of 15 women becoming orgasmic.

In the United States Susan McMullen's research on pre-orgasmic women treatment methods shows that written instructions on how to masturbate are just as effective as films.

Specific Dysfunctions in Relation to Ease of Treatment

A. Disorders which are Easily Treated: Vaginismus and Premature Ejaculation

People suffering from these disorders often tend to become partnered. A vicious circle develops because the male ejaculates before entry is possible, and the woman is physically incapable of preparing herself for entry in time. Both situations reinforce the couple negatively and this often results in a breakdown of communication between the two, and attempts at sexual intercourse stop. The common problem is that when the man wants sex he becomes over-excited and this triggers off an orgasm.

A.1. Vaginismus

Vaginismus is a spasm of the muscles surrounding the vaginal introitus, the effect of which is to prevent entry into the vagina. The spasm is not confined to the vaginal inlet but may affect the whole body. During initial examination the physician may well find that he is unable to insert even his finger. In cases of primary vaginismus a repressive sexual upbringing is frequent. Secondary cases may be the result of unpleasant experiences or psychic trauma.

It is an easy disorder to treat (Masters and Johnson report a 100 per cent success rate). Dilators can be given to the patient to insert for several hours when she is relaxed and at home, and her partner can help to insert these graded dilators which increase in size until she is ready for his penis. Parallel therapy can proceed along Masters and Johnson lines.

A.2. Premature ejaculation

This disorder is described as that condition wherein orgasm and ejaculation persistently occur before or immediately after penetration of the female during coitus. M and J consider a man to be a premature ejaculator if he is unable to control his ejaculatory process for a sufficient length of time when in the vagina to satisfy his partner for at least half the occasions of their coital connection. In view of this, it is very unfortunate if he is married to an anorgasmic or a low-drive woman.

M and J stress the high success of the 'squeeze technique' applied usually during genital sensate focusing and then during coitus. Immediately the man gets a half erection his partner can apply the squeeze technique by firmly placing her thumb on his frenulum and her first two fingers on either side of the coronal sulcus. If she feels her hand is not strong enough, she can use both hands to squeeze the penis for several seconds. He loses his desire to ejaculate but sometimes experiences a partial loss of erection. In such event, his partner can stimulate him again and apply the squeeze. Coitus in the female superior position can be very enjoyable and is an ideal position for the 'squeeze technique' to be practised and coitus prolonged. Oral sex stimulation can be a good bridging gap between the penis being touched and placed in the vagina.

The Semans' stop and start technique seems an effective technique as well. Semans suggested that the man should masturbate and then stop, then restart self-stimulation, until he gradually learns to control his responses. Kaplan recommends the man to practise this method with his partner, who can start

and stop stimulating him so that control can be mastered. This method can be practised in three to six sessions.

Annon suggested a third method which could be called 'paradoxical intention' in which the man is asked to ejaculate as quickly as he can. He then rests for a while and resumes sex play, thus delaying the second ejaculation, but normal coitus can take place the second time around.

No one has yet carried out a controlled trial of these techniques. Kaplan, and also, Lorna and Philip Sarrel in the United States, report a high success rate with the stop-start technique. The author suggests that the M & J squeeze technique can be applied initially, but if the man complains that he does not like this method and is uncomfortable with it, the 'stop and start' technique can be applied.

B. Disorders which are Less Easy to Treat

B.1 Primary Anorgasmia

This disorder is easier to treat than most people imagine, as it is a matter of self-exploration and disinhibition. By definition a woman suffering from primary orgasmia has never experienced an orgasm under any condition. American therapists now refer to this condition as 'pre-orgasmia' and this seems a more sympathetic label. It is often discovered that women with this condition have experienced a strict upbringing with a religious, disciplinarian, or strict parental background and, consequently, feel guilty about masturbation. Some women become very anxious about sex and thus inhibit their responses, or repress their sex drive.

Treatment is based on self-focusing and masturbation along the lines of Lobitz and LoPiccolo, with some fantasy shaping, relaxation and pubo-coccygeal muscle training, together with basic modified M & J recommendations for the couple. Vibrators are highly recommended for such women. Asirdas and Beech (1975) at Netherne, treated such women and recommended the use of vibrators. Lobitz and LoPiccolo report a 100 per cent success rate. Patricia Gillan has also shown a 100 per cent success rate when Stimulation Therapy and M & J modified therapy are combined. This method of treating the women seems favourable if specific masturbation instructions are provided. However, M & J (their success rate is 83 per cent) leave out individual masturbation, and suggest that partners should indulge in genital sensate focusing together. It seems that masturbation by the woman on her own who then invites her partner to observe her, acts as a bridging method.

Masturbation groups for treating women without partners have been formed in the United States by Betty Dodson and others, and a high success rate is reported. In the United Kingdom group masturbation treatment is not available. A modified form of this treatment is available for women with their partners, but there is no public masturbation.

There has been no controlled study of bio-energetics or primal scream therapy for pre-orgasmia. It seems to make sense to draw on Wilhelm Reich's ideas which are to groan loudly, breath deeply, move ecstatically, and when orgasm has come, to give full voice while the body spasms take place. Women

can be asked while at home, to simulate orgasm and abandon themselves during sexual intercourse. These methods have one thing in common—encouragement of the loss of control, and this could be the key to the problem. The only snag with this technique is that a soundproofed room is required, otherwise most out-patient clinics would not tolerate this method.

B.2 Delayed Ejaculation

This type of problem in men is very similar to anorgasmia in women. It is also associated with a fear of losing control. Often such men are 'emotionally constipated' and find it difficult to express themselves emotionally. They cannot ejaculate with their partner during coitus. This is an unusual condition.

Treatment involves extra stimulation. The partner can vigorously stimulate the penis and then insert it at the point of orgasm, doing it earlier each time. A well-placed mirror is recommended, so that the man can see the act and become stimulated. It has been found that many people enjoy watching from another vantage point and can fantasise that they are voyeurs. A vibrator usually comes in useful and the frenulum can be stimulated, but 80 cycles a second is the preferred frequency and this is only produced by electric vibrators. Some couples seem to respond to 'bondage' suggestions and Alex Comfort has described this technique in *The Joy of Sex*. Stimulation therapy can be effective for this disorder as can assertion therapy and Wilhelm Reich's techniques.

No controlled treatment trial has been reported, but M & J report a 82 per cent success rate using their programme.

B.3 Secondary Impotence

This is the persistent inability to obtain and/or maintain an erection sufficient to penetrate the vagina and conclude sexual intercourse. This is a very common problem which can happen on an occasional basis, caused by stress, fatigue, or a poor marital relationship. The man might be perfectly potent with another partner. Care should be taken over the diagnosis. Impotence could be due to organic factors also, and it is recognised that patients on tricyclic anti-depressants and other drugs often complain about a loss of libido and poor erections.

If the cause is due to anxiety the patient can be desensitised to the sexual act by relaxation and M & J graded tasks.

The 'teasing technique' (stopping stimulation and then starting again) in M & J therapy can be effective. With this technique the man can be desensitised into actually losing his erection during foreplay and depend on his wife to stimulate him again. M & J stress how 'performance anxiety' can be fatal for erectile problems, and that no man can 'will' an erection. However, some of the latest findings from Raymond Rosen *et al.* in the United States show that penile tumescence can be controlled voluntarily in the absence of external erotic stimulation, by the use of feedback and reward. It should be stressed that this study was carried out on normal male volunteers and not on patients with problems.

If the patient fails to get an erection because of low sex drive a 'stimulation

'therapy course' can be followed. Often in cases the partner has become associated with negative conditioning and failure. In such cases Lobitz and LoPiccolo tasks can be followed, and any fantasy that turns the man on is recommended, but he is instructed to switch to the image of his partner during orgasm. The success rate of this technique is quite high.

British results combining stimulation techniques with modified M & J therapy have been similar to results obtained by M & J who reported a 74 per cent success rate.

C. Difficult Disorders to Treat

C.1 Primary Impotence

In this condition the male has never obtained and maintained an erection sufficient to penetrate his partner and complete coitus, although he may well obtain an erection on his own when masturbating. Such a disorder is rare compared with secondary impotence, and M & J only treated 32 such men compared with 213 secondary impotence cases. Treatment is more difficult than for secondary impotence. Attitudes need to be explored more deeply to establish whether the men with this condition are guilty and anxious about sex. This is frequently the case. Often it is necessary to try systematic desensitisation and also stimulation therapy. It is usually essential to give stimulation therapy very gradually, because of guilt feelings in such men, which cause inhibition and embarrassment. Also, great care must be taken to present the literature and pictures in a 'graded manner', for example to commence with Manet's *Dejeuner sur l'Herbe* with only one nude present. Fantasy shaping is also useful, as is the use of a vibrator during genital sensate focusing. If necessary at all the vibrator is particularly helpful at the time of the FSP or 'woman above position'.

Usually referral to a psychosexual clinic is preferable to help given by the G.P. or general psychiatrist. If clinic attendance is made available the success rate is quite good. M & J report only a 59 per cent success rate, but British results have been higher when M & J techniques have been combined with stimulation therapy, and the Maudsley 100 per cent success rate is probably explained by combining the methods with the use of an 80 c.p.s. electric vibrator.

C.2 Secondary Anorgasmia

Secondary anorgasmia is more difficult to treat than primary anorgasmia. Many women can have an orgasm by direct clitoral stimulation when alone, but not when a partner is present. Some women can have an orgasm with another man but not with their partner. Often in such cases there is a poor marital relationship which needs to be worked on and improved by contract therapy. Positive conditioning may be taught along the Lobitz and LoPiccolo lines, so that the partner becomes a conditioned stimulus and associated as the object of pleasure. Marital disharmony needs to be discussed, and often attitudes evolved because of role conflict can lead to avoidance of sexual contact. These attitudes can be explored by role playing methods, where the

male and female therapists change roles with each other and their patients. It is probably preferable to have co-therapists to treat this problem, and it goes without saying that conjoint therapy is advisable.

This problem is often associated with the clitoral versus vaginal orgasm controversy. Freud did not help matters when he stated that women who only experienced clitoral orgasms were immature. Many women report that stimulation is only adequate if there is direct clitoral manipulation with either the finger or tongue, and that during vaginal containment of the penis there is not enough direct clitoral stimulation to induce a climax. In the past many women have tolerated this by 'lying like logs', or simulating orgasm. Women's Liberation has changed this and now women are taking the initiative more frequently than they did in the past. They are becoming less afraid to ask, without embarrassment, for the sort of stimulation they want. One wonders sometimes if the diagnosis of secondary anorgasmia is correct when submissive women attend the clinics with the stigma of this label, the label often having been given by the male G.P. or the gynaecologist.

Sometimes it is more a matter of the male partner being willing to be more adventurous over stimulation. It is a good idea to discourage striving for simultaneous orgasm and better to encourage the man to accept that his partner may climax first, and for it then to be his turn. Good positions for this are the 'feel free' (woman lies on her back partly to her right side), 'FSP', or rear position.

If a couple accept a situation in which there is direct clitoral stimulation, many women become orgasmic during coitus having received manual stimulation from their partner, or by self-stimulation. Some couples state that they would prefer the sort of orgasm that is produced by indirect stimulation of the clitoris during vaginal containment of the penis. Training to achieve this state can be given in the 'feel free' position in which the woman is lying on her back with her legs over her partner, who is lying sideways. Helen Kaplan has recommended two methods to achieve coital orgasm:

- (1) The penis is inserted after clitoral stimulation has commenced, and vigorous thrusting is recommended when orgasm occurs. Once the woman has come to rely on penile thrusting for orgasm, clitoral stimulation can be ceased at an earlier stage.
- (2) The penis is inserted early on with clitoral stimulation being continued to orgasm. This method also halts clitoral stimulation at an earlier and earlier stage.

Kaplan reports a high success rate. M & J give a success rate of 77 per cent using their method, which includes direct clitoral stimulation at the genital sensate focus stage. The Maudsley 90 per cent rate is high perhaps because one of the methods used in the clinic is that of Marital Contract Therapy.

One method which is being investigated further in London, is the use of a pneumatically linked vibrator. This drives air down a tube connected to a little bag which is glued to the clitoral glans. The bag can be worn during sexual intercourse, and no direct manual stimulation is necessary.

Deviations and Homosexuality

Some male patients are referred to the courts because of deviant behaviour, like Exhibitionism or Paedophilia. More often than not males and females who enjoy fetishes or sado-masochistic behaviour live happily on the right side of the law and rarely need therapy. It is only when one partner needs a sexual stimulus which is unacceptable to the other partner that the trouble begins, and often results in the male being unable to get an erection and the female feeling 'switched off'.

Treatment may consist of incorporating the deviant behaviour into the sexual act. The wife might be asked to wear stockings and suspenders and/or a rubber mackintosh, or the husband may be reconciled to wearing jack boots and/or a karate tunic. Lobitz and LoPiccolo therapy can subtly change stimuli by orgasmic reconditioning in which the less desirable stimulus is faded out as the opposite partner becomes the 'turn on' and socially acceptable stimulus.

When such stimuli are integrated into the sex life of the couple and they have worked also through a modified M & J programme, their sex life is improved. This method is a far cry from aversion therapy which is supposed to stamp out the fetish, but invariably does not because the fetish provides too great a reward. Cases referred by the courts for paedophilia are very difficult to treat.

Homosexual men or women who are married can improve their heterosexual pleasure by the orgasmic reconditioning method, and can learn to enjoy sex with their partner by the modified M & J approach. Sheelah James has carried out a study on homosexuals who are heterophobic, and those who dislike women. She has found aversion therapy to be ineffective compared with systematic desensitisation and, also, that homosexuals who are afraid of women respond well to this method. With results like this it seems sensible to believe that aversion therapy is going out of fashion in favour of orgasmic reconditioning. This preference could be seen as a more humane and much fairer deal for the 'gay' client, for he or she could see what it is like to be bisexual and remain so, or could choose homo- or heterosexuality as a way of life, knowing that their sexual role had been a free choice rather than a choice made by the dictates of society.

The Patient without a Partner

Most clinics prefer to treat patients conjointly with their partners as the prognosis is good for this type of situation. Often, however, patients come alone to the clinic, either because their partner refuses to attend, or because it is inconvenient for them to do so. Another type of patient is one who is separated or divorced. More often single patients, especially single men are referred. Such a patient may never have found a girlfriend and has never had an opportunity for sexual intercourse. Such men might imagine they are sexually abnormal, and they are gauche and shy in the company of women. Female patients with similar problems may also be referred. Usually these patients suffer from 'primary dysfunction'.

The Family Planning Association have provided psychosexual counselling for women attending on their own. Prudence Tunnadine reports that often cases of vaginismus and non-consummation only need a few treatment sessions, based on attitudes and reactions to a vaginal examination by a female doctor.

Several out-patient clinics run 'Social Skills Training Groups' and patients who are ignorant of social behaviour and etiquette can be helped. 'Role playing' can be rehearsed in such a group, and patients can learn how to cope in embarrassing situations, and assert themselves when they wish to. This technique involves a 'modelling' procedure and they can learn by watching others in a 'contrived situation', and later practise tasks outside the clinic.

In some centres of the United States single patients may be helped by employing professional sexual partners, trained appropriately in sex therapy methods, and these are called sexual 'surrogates'. Moral issues are raised by the practice for as surrogates are usually paid, prostitution laws may be violated. In the United Kingdom surrogates are employed in only one centre in Birmingham and the waiting list for this treatment is long. In the United States most surrogates can be found on the West Coast, where sex lessons are also advertised. M & J have abandoned the use of surrogates; they only approved of female surrogates anyway.

One suggestion that can be made to a patient who is afraid of the opposite sex is to obtain some physical contact and become desensitised to being touched, by attending an encounter group &/or a massage parlour.

Often a female sex therapist can initially desensitise a male patient who is anxious in the company of women by discussing the sequence of an anticipated sexual contact, and by rehearsing social situations using the role playing technique.

Treatment results for these types of patient are not easily available. Martin Cole has reported a high success rate for surrogate therapy, or what he called 'partner substitution therapy'. Some N.H.S. clinics report favourably on 'social skills groups' for patients with heterophobia and a number of patients seem to be helped by individual therapists when they are treated on their own.

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26 Community Management of Patients with Chronic Schizophrenia by Behavioural Methods

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Since the advent of the drug regimes which allow us to maintain schizophrenic patients in the community, further needs have developed, namely to enable such patients to regain skills and habits lost during the acute episodes or as a result of a chronic illness, and to learn new behaviours which will aid their adjustment to community living. These patients can be divided into four major categories on the basis of the problems they present to the hospital with regard to their after care. First, a group who respond well to medication and after only relatively short periods of hospitalisation are able to return to their families and their jobs with seemingly no further problems. Usually as long as medication is maintained relapses will be kept to a minimum. Secondly, a group who respond well to medication, although possibly to a more limited degree than the first group, and are left with some residual problems which they manage to cope with themselves with seemingly little, or no, tension, but are unable to hold down a full-time job. There appear to be many women in this group who can manage their housekeeping tasks very well at their own pace but could not cope with the more rigid pressures of employment. Thirdly, there appears to be a group whose response to drug therapy is sufficient to keep them out of hospital, but not sufficient either to damp down all primary symptoms or to allow the patient to cope with attendant secondary behaviours, such as withdrawal and apathy, and so return to pre-illness behaviours and habits. The fourth and last group present similar problems to the third, but either due to very early onset, or a particularly large number of admissions or a continuous stay in hospital, normal skills and behaviours have not been learnt or developed by the patient. The difference between the third and fourth group is that the former has skills and behaviours which need to be recovered, the latter lacks these and needs teaching from the beginning.

With the present 'revolving door' policy of care for mental patients there is an ever growing number of individuals in the community in need of some form of therapy once they have returned to their homes, whether these homes include families or not. The part the environment plays in causing or maintaining 'sick' behaviour has been fully documented elsewhere. Of particular importance is the work on under-stimulation (Brown *et al.*, 1966; Apte, 1968; Wing and Brown, 1970). These studies indicated the error of

assuming that patients living in the community are no longer subject to the ill effects of an 'institutional' environment and are leading a fairly normal stimulating social life. Over-stimulation is also a hazard to be guarded against, its possible effects including withdrawal or exacerbation of psychotic symptoms.

Family influences and environment are deeply implicated in the concepts of under and over-stimulation. Whether the family is central in the aetiology of schizophrenia or not is often irrelevant. By the time a person has been in hospital and returned to his family, relapsed and gone back to hospital and so on and so forth, the problem has almost certainly become a family matter and a cause for family concern. The fact that there are many chronic schizophrenics living in the community who are dependent on elderly relatives has been pointed out by Stevens (1972).

The problems facing the individual on his return home from hospital are numerous and varied. Obviously they will be a matter of individual differences, depending on premorbid personality and problems, the environment to which he returns, the optimism with which he returns and with which his family receive him. Material considerations are also of great importance, but can so easily be overlooked. Overcrowding and financial difficulties are two of the most common problems, and in both situations the tolerance and understanding that might be needed to prevent a relapse may be in short supply. These material needs may dictate the priority with which problems may need to be dealt. It may be more important to get a patient back to work and able to hold down a job than it is to teach him social skills (although these may be implicated in the former problem). Tolerance of deviant behaviour will vary from community to community, and among sub-systems in that community, for example tolerance of deviant behaviour will be different in the family setting than the work situation, or even a general community setting, such as the shops.

The problems which face family and patient can be divided into different categories, which might indicate different approaches to therapy.

- (1) Coping with residue or remaining psychotic symptoms, for example delusions, hallucinations, poor concentration, disturbed thought.
- (2) Work skills—training or retraining for specific job, teaching interview skills, improving concentration, housework skills, child rearing skills.
- (3) Personal skills—maintaining or teaching personal hygiene, daily living activities, reading, writing.
- (4) Social skills—communication, understanding non-verbal communication, conversation skills, communal activities.
- (5) Family problems—living with chronic psychiatric patient, maintenance of sick role behaviour by family, lack of knowledge and understanding.

What the Community has to Offer at Present

The problems outlined above have varying solutions, although the several factors already mentioned would lead most investigators to conclude that

environmental intervention of some form is necessary, together with maintenance drug therapy, for no matter how effective the drug therapy may be, it cannot possibly solve all the problems of resocialisation. To keep the patient in the community and relieve or reduce psychotic symptoms is not enough, be it from patient's, family's or hospital's point of view. The patient must be helped to gain the highest level of functioning, in all spheres, of which he is capable. Community treatment at its best should have comprehensiveness, co-ordination and continuity which is visible to both staff and patients. Ideally a central agency is needed to co-ordinate the various units. A comprehensive therapy and rehabilitation service should be available to the patients in need of community care on a basis that provides for all stages of the problem and has a continuity which deals not only with the patients who are improving, but also with those who cannot cope so well.

Day Hospitals and Day Centres

Day Hospitals allow patients who are fit enough to return to their homes to sleep, while returning to the hospital for most of the day for Occupational Therapy and to learn new skills. They also allow the patient to gradually get used to being at home again and the family to coping with the problems this presents. Hopefully the day hospital will take some of the stress out of this transition.

Most Day centres are orientated to learning skills useful at work and to rehabilitate the patient back to work by being occupied all day. Some industrial contract work is often included in the programme. There is, however, some basic confusion over the roles of the day hospital and the day centres. The day hospital is primarily a treatment unit and provides all the forms of therapy which are available in the hospital, including medical consultation. The day centres provide a form of day care or retraining. These are units independent of the hospitals and provide social and occupational help with only limited medical consultation. They are sometimes (rightly or wrongly) used as a social facility for supporting individuals who are either lonely, inadequate, or have nowhere else to go (Bennett *et al.*, 1972).

The day hospitals and day centres, as well as providing a learning situation are also important in their social aspects. While they allow rehabilitation to continue, they do not remove the patient from his roles in society and his family. They exempt the chronic patient from some social responsibility but hopefully do not lead him into the socially deviant role of an institutionalised psychiatric in-patient. Assessing improvements at only the hospital or centre setting can be misleading. Byrne *et al.* (1974) show that for some patients, particularly those who are more aggressive, behaviour may differ significantly between the home and day centre, and this can be in either direction, that is, less aggressive at home than in the day centre or the reverse.

Industrial Rehabilitation Centres

These are strongly geared to teaching the patient to work full time and to teaching industrial skills. They are most suited to patients who are in need of a

sheltered atmosphere, but otherwise well suited to working. An early review of Industrial Rehabilitation by Wing and his colleagues was optimistic in its findings (Wing *et al.*, 1964).

Later work does not unequivocally support optimism about rehabilitation of this type. Wing *et al.* (1972) in an evaluative study of a rehabilitation course in a combined Day Hospital and Workshop found that the experimental group and the control group did not differ significantly. However, this finding may reflect the complexity of environmental influences rather than lack of effect. Early (1967) found that although industrial rehabilitation introduced an element of realism into the patients' activities, this was in itself not sufficient, and that other forms of social training were also needed. Griffiths' (1974) evaluative study indicates that an industrial rehabilitation programme is unsuccessful in changing patients' attitudes and returning them to an industrial role in society. Of course the financial independence which may be gained by working in an industrial unit is of obvious importance. Although this may vary in specific cases, in itself industrial rehabilitation is not enough to enable a patient to live in the community.

Community Homes and Hostels

These exist in pitifully small numbers. The community homes provide some degree of sheltered accommodation for a variety of ex-psychiatric patients, the hostels take anyone with nowhere else to go. Both these provide places for patients who either have no family, or who, for different reasons do not want to go back to their families, or whose families will not have them back. The responsibility for these was placed on the Local Authority by the Mental Health Act, 1959.

Behaviour Modification and Schizophrenia

Reports of the different community based services leave one with the feeling that more needs to be done, and can be done, to help the chronic psychiatric patient. Much of the skill training that is needed has to be accomplished on an individual basis, catering to the patient's specific problems. It is to this end that behaviour therapy appears most appropriate. Chronic schizophrenics, presenting as they often do a picture of passive, withdrawn submission, would seem likely to benefit particularly from operant techniques and social skills training, either individually or in a group.*

Although there is considerable support of the operant approach in the literature, only gradually is any detailed work being carried out on chronic schizophrenic patients other than in token economies. Particularly for patients living outside mental hospitals, whether with their families or alone, studies are few. Research on social skills training is also less in evidence with a

* As much of the work in these fields is American some criticisms can be levelled at the tendency to generalise from the American 'chronic schizophrenic' to his British counterpart, and care should be taken in establishing, as far as possible, the extent of the patient's disability in any particular study before generalisations can be made (Cooper, 1975).

schizophrenic population than other groups. A further approach, that of the cognitive behavioural procedures, may also be of value, but at present the evidence for using these methods with psychotic patients is minimal.

Operant Approaches to Therapy

In 1939 Myerson and Tillotson were advocating a 'total push' method of treatment for chronic schizophrenic patients. Principle components of the step labelled 'psychologic push' were the use of praise and blame, reward and punishment. Myerson maintained that the last two were the most important part of the programme, and should be used the most. Tillotson reports that all patients improved to a 'greater or lesser extent' and also that the programme proved stimulating to the hospital staff.

Since then the operant approaches of reward and punishment as advanced by Myerson have been shown generally to have success with the schizophrenic population. Much work has been accomplished in this field, both in Britain and America, including the Token Economy (Ayllon and Azrin, 1968; Arann *et al.*, 1974). Most of the results have shown how successful such programmes can be, particularly when used on the notorious 'back wards' with severely withdrawn and institutionalised patients (Mumford *et al.*, 1975), but not all patients in these programmes are successful (Kazdin, 1973). Much useful information could become available from further studies of low-and non-responders. The most frequent reasons given for failure to respond are: practical and/or administrative problems, both in setting up total programmes and in delivering tokens; in un-programmed reinforcement both by other patients and by staff, and failure to first identify effective reinforcers, and then to provide them effectively. (Hall and Baker, 1973; Greenspan, 1974). Behaviours which have been successfully modified include verbal, social and occupational behaviours.

Criticisms of these programmes can be made in that the majority tend to approach the problem as being one which is similar, if not identical, for all chronic patients, and therefore programmes tend to be based on wards rather than on individuals. In the very institutionalised group this might be reasonable, but more emphasis needs to be given to the individual and to developing highly specialised programmes for each patient's specific requirements.

From early work by Lindsey (1956) in modifying simple motor behaviour in chronic schizophrenic patients, on an individual basis, by operant techniques, work has been carried out on specific problem behaviours such as: increasing interpersonal awareness (Ravensborg, 1972), modifying interview responses (Ullmann *et al.*, 1965), increasing speech output in near-mute schizophrenic patients (Wilson, 1966), and coping with eating problems (Ayllon and Azrin, 1968). Both material reward and social reward have been used with success with these patients, although the more institutionalised may need to be started on some form of material reward before moving on to social reinforcement. The most severely regressed or institutionalised may need to be shown

reinforcers and taught their reinforcing properties before a programme can be begun.

Criticism has been levelled at the operant approach to psychotic illness suggesting it does not reach the 'core' problem, therefore the behaviour which has been shown to be modifiable is only that which is encouraged by the hospital environment, such as apathy and withdrawal, or the well known 'secondary symptoms'. The primary psychotic symptoms, it is suggested, are left untreated by these methods. Evidence from various studies is contradictory. Wince *et al.* (1972) using token reinforcement were able to reduce the percentage of delusional speech in chronic paranoid schizophrenics, but Liberman (1968) found paranoid behaviour extremely resistant to treatment. Aylton and Haughton (1964) were able to both increase and decrease symptomatic verbal behaviour using social reinforcement and Richardson *et al.* (1972) were able to treat hallucinations through operant methods. Aylton and Azrin (1968) concluded that non-response of patients was not related to diagnosis. Though not providing a 'cure', operant methods of conditioning may enable patients to function at an optimum level.

A second criticism is concerned with the goals of such programmes. An early review of behaviour modification techniques with adults in an institutional setting (Davison, 1969) concluded that the overall value of behaviour modification in such settings was limited, mainly because operant methods did not seem to aid the ultimate goal of enabling mental patients to live successfully outside the hospital. Such a conclusion would be unlikely today. Increasingly much of the maladaptive behaviour of schizophrenic patients is being shown to be maintained by environmental factors, whether these be under- or over-stimulation, or reinforcing behaviours of family or hospital staff, and such behaviour is therefore susceptible, at least theoretically, to operant approaches to treatment. Of course such work in practice is not easy; much will depend upon the successful identification of reinforcement of behaviour or careful control of antecedents, the participation and enthusiasm of the staff involved, and upon overcoming the problem of the generalisation of behaviour learned and rewarded in the hospital to the community and family environment. A gradual changing of emphasis on to behaviours necessary in the community and to social reinforcements rather than tokens or other material rewards would seem indicated.

Given the present policy with chronic patients of only hospitalising them during acute episodes, it would seem appropriate that some method of intervention should be available which includes the family in the treatment process when the patient is discharged from hospital. Liberman (1972a) attempted to teach parents of disturbed children the basic principles of operant learning and so hoped to avoid the reinstatement of abnormal behaviour when the patient returned home. This was a continuation of a hospital based programme. Other, similar programmes are entirely home based. The families, acting as the 'therapeutic agent' are given varying amounts of information as to the basic principles, and emphasis is put on relatives' inappropriate behaviour as much as the patients'. So far studies in this area are with families of disturbed children, and childhood of young schizophrenic patients (Thomas and Walter, 1973, Cheek *et al.*, 1971).

Although there are still many problems to be overcome in helping families to become their own therapeutic agents there has been some measure of success in these studies.

Social Skills Training

Social skills training is a form of therapy based on learning techniques, whereby individuals who have problems in the area of interpersonal communications can be taught to perform socially. Obviously most chronic schizophrenics fall into this group, either having lost social skills through illness and hospitalisation, never having been able to learn skills through early onset of illness, or behaving in a socially inappropriate way due to psychotic symptoms such as delusions or hallucinations. The first two of these problems are directly amenable to social skills training, and the latter may be improved to some extent by social skills training in combination with other therapies. Social incompetency and social isolation have long been described as important factors in the chronic schizophrenic. Zusman (1967) refers to the Social Breakdown Syndrome as being of great importance in describing both the behaviour and many of the symptoms of psychotic patients. Whether social inadequacy is a precipitating factor in schizophrenia, or a result of the illness itself, there is definitely a need for treatment in this area for many patients.

The majority of studies involved in the various methods of social skills training have been carried out on a neurotic population. Many social skills training programmes are carried out under the title of 'assertive training' (Hersen *et al.*, 1973). Social skills training implies that a wider field of behaviour will be covered than by assertive training, but obviously the type of training needed will vary with the type of patient, and the degree of social handicap. The behaviour considered will range from the most basic of social responses in very withdrawn psychotic patients (Stöffelmayr *et al.*, 1973) to more sophisticated and complex techniques with intelligent, aware, non-assertive individuals (Argyle *et al.*, 1974).

In much of the research emphasis is on determining the most successful of the components of the training method: modelling and imitation, role-playing, rehearsal of both an overt and covert nature, instruction and coaching, and exercises and assignments or homework. The research seems to indicate that all components have their place in training schedules, the relative importance of each varying with other components in the programme (McFall and Twentyman, 1973).

A number of studies have been carried out using assertive training with a schizophrenic population with contradictory results. Bloomfield (1973) reports that assertive training on an out-patient basis was successful both in decreasing social anxiety and in increasing the range of interpersonal skills available to the patients. Other studies report similar results (Weinmann *et al.*, 1972; Meichenbaum and Cameron, 1973). However, Serber and Nelson's (1971) study found no such response from schizophrenic patients to either assertive training or systematic desensitisation to social stimuli.

Role-playing, either as training or as part of psychodrama, has been used with many groups, including schizophrenics. It had proved to be particularly useful with the lower socio-economic group (Riesman, 1964) as has 'Structured Learning Therapy', which contains a good deal of role-playing (Goldstein, 1973). Early work with role-playing suggests several interesting features of possible social inadequacies in chronic schizophrenics. It would seem that such patients have impaired role-taking skills, and are relatively individualistic in their perception of the roles of others (Helfand, 1956). This leads Helfand to suggest the possibility that chronic schizophrenics lack a concept of 'generalised other' and cannot, therefore, respond in the usual way to role-playing as normal subjects can. Harrow (1951) suggests the schizophrenic has an inadequately developed concept of 'social self' and that, therefore, his mode of communication (at least during psychodrama) tends to be 'simple, concrete and private'.

Although therapy in the form of psychodrama with chronic schizophrenics is now little used, some of the above highlighted problems may need to be considered when implementing social skills training. For example as well as teaching individual social skills, it may be that the chronic schizophrenic has to be taught the common stereotypes of social and emotional behaviour, and common stereotypic roles, before such behaviour can be received or expressed in a social setting.

Social behaviour has also been modified using operant reinforcement techniques with chronic patients, speech responses being in particular successfully modified by this method (Wilson, 1966; Liberman, 1972b). King *et al.* (1960) refer to this method as 'operant-interpersonal', and starting by reinforcing still present simple motor behaviour, and gradually introducing more complex psychomotor, verbal and interpersonal components, were able to bring about significant changes in the behaviour of patients of severe deterioration. Stöffelmayr *et al.* (1973) compared operant conditioning methods and social therapy techniques with severely withdrawn chronic schizophrenic patients. They found that significant improvements were made in patients' behaviour in both treatment conditions, but that the token economy regime was superior to social therapy, which had included group discussions on practical matters and current experiences, occupational and industrial therapy and the teaching of self help skills. In very institutionalised patients all attempts at changing behaviour may have to start at this level, but unless one is prepared to painstakingly shape by operant methods all new social behaviour, some sort of social skills training, be it modelling, instruction or rehearsal, would seem indicated. Most social skills or assertive training has been carried out in groups. Reasons given include economical use of therapists' time, reinforcement and feedback from group members, availability of models other than the therapist, and the support of the group and a sharing of similar problems (Fensterheim, 1972). When severely institutionalised individuals, or those with grossly distorted social skills are involved, however, individual therapy might be indicated, either as well as, or instead of, the group.

Depending on the range of behaviours involved social skills training changes its name, from the fairly narrow assertive training to the wider

'personal effectiveness training' of Liberman *et al.* (1975), 'structured learning therapy' of Goldstein (1973) and the 'human relations training' of Johnson *et al.* (1967). The latter has many of the same constituent parts as social skills training. The important primary goal of this, stated directly (and indirectly by most behavioural programmes) is to help the individual patient become his own agent of change. By this is meant that he should be aware, not only of his own behaviour, but also of the behaviour of others, and to know enough about interpersonal exchanges to correctly determine the nature of any interpersonal problems and then to cope with these effectively.

Implications for Community Use

It would appear that both types of behavioural technology have their value in treating chronic schizophrenics. The more extreme the pathology of the patient, the more need there would appear to be to use the operant shaping techniques on their own, at least as a beginning. Some of these procedures can be employed on an out-patient basis, and social skills training with groups of schizophrenic patients would seem particularly appropriate. Interpersonal skills will need to be taught, but so also may job seeking skills and interview techniques. In the long run it will be just as important, if not more so, that a long-term patient who has been unemployed for some considerable time, learns how to cope effectively with the people at the Labour Exchange and so possibly improve his job prospects as to cope with his family. Thomas and Walter (1973) found a 'high degree of effectiveness' of behaviour modification used in an open community setting, the most severe problems being premature termination and inaccessibility of clients. Operant techniques will more likely be successful with individually designed programmes to meet the specific needs and environment of each patient. For patients who are already living in the community with their families, or who are discharged to family care from stays in hospital after acute stages, it would seem appropriate to include at least one family member in the therapeutic programme. (A research programme of such a nature is at present being undertaken at St. Olave's Hospital in London by the author). Areas for behavioural change and treatment goals can then be worked out between patient, therapist and family, and by agreeing to these on a democratic basis, it is hoped that both family and patient will be more motivated to cooperate in the programme than they would if goals were imposed upon them. By this method, it is hoped that the goals selected will be relevant to the setting that the patient finds himself in. Standards to be attained will be modelled on the norms both of the family and the local culture, rather than arbitrary standards set by the therapist. Family circumstances are necessarily also relevant. There is little to be gained in trying to insist that a patient be up by eight o'clock in the morning if the rest of the family rises at ten. Not only is there no one to reinforce the behaviour, but if one insists on a different standard, an individual already looked on as different from the rest of the family, appears even more odd. In the matter of recording behaviour, measures of a patient's functioning are more likely to resemble the true picture when family members, as well as the patient, are

asked to account for how a patient's time is spent, and effective checks can be made on the amount of progress towards a goal. Obviously behaviours that the patient is worried about will come in for modification, but so will things that are a particular problem to the family, but may not worry the patient. For example, the fact that a patient may answer and talk to his 'voices' may not unduly bother the family, but the fact that the same patient does no household chores may be a cause of great irritation. In trying to change maladaptive behaviour on the part of the patient, it will be necessary to show the family how far antecedent behaviour, or reinforcement behaviour maintains the 'sick' role or behaviour. The family must, therefore, be prepared to change its ways of behaving as well as expecting the patient to learn new behaviours. The family's reinforcing behaviour must, in many instances, be transferred from maintaining maladaptive behaviour to improving skills the patient has and helping him learn new ones. The fact that the family's behaviour also has to change can serve as an encouragement to a chronic patient who may otherwise feel that all the problems are his. In some families where there is a very severe degree of family pathology, this process of change might not be possible, or only made possible by including all family members in a form of behavioural family therapy. In less severe cases discussion over the behaviour and/or situation in general may be sufficient, if some agreement can be reached between patient, family members and therapist over what constitutes 'normal' in that situation. In some instances the decision may have to be taken as to whether it is better to help the patient fit in better with a slightly 'odd' family, or to ignore family norms and accept those of the surrounding community. Of importance in this consideration will be, of course, not only the degree and nature of pathology of the family, but the length of time the patient may have to remain with the family and whether he is capable of living away from them. In such circumstances the only solution may be to try to teach the patient two separate forms of behaviour, each appropriate in its own setting. In other cases, usually where the problem is one of apathy and loss of skills rather than overtly maladaptive behaviour, it may only be necessary to involve in the therapy programme the family member who spends most time with the patient.

Clearly programmes will be specific to each patient, but it is probable that most chronic schizophrenic patients will benefit from a programme which teaches them the social skills which they had either forgotten how to use, or were prevented, by illness, from learning. In social skills training, a distinction can be made between social problems (or dealing with groups of people) and interpersonal problems. Of course, an individual may have a problem in either, or in both areas. With chronic schizophrenics, though, more scope is needed than this simple distinction provides. Community skills need to be taught as well. By this is meant normal, everyday habits, both those which are personal and those involved in living in the community. Habits of personal hygiene and clothing need to be of an acceptable standard. This includes not only reasonable standards of cleanliness, but also appropriate clothing. Although a family may tolerate a bizarre appearance it is unlikely that an employer will, so if the patient is looking for work the employers' standards are the appropriate ones rather than those of the family. Chores of daily living

such as shopping, cooking and cleaning, dealing with electricity and gas, budgeting and looking after money are all important, and many patients will need help with these before they can begin to live as a normal family member. This will be even more important if the patient is to live alone. The social aspects of such chores should not be ignored. Making a pot of tea and offering it to the family is as much an important social event as is being able to carry on a conversation. While the more conventional forms of social skills training may best be carried out in groups of either in-patients or out-patients, the latter form of community skills training would seem to indicate family participation. Working with the family ensures that the new behaviours are appropriate in the setting in which they will be used. The cues and reinforcers that maintain the behaviour will be to hand, and so problems of generalisation, which would ordinarily occur with treatment in a clinical setting, will not appear. However, the previously mentioned work of Byrne should not be forgotten and learning may need to take place in more than one setting. The family's co-operation should lessen any fears of rejection of the new behaviour or inhibition about performing it that the patient may have, as they will always have been involved, and they will often be providing both the cues and the reinforcement for the new behaviour.

Some work with families with a schizophrenic member has been completed, although not of a behavioural kind. For example Atkinson (1969) has tried to involve schizophrenics and their families in group sessions. She reports experiencing difficulty in finding families prepared to come to group sessions. These were, however, mainly supportive groups, in which the leader became less and less important, as contact between the families grew. Although support of the families is of importance, it would seem more valuable to combine this with a more structured programme.

Hudson's (1975) pilot study with behavioural work with schizophrenics and their families highlights this difficulty of lack of co-operation, for whatever reason. However, with this problem a behavioural programme may prove to have more success in the long run than non-specific therapies. The families have specific, limited goals set at any time but these goals should form a continuous chain to the ultimate goal. If the subordinate goals are seen to be achieved, both patient and family will be further motivated to continue, although there is always the possibility that limited goals will be settled for. However, where aspects of the family system are areas for change, there may be hostility from the family, who may feel that they are being 'blamed' for the patient's problems. In discharging patients to the community and trying to effect rehabilitation in this setting, there is no guarantee of the stability of the relatives and problems are bound to occur where there are families, either with more than one psychiatric patient, and possibly, more importantly, where either a central family member, or the entire family system is 'odd'. This may be of particular importance where in the light of the eccentric behaviour of another family member the seemingly maladaptive behaviour of the patient is seen as adaptive. A further problem for the therapist is that the working patterns of family members may mean that it is difficult to see them at any time except the evening. Also, if the patient is alone all day there is no check and no reinforcement of behaviour. It may be difficult to identify effective rewards for

both family and patient. It would be hoped that the goal of lessening family burden by rehabilitating the patient would serve as the motivation to begin the programme for the family, but where the patient has been ill for some considerable time all hope may have been lost, and any co-operation will be, at best, half-hearted. Once the programme begins, though, the improving behaviour of the patient may serve to maintain family co-operation.

Finding effective reinforcements for the patient may be equally difficult and so, correspondingly, the maintenance of the programme will be difficult. Social reinforcement should be used wherever possible but in some cases material rewards may need to be introduced, at least as a beginning. Where social behaviour and interaction is being reinstated it is hoped that in time this will be sufficiently rewarding in its own right. Thus a patient only continues with household chores because her cigarette ration depends on these, but the ultimate pleasure in going to the cinema with her husband is its own reward.

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SECTION 5

PHYSICAL TREATMENTS

27 A Contemporary View of Psychosurgery

Paul K. Bridges

Definitions of psychosurgery frequently mention the main aim as that of controlling behaviour. This is incorrect. The primary intention should be to treat major psychiatric illnesses and it is only where such illnesses are associated with disturbed behaviour, as with some cases of schizophrenia, for example, that behaviour will be significantly affected if the underlying illness responds to psychosurgical treatment. The control of abnormal aggressiveness is rather different, but even then it can be argued that surgical treatment for aggression is only appropriate when a psychiatric or neurological illness is present and this aspect is considered again later. Bridges and Bartlett (1977) define contemporary psychosurgery as: the surgical treatment of certain psychiatric illnesses by means of localised lesions placed in specific cerebral sites.

Historical Background

It is part of the history of medicine that damage to the frontal lobes is likely to produce changes in personality, although the more precise delineation of cerebral localisation of function is comparatively recent. The distinguished neurophysiologist, John Fulton, who played more than one decisive role in the development of psychosurgery, as we shall see, felt that the first useful clinical observation was by Robert Boyle in 1691 (Fulton, 1951). Boyle described a horseman who, having been thrown, suffered a combined sensory and motor paralysis on one side of his body. He had sustained a depressed fracture with a large piece of bone pressing into the brain, and when it was removed the patient recovered not only motor power and sensory perception, he also 'recovered his spirits'. Fulton commented that 'Few have made reference to this remarkable case history, but I believe it stands as a landmark in the history of functional localisation in the human brain—one of those extraordinarily prescient observations that might have led to the discovery of the motor area nearly 200 years before it was in fact recognised'.

The case of Phineas P. Gage was reported by his surgeon, J. M. Harlow in 1848 (Harlow, 1848). On 13th September 1848 at 4.30 p.m. Phineas Gage, 25 years of age and of 'vigorous physical organisation, temperate habits and possessing energy of character' was engaged in building a railway. He was preparing for blasting and had filled a hole with explosive. He was in the act of tamping it with an iron when the powder exploded driving the iron through the left cheek and out at the top of the head (figure 27.1). The patient lost

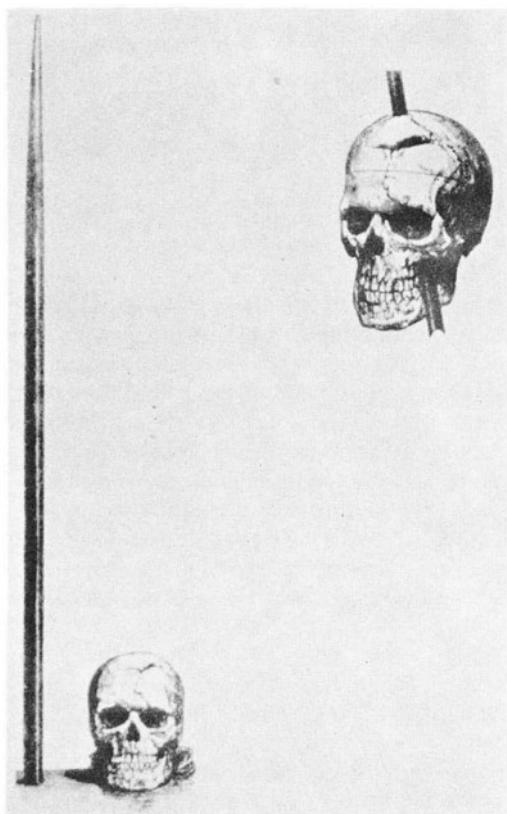


Figure 27.1 Harlow's drawing of the skull of Phineas Gage with the relative size of the tamping iron

consciousness for only a few minutes and recognised Harlow on his arrival over an hour later when the latter pointed out that 'the picture presented was, to one unaccustomed to military surgery, truly terrific; but the patient bore his sufferings with the most heroic firmness'. The wound was dressed and the subsequent progress of Gage was described in detail by Harlow (1868). The patient suffered relatively little physical disability but his mental state was altered. The clinical situation was described thus:

his contractors, who regarded him as the most efficient and capable foreman in their employ previous to his injury, considered the change in his mind so marked that they could not give him his place again. The equilibrium or balance so to speak, between his intellectual faculties and animal propensities, seems to have been destroyed. He is fitful, irreverent, indulging at times in the grossest profanity (which was not previously his custom), manifesting but little deference for his fellows, impatient of restraint or advice when it conflicted with his desires, and at times pertinaciously obstinate, yet capricious and vacillating, devising many plans of future operation, which

are no sooner arranged than they are abandoned in turn for others appearing more feasible. A child in his intellectual capacity and manifestations, he has the animal passions of a strong man. Previous to his injury, though untrained in the schools he possessed a well-balanced mind, and was looked upon by those who knew him as a shrewd, smart business man, very energetic and persistent in executing all his plans of operation. In this regard his mind was radically changed, so decidedly that his friends and acquaintances said he was "no longer Gage".

His first epileptic fit occurred in 1861, and he died three months later in status epilepticus; twelve years, six months and eight days following the injury.

For historical context it should be noted that the first operation to remove a brain tumour was performed in 1884 by Sir Rickman Godlee at what is now Maida Vale Hospital. Curiously enough, psychosurgery was not far behind, for the intrepid Dr. Gottlieb Burckhardt, Superintendent of the Insane Asylum at Prefargier in Switzerland, carried out the first, crude attempts which he reported in 1891. He removed 6 g portions of the cerebral cortex from six disturbed psychotic patients at several operations. He acknowledged the importance to him of the earlier work of Goltz (1874), who studied the effects on behaviour of lesions of the cerebral cortex in dogs, and also of the pioneering human brain surgery of Sir Victor Horsley at University College Hospital, London. Burckhardt's rationale was that,

if we could remove the exciting impulses from the brain mechanism, the patient might be transformed from a disturbed to a quiet dement . . .

on the basis that

. . . should excitement and impulsivity arise in our patients because of stimuli in above normal quantity originating in the sensory areas into the motor zone frequently and strongly, an improvement can only be brought about by inserting a resistance between both.

The results were not encouraging for, although one patient made a social recovery, this individual subsequently drowned in uncertain circumstances. One other patient died and two suffered convulsions. Burckhardt concluded:

I would not allow myself to become discouraged, and hope that my colleagues will none the less, while utilising my experience, themselves tread the path of cortical extirpation with ever better and more satisfactory results' (Translation by Valenstein, 1973).

Puusepp in St Petersburg knew of Burckhardt's work and carried out some operations in 1910 which he did not report until 1937:

'In 1910 I carried out three operations in cases of mental disorder, mostly manic-depressive cases and psychic equivalents of epileptics. The operation consisted of the transection of the association fibres . . . between the frontal and parietal lobes . . . It must be admitted that the success of the operation was only slight so I did not carry out any further operations of this character.' (Translation, Freeman and Watts, 1942)

However, some 25 years later, following Moniz, he performed some prefrontal leucotomies.

Leaving aside these limited early attempts, psychosurgery really began at the International Neurological Congress held in London in 1935. A paper was presented by Fulton and Jacobsen, who had obtained two tame chimpanzees from a Dr Long of which Fulton (1948) described one as:

'a very affectionate animal (Becky) and the other a crotchety old maid who had resisted Dr Long's advances for some three years.'

and this was Lucy. These animals presented an opportunity for frontal lobe studies and the frontal association areas were removed, one side at a time. The areas involved were 9, 10, 11 and 12 in the Brodmann scheme. No changes were apparent until both sides had been operated on, then, again to quote Fulton (1948):

'... it was evident that a profound change had occurred, for prior to the second operation both animals showed frustrational behaviour, i.e. when unrewarded after having made the wrong choice in the discrimination test or in the delayed reaction procedure, both animals had temper tantrums and, if unrewarded many times in succession signs of experimental neurosis became apparent. Following the second operation the animals seemed devoid of emotional expression. If a wrong choice were made, the animal shrugged its shoulders and went on doing something else—as Jacobsen said picturesquely,

"it was as if the animal had joined the happiness cult of the Elder Micheaux and had placed its burdens in the Lord . . ."

Following the paper . . . Dr Egas Moniz of Lisbon arose and put the question that if frontal lobe removal prevents the development of experimental neurosis in animals and eliminates frustrational behaviour, why would it not be feasible to relieve anxiety states in man by surgical means? At the time I was a little startled by the question for I had envisaged a bilateral lobectomy which, though possible, would be a very formidable undertaking in a human being. Dr Moniz . . . had other ideas and within a year he had developed his leucotome, carried out leucotomies on some 50 cases and published a book on the subject.'

This rather anthropomorphic paper shows that psychosurgery was apparently originally conceived with the aim of treating neurosis and emotional over-responsiveness by means of a blunting effect. It is therefore worth interpolating now that this is not the case with contemporary operations, where normal emotional experience is preserved.

Moniz was Professor of Neurology at Lisbon and pioneered cerebral angiography. He had many talents: he was an historian, a literary critic and he wrote an operetta. He was an active politician and served in the Portuguese parliament, subsequently becoming an ambassador.

With his neurosurgical colleague, Almeida Lima, Moniz carried out the first operation on 12 November 1935. The lesion was then produced by injections of alcohol but shortly afterwards the technique came to involve the cutting of three cores out of the frontal cortex bilaterally by means of a specially



Figure 27.2 Moniz's leucotome

designed leucotome (figure 27.2). He reported his work in 1936 and carried out rather less than 100 operations altogether since he was in favour of waiting for long-term results before proceeding on a larger scale. Furthermore, Moniz tragically was rendered hemiplegic with a bullet in his spine following an assault by a lobotomised psychotic patient. In 1949, Moniz received the Nobel Prize (with Walter Hess) 'for his discovery of the therapeutic value of leucotomy in certain psychoses'. Even at this very early stage, Moniz had reported that results were better with depression than with schizophrenia and the Nobel citation mentioned that:

'as was expected, the results are best for the non-schizophrenic groups, that is to say, among those suffering from depression, obsessive neurosis, and the like . . .'

As we shall see, it is only comparatively recently that this perceptive early observation has been fully clinically appreciated.

Standard Prefrontal Leucotomy

Moniz was the initiator but the neurologist Walter Freeman and his neurosurgical colleague James Watts were his enthusiastic followers and it is their modification of the original operation that swept the Western World. Although Moniz had first used the term, 'standard prefrontal lobotomy', this became the name of the procedure associated with Freeman and Watts who began operating on psychiatric cases, at first using the technique of Moniz, in September 1936. They soon after proposed their own operation, illustrated in figure 27.3. A blunt knife was swept in a coronal plane through a temporal or lateral approach, the point of entry for which was described with some accuracy, although it is known that, even when the described technique was followed closely there was wide variation in the lesion actually produced in the brain. More posterior placement caused a greater chance of ill-effects, which included prolonged incontinence, convulsions and major personality change—usually highly disinhibited behaviour or withdrawn and 'vegetable-like' states. The operation and subsequent results were published by Freeman and Watts (1942, 1950). This standard operation and its variations, which were later described by Greenblatt (1950) and Linford Rees (1973), came to be very widely used.

It has been suggested that perhaps 50 000 were carried out in North

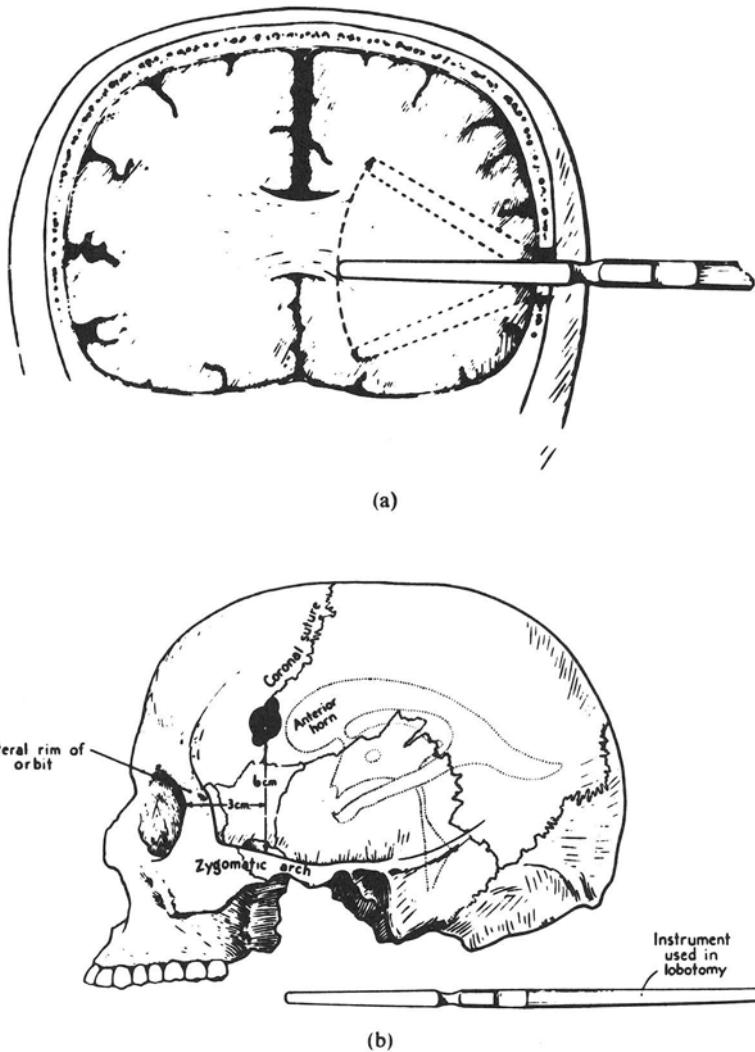


Figure 27.3 Standard prefrontal leucotomy (site of burr hole and coronal section)

America and over 10 000 are known to have been performed in Great Britain. There were many reviews of the effects of psychosurgery, the general inadequacy of which has been stressed by Robin and MacDonald (1975). An important study, which may be regarded as representative, was carried out by Tooth and Newton (1961, who reviewed 10 365 cases operated on in the ten years from 1942. Of these patients some two-thirds were schizophrenic and about one-quarter had affective illnesses. Table 27.1 gives a summary of the results from this report and it can be seen that the patients with depression did

Table 27.1
Approximate comparisons of the results and side-effects of various psychosurgical operations

	Standard prefrontal (Tooth and Newton, 1961)	Bimedial (Birley, 1964)	Orbital undercut (Sykes and Tredgold, 1964)	Stereotactic tracotomy (Ström-Olsen and Carlisle, 1971)	Limbic Leucotomy (Mitchell, Heggs <i>et al.</i> , 1976)
<i>n</i> =	10365	92	350	210	208
Good response for:					
depression	50%	50%	69%	56%	56%
anxiety	—	—	44%	41%	63%
obsessional neurosis	—	75%	30%	50%	50%
schizophrenia	18%	—	31% (d)	0	0
Effects on the personality (see notes)	3.1% (a)	6.9% (c)	5% (e)	2.6% (g)	7% (h)
Fits	1.3% (b)	1%	16% (f)	1%	2%
Deaths	0.3%	0	1.5%	0	one patient (i)
(a)	Severe enough to prevent discharge				(h) 'Not socially disabling'
(b)	Persisting at time of review				(i) One patient in the whole series of over 800 operations so far carried out
(c)	'Quite severe changes'				(j) Improvement ratings I and II only, to make for comparison with other reports (Published as I, II and III)
(d)	4 of 13				(k) 4 of 7
(e)	'Incapacity produced by multiple behaviour changes'				
(f)	'One or more fits'				
(g)	'Moderate and lasting sequelae'				

much better than the schizophrenics, as noted from the beginning by Moniz. With regard to side-effects, the incidence of fits is reported only for 'epilepsy persisting at the time of survey or at death' so there must have been a higher incidence of episodes of fits of shorter duration and it was noted that 'transient attacks soon after operation, were relatively common'. Three per cent of the patients suffered personality change severe enough to prevent their discharge from hospital so, again, severe sequelae, but somewhat less profound, must have been more common.

A group of prospective studies especially worth mentioning are the Columbia-Greystones projects (Mettler, 1949, 1952). These were valiant attempts to assess the efficacy of psychosurgery, using controls. But the number of cases turned out to be rather few, especially in relation to the enormously complex system of assessment, compounded by the unfortunate inclusion of different types of operation in the second project, so they did not prove convincing either way.

The enthusiasm for prefrontal leucotomy appears to have lost control of itself and finally Watts, understandably, terminated his association with Freeman when the latter advocated a lesion produced through the roof of the orbit, performed rapidly after two applications of unmodified electro-convulsive therapy, with a short interval, to act as anaesthetic (Freeman, 1948; 1971). Freeman published a long-term review of 415 of his cases as recently as 1971.

At this point two important aspects should be noted. The operation was observed from the very beginning to be more effective for depression than schizophrenia but it was much more used for the latter condition. Robin and MacDonald (1975, p. 83) find it surprising that this operation should have been used on so many schizophrenic patients when the subsequent statistics showed that it had lesser value. The answer is not obscure, it is that schizophrenia was of course in those days usually characterised by considerable personal distress, severe behaviour disturbance and chronicity. So in the past, when there were no other effective treatments available, the finding that as many as 18 per cent of schizophrenic patients recovered or nearly so with the operation offered hope that was then unobtainable by any other means. Of course, the advent of chlorpromazine in the 1950s virtually precluded the further need for psychosurgery in schizophrenia and we tend to misjudge the use of psychosurgery in the past, in the context of having potent drugs available as we do now.

Tooth and Newton (1961) pointed out that:

up to 1955 leucotomy for most patients was the last therapeutic resort beyond which lay a future with almost no hope of recovery and with considerable suffering. The results of the survey should be looked at against this contemporary background . . . in some cases relief from suffering has been bought at the price of accepting a level of existence qualitatively different from and usually below that which the patient enjoyed before the onset of his illness. This kind of bargain has often to be struck in medical practice, for example, the decision to amputate or establish a permanent colostomy . . .

That was the grim clinical realism needed then.

So in historical context standard leucotomy was then a more valuable treatment than it now appears, although it was probably over-used and its precise indications were not clarified. With the advent of the phenothiazines, standard prefrontal leucotomy was no longer needed and, moreover, improved psychosurgical modifications were coming into use at this time.

The direction that modifications should take was indicated by Fulton himself in his book, published in 1951. He reviewed the whole subject of leucotomy together with relevant aspects of neurophysiology, behavioural studies in animals, and psychiatric outcome in relation to the nature of the lesion produced. He finished with observations of considerable importance:

In conclusion it may be said that surgical intervention for the relief of otherwise hopeless psychoses has proved a most efficacious therapeutic tool. Unfortunately, in the early stages of the development of the operation it was used empirically without regard for the basic physiology of this part of the brain. Within the past three years there have been two notable developments: (i) the use of a more restricted operation, and (ii) adaptation of the operation to the nature of the mental illness . . .

In the light of the information which we now possess, I believe that radical lobotomy as carried out by Freeman and Watts . . . should be abandoned in favour of a more restricted lesion and that section of the medial ventral quadrant by electrocoagulation as recommended by Grantham appears to have advantages that make it superior to any other approach. This technique can no doubt be made applicable to the cingulate and will probably replace surgical resection of this part of the mesopallium.

This was a statement of remarkable foresight because it accurately described the course psychosurgery was to take over the next twenty years.

Modified Leucotomies

Some attempts with unilateral operations were carried out. Lyerley *et al.* (1941) reported four cases who had such operations with good results. However, most other writers found that both sides had to be operated on before a decisive result became apparent. This was in accord with Fulton's original findings which showed that there were no effects on the chimpanzees if the frontal association area on only one side was removed, yet obvious changes occurred after operation on the other side as well.

Fulton was led to recommend concentration on the ventromedial quadrant of the frontal lobe by several papers. McLardy and Meyer (1949) and Meyer and McLardy (1949) studied the brains of 95 cases who died after having had leucotomies, and they reached the conclusion that the medial frontal segment of white matter appeared to be the most effective therapeutic target. This was also mentioned by Denny-Brown (1951), who suggested the importance of the ventral fibres of the medial segment which carry impulses to and from the orbital surface. Independently, Grantham (1951), whose work was stressed by Fulton (1951), reported that operations limited to the medial (both upper and

lower) parts of the frontal lobe were effective for the relief of intractable pain. This led to the bimedial leucotomy, with an entry from the vertex and a vertical lesion restricted to a medial 2 cm of tissue (figure 27.4). This technique was shown to be superior to the traditional prefrontal operation (Greenblatt and Solomon, 1952). The results from a representative report of this operation by Birley (1964) are given in table 27.1. He studied 106 patients and found that half of those with depression did well and for obsessional neurosis it was as high as 75 per cent, but there were 'disabling effects' on the personality in 6.5 per cent. Post *et al.* (1968) reported that 69 per cent of patients were immediately relieved of their most severe symptoms but there were 'lasting and troublesome' or 'seriously disabling' effects in one-fifth of the cases. There have been other reports, including control groups, by Marks *et al.* (1966) and by Tan *et al.* (1971).

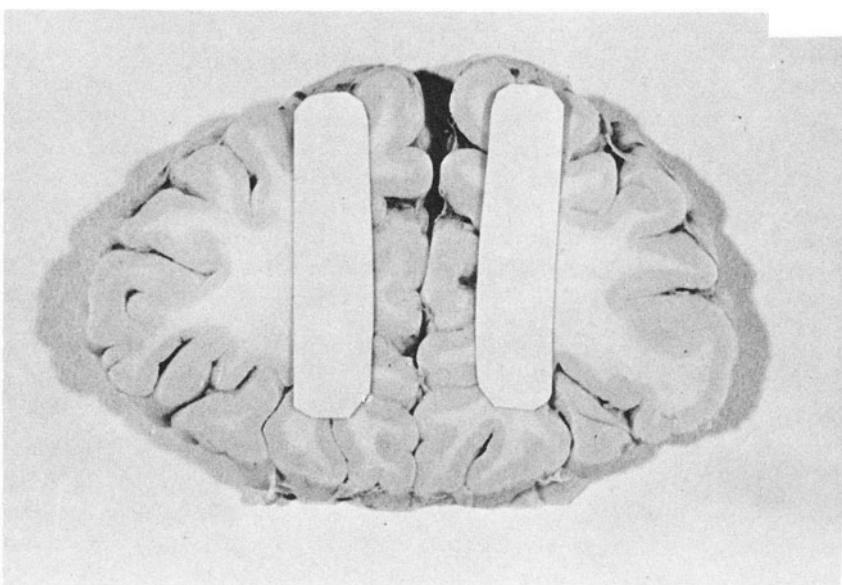


Figure 27.4 Site of bimedial leucotomy (coronal section)

Scoville (1949) carried out selective cortical undercutting operations as a means of what he called in the title of his paper, 'modifying and studying frontal lobe function in man'. He selected three areas—'partial Brodmann's areas 9 and 10', the orbital surfaces ('chosen because of their obvious importance in animal experimental work') and the cingulate gyrus. His operation in the orbital area of the frontal lobe involved an anterior entry with a lesion sweeping horizontally from side to side on each side of the mid-line (figure 27.5). This operation was subsequently modified by Knight (1964) who suggested a similar technique but with a restricted lesion 2 cm wide on each side a little distance laterally from the midline extending to 6 cm from the

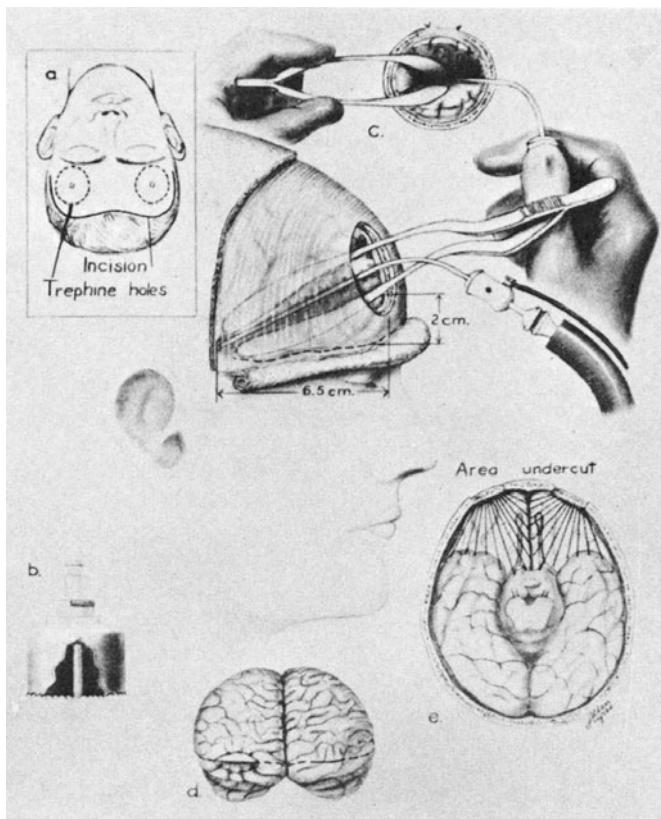


Figure 27.5 Scoville's orbital undercut. (From Hitchcock, E., Laitinen, L. and Vaernet, K. (eds) (1972). *Psychosurgery*, Springfield, Illinois, C. C. Thomas)

frontal pole. Knight methodically carried out this operation on over 300 patients and his work was subsequently reviewed by psychiatric colleagues (Sykes and Tredgold, 1964) whose results are given in table 27.1. The clinical response was very good but the side effects remained high, as with bimedial leucotomy.

An entirely different approach was developed in the years since 1958 by Crow (1973) who elaborated a procedure

in an attempt to find answers to three questions for the purpose of seeking optimal relief of intractable mental suffering with least side-effects in selected psychiatric patients. The questions were (a) where should we make lesions; (b) how large should we make the lesions; (c) how can we reduce the risk of post-operative epilepsy?

A large number of small electrodes (24–36) are introduced into a wide area of the frontal lobes (figure 27.6). The intention is to test which electrodes are in regions where small amounts of destruction would best relieve the symptoms. So although many electrodes are introduced, only some would be used to

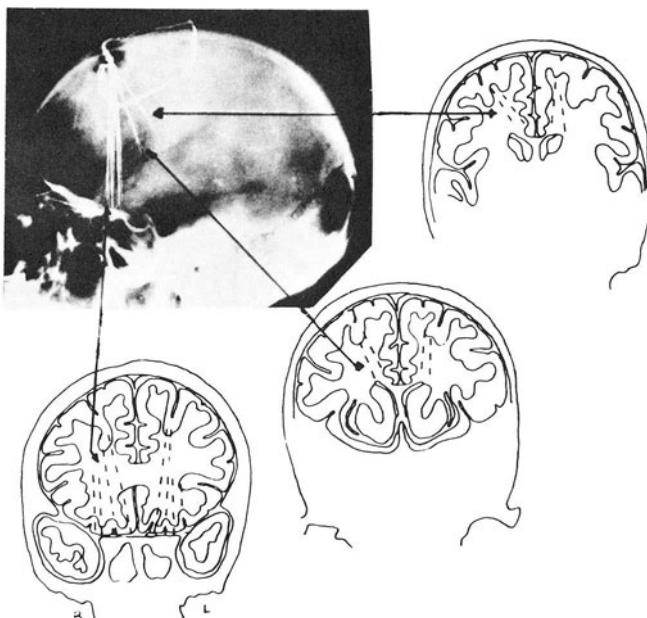


Figure 27.6 Crow's multifocal leucocoagulation: X-ray shows disposition of multiple electrodes, which are also superimposed on diagrams taken from a brain atlas. (From Crow (1973))

produce lesions. The sheaf of electrodes remain implanted for about six months while 'leucocoagulation is gradually built up, and the final total amount depends on the patient's clinical response'. At the same time a programme of psychotherapy is planned to meet the individual patient's needs and it is pointed out that in patients where previous psychotherapy has failed, the cerebral changes appear to facilitate subsequent psychotherapy.

The results on five patients were described in an earlier publication (Crow *et al.*, 1961), while ninety are reported in the 1973 paper cited. Crow mentions two disadvantages, 'one is that six months must pass before the patient can return to a full domestic or working life . . . , the second is the increased risk of infection'.

Cingulate Operations

Removal of the anterior half of the cingulate gyrus (Brodmann area 24) was suggested by Whitty *et al.* (1952). Their choice of site was based mainly on physiological considerations and animal work. But they also pointed out that there was evidence that the cingulum may not be a therapeutically useful site. Post-mortem studies by Meyer and McLardy (1949) had failed to correlate successful operative results with damage to the area and they specifically excluded involvement of area 24 as beneficial.

However, the operation, with the target area shown in figure 27.7 was carried out on 29 patients, including 16 'advanced psychotics' in all of whom no worth-while improvement was maintained. In the patients with other forms of psychiatric illness there was definite improvement in six of eight cases, and in two, improvement was so great and sustained that the patients were regarded as cured. It was pointed out that unwanted personality changes were uncommon. A further series of cingulectomies, carried out for psychoneuroses and for aggressive states, were reported by Lewin (1961).

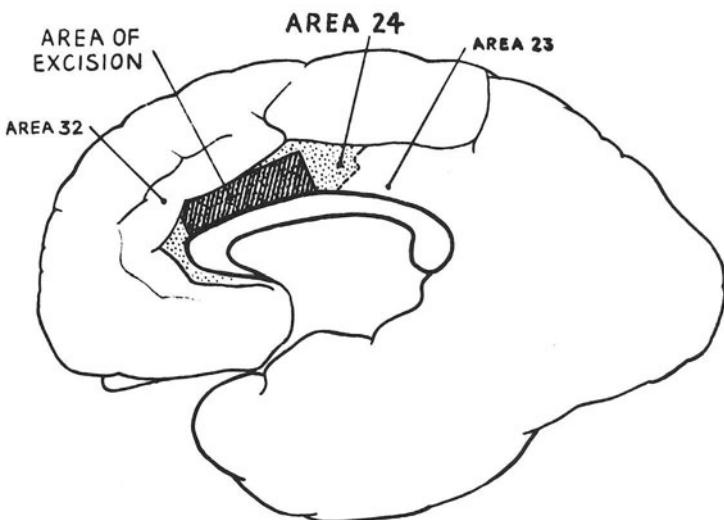


Figure 27.7 Site of anterior cingulectomy. (From Whitty *et al.*, (1952))

More recently anterior cingulotomy (cingulo-tractotomy) has been carried out in Australia. The first 50 cases, operated on with an 'open technique' were reported by Bailey *et al.* (1971). As many as 88 per cent of the patients did very well. The diagnoses included manic-depressive illnesses, schizo-affective, anxiety, phobic and obsessional states. They reported 'troublesome and alarming' infections in some cases and 'alarming' status epilepticus in two patients. Furthermore there was lack of drive and anergia in a few, which was regarded as the major psychiatric complication. The anergia was persistent and severe in one patient who also had one episode of status epilepticus. In some other cases these symptoms slowly resolved. In a further report (Bailey *et al.*, 1973) an additional 150 cases were described. This was said to be the treatment of choice for severe manic-depressive illness in the absence of response to medication, the treatment of choice for disabling obsessional illnesses and for 'psychosexual exhibitionism and compulsive antisocial behaviour', the inclusion of the latter conditions being open to ethical question. The operation was said to be useless for schizophrenia, except for those cases labelled 'schizo-affective' or 'pseudo-neurotic schizophrenia'. One

patient died from cerebral haemorrhage and temporary lack of drive was again noted.

Stereotactic Subcaudate Tractotomy

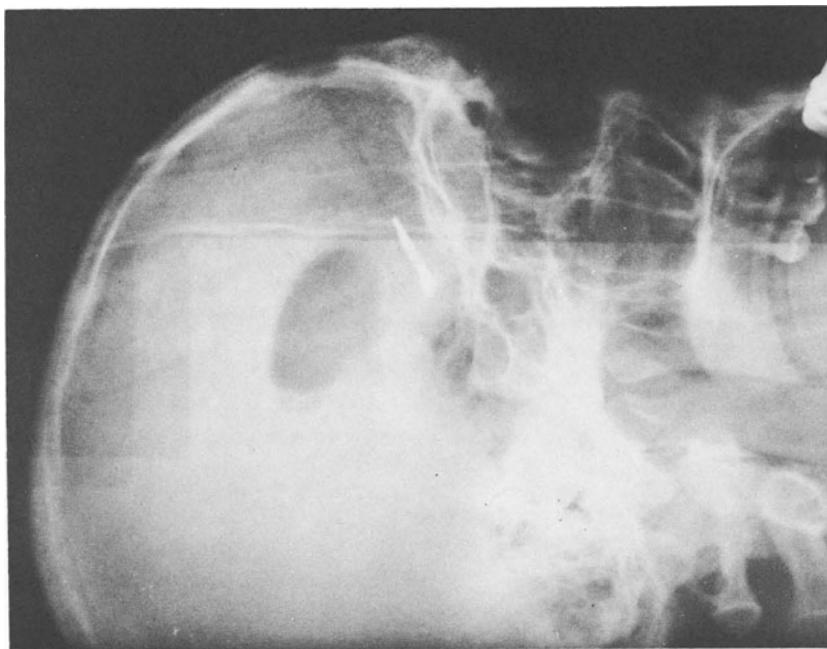
Geoffrey Knight inaugurated contemporary psychosurgery with an entirely original innovation. He devised an ingenious method of producing a lesion of controlled size, accurately placed by stereotactic means, using an array of small ceramic rods, each 7 mm long and 1 mm in diameter containing radioactive yttrium ^{90}Y , which has a half-life of some 62 hours. The approach is anteriorly, on the line of the orbital undercut, and each rod is introduced separately on a narrow probe, so any possible trauma on entry is minimal. The rods can be placed to produce lesions of various sizes, but two lines of three rods bilaterally were found to be optimal. This produces a lesion of size about 25 mm \times 15 mm \times 5 mm (figure 27.8). Newcombe (1975) reported that 'the posterior half of these lesions lie in the subcaudate position and the anterior half, for the most part, lies beneath the central segment of frontal white matter'.

So far over 800 operations have been carried out and there have been two detailed reviews of results. The first was on 210 patients (Ström-Olsen and Carlisle, 1971) and a follow-up of the next 209 was carried out by Göktepe *et al.* (1975). The findings are summarised in table 27.1. It is apparent that the results are as good as any form of psychosurgery has achieved with these diagnoses, and the side-effects are acceptable. In no case was there any significant personality change, what there was being towards mild disinhibition, such as outspokenness or talkativeness, never in any way a social problem. The single death included in the second study is the only death that has occurred which could be thought to be related to the operation in the entire series of over 800 so far and was probably associated with accidental mis-siting of an yttrium rod (Knight, 1973).

A study of the number of the patients who improve after a given treatment is one way of monitoring effectiveness. Another means is to observe changes in measurable clinical parameters. For example, in the paper by Göktepe *et al.* (1975) it was shown that the treatment needs of those patients who did well were much less post-operatively than before operation. Figure 27.9, from the study by Ström-Olsen and Carlisle (1971), shows graphically the near absence of depressive attacks following operation, compared to the situation before in the group who did well. These cases have considerable importance because it may be that the main research effort should be to attempt to identify such patients who are likely to respond so decisively, with less concentration now on overall results, which will depend on the types of patients selected.

If the subcaudate white matter is indeed the desirable target area, then stereotactic tractotomy can be expected to be more effective than bimedial leucotomy. For example, the latter operation has to be carried out more rostrally to avoid damage to the caudate nucleus and the consequently presumed improved siting of stereotactic tractotomy over a bimedial operation is shown in figure 27.10. The lower limit of the previous bimedial

(b)



(a)

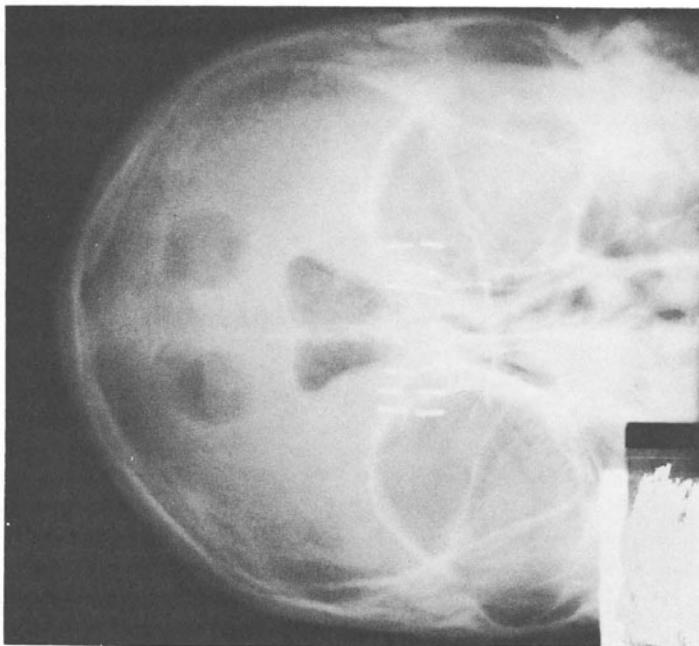


Figure 27.8 Knight's stereotactic subcaudate tractotomy

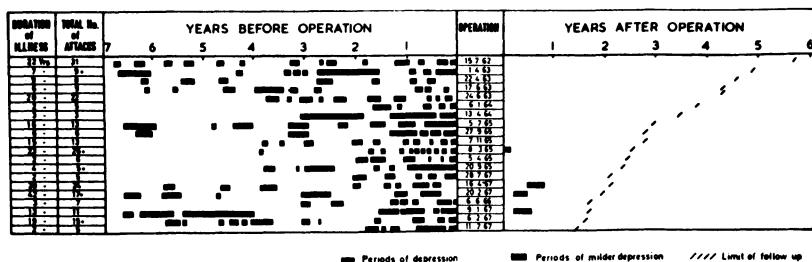


Figure 27.9 Pattern of depressive attacks before and after operation for 20 patients who 'completely recovered'. (From Ström-Olsen and Carlisle (1971))

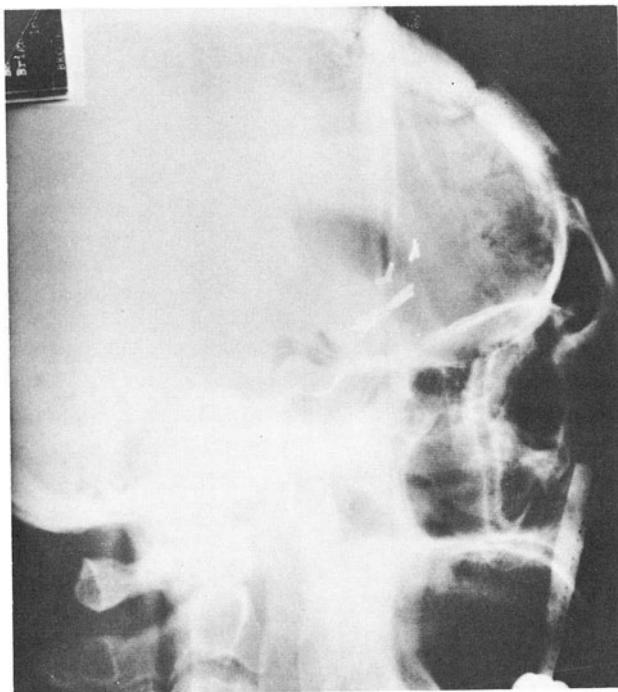


Figure 27.10 Comparison of siting of the lesion in bimedial leucotomy, the lower extent of which is shown by metal clips, and a stereotactic tractotomy carried out subsequently

leucotomy is shown by tantalum wire clips while the deeper placement of the yttrium rods beneath the caudate nucleus is apparent. Then again, figure 27.11 shows the much more localised lesion of the stereotactically placed yttrium rods, which almost completely spare the caudate nucleus in a number of cases which have been superimposed on each other. This is in contrast to the orbital

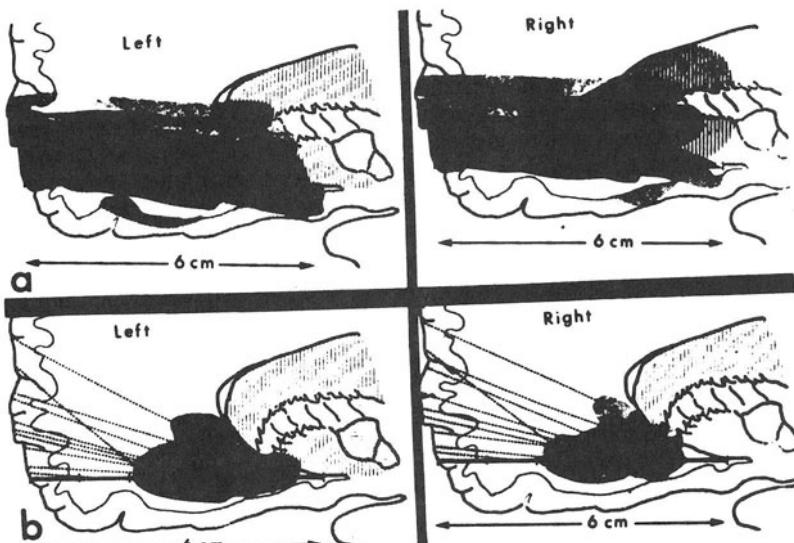


Figure 27.11 Comparison of the effects of orbital undercutting on each side for eleven cases with the lesions superimposed (above) and eleven cases after tractotomy (below). There is more localised and symmetrical placement in the latter operation with sparing of anterior white matter and the head of the caudate nucleus. (From Corsellis and Jack (1973))

undercut where the lesion is variable and causes a good deal of damage to the caudate nucleus, hence, no doubt, the higher rate of major side-effects from this operation.

Limbic Leucotomy

An operation, developed from that of Knight, has been suggested by Kelly *et al.* (1973), which they call stereotactic limbic leucotomy. These authors suggested that as the limbic system of Papez (1937) is 'a harmonious mechanism which may elaborate the functions of central emotion, as well as participate in emotional expression', lesions to control affective illnesses should be made to interrupt some connections between the frontal cortex and the limbic system 'and if, in addition, lesions were made in one of the main limbic circuits in the anterior cingulate gyrus, improvement might be obtained in a number of psychiatric conditions'. Thus two pairs of sites are routinely included in limbic leucotomy. Lesions produced by electrocoagulation or by cryogenic means (freezing) are made in the subcaudate area from a rostral approach, as in Knight's operation. But entry from above is also always used to place lesions in the cingulum bundle (figure 27.12). Electrical stimulation is used as an aid to target location by producing lesions at points where physiological responses are obtained. The responses include changes in respiration, skin resistance, finger pulse and fore-arm blood flow.

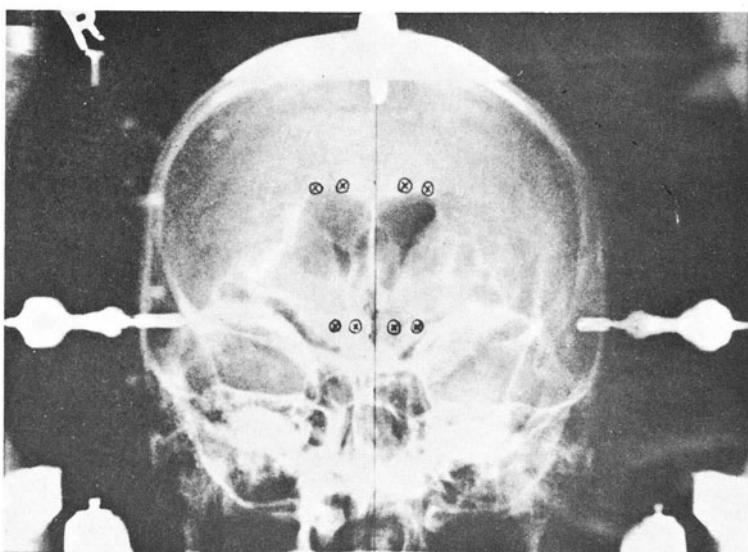


Figure 27.12 Limbic leucotomy. The target sites are shown by crosses. (From Kelly et al. (1973))

A review of 66 patients followed up for a mean period of 16 months has been reported by Mitchell-Heggs *et al.* (1976) and a summary of the results appears in table 27.1. Comparison with stereotactic tractotomy is complicated by the fact that improvement after limbic leucotomy is considered in terms of grades I, II and III, while for tractotomy it has always been for grades I and II only. One patient who had a limbic leucotomy suffered serious side-effects but he had had a previous leucotomy. No deaths have been reported and no patients have developed epilepsy, but some have become more outspoken since operation.

Stereotactic Cingulotomies

Before the above work was published, Knight, for a few suitable patients used a stereotactic lesion with yttrium rods, in the cingulum (figure 27.13) (Knight, 1973). The shape of the array was intended to 'interrupt afferent relays to the cingulate cortex as well as to the cingulum bundle'. Improvement was found in one case with obsessional ruminations and two patients suffering from severe anxiety. He felt that a double lesion 'can therefore help at times in mixed syndromes in improving obsessional and phobic features'. Bartlett and Bridges (unpublished data) have occasionally added a cingulotomy in cases where anxiety or tension was inadequately controlled by subcaudate lesions, but they found the results were not encouraging. A new 'palisade' array was developed by Bartlett (figure 27.14), but this did not significantly improve those few cases, mainly of anxiety and of obsessional neurosis, on whom it was

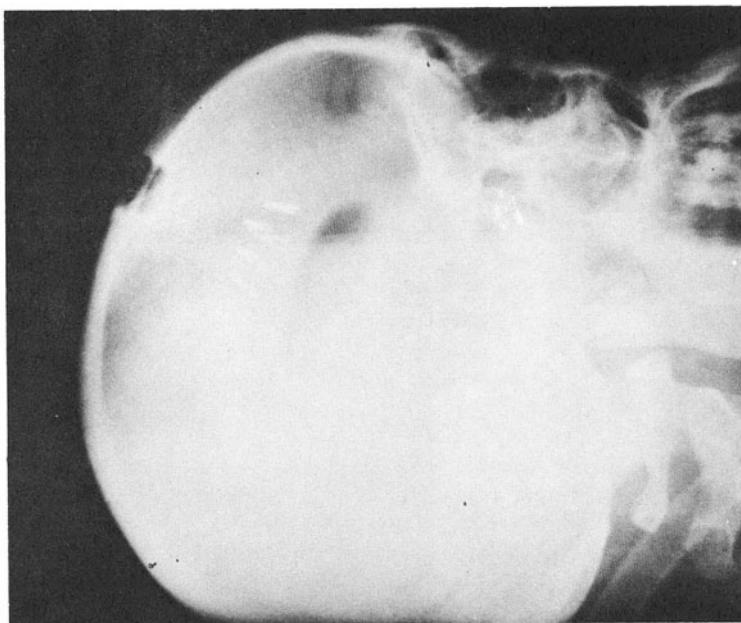


Figure 27.14 Bartlett's stereotactic cingulotomy

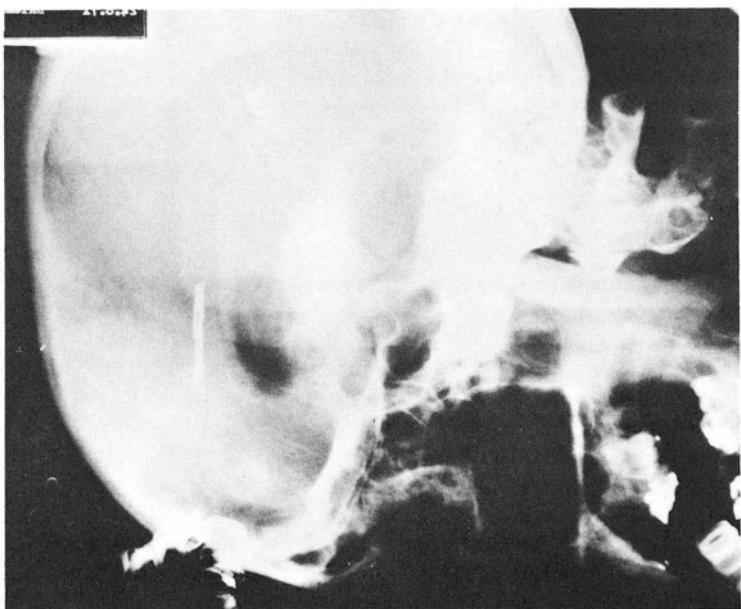


Figure 27.13 Knight's stereotactic cingulotomy

tried. It is possible that the effectiveness of the original open cingulectomy depended on the fact that the lesion produced wider functional disruption than actually intended because of interference at the operation site with the blood supply to a larger area. These observations could suggest that the refined and localised stereotactic lesion may not be fully effective in the cingulum, with its complex anatomy of tracts, a possibility which could run counter to the specific sites advocated by Mitchell-Heggs *et al.* (1976), although their intended target is the cingulum bundle. There seems little doubt that the subcaudate site may be of considerable value for some severe and intractable psychiatric illnesses but it seems that the cingulate region alone is not as good a site. However, whether a lesion there enhances the effect of one in the subcaudate area is uncertain so far.

Amygdalotomy and Some Other Sites

The importance of the limbic system in relation to emotional experience and thus, pathological emotional states, has been mentioned above. The limbic structures include the amygdala, which is within the temporal lobe. A relationship between some forms of epilepsy and disordered emotions is well-known (Falconer and Taylor, 1970). The amygdala has been studied in some detail in animals (Eleftheriou, 1972) and it is involved in eating, drinking, sexual and aggressive behaviour. So the possibility that abnormal aggressiveness might be associated with abnormal function of the amygdala was a reasonable postulation. It has subsequently been found to have clinical validity. The early report by Narabayashi *et al.* (1963) pointed out that the original intention was to investigate the value of amygdalotomy upon patients with temporal lobe epilepsy characterised by psychomotor seizures as well as hyper-excitability, assaultive behaviour, or extreme aggressiveness. The indications for amygdalotomy were then extended to include patients without clinical manifestations of epilepsy but with EEG abnormalities and aggressive behaviour. Some 39 patients were operated on unilaterally, with bilateral operations in 21 patients. In the case of 85 per cent the operation resulted in marked reduction in the emotional excitability and normalisation of the patient's social behaviour and adaptation. No signs or symptoms suggesting the Klüver-Bucy syndrome or disturbances of memory function were observed, even after bilateral destruction of the amygdaloid nuclei. Another report was by Heimburger *et al.* (1966) who treated 25 patients for behavioural abnormalities and epilepsy, with behavioural disturbance eliminated in seven of twenty patients and markedly improved in nine others. Convulsions were eliminated in 4 of 21 patients and improved in 12. It was also pointed out that 2 of 12 patients committed to psychiatric institutions were released, and 5 of 8 patients whose commitment to an institution was impending improved after operation so that compulsory admission was no longer necessary. Two patients with depression were operated on without permanent improvement. Similar good results were reported by Kiloh *et al.* (1974).

The problem with these cases is that the papers tend to suggest that the

operation is being carried out primarily for behaviour disturbance, rather than for illness associated with pathologically aggressive behaviour. Yet a psychiatric or neurological diagnosis is given for each case. The other problem is that many of the patients were subnormal, because this is likely to be the type of case appropriate in these circumstances. While it can be argued that the patient will benefit if he is less disturbed and violent, there will be difficulty in accepting that reasonable consent has been obtained.

The ethical doubts become much more grave when an attempt is made to control extreme aggressiveness in the absence of formal psychiatric illness, and there are reports of this from the United States (*Boston University Law Review*, 1974) which will be considered later. It was mentioned above that there have been incorrect definitions of psychosurgery as being primarily a means of controlling behaviour, and unless the essential criterion is insisted upon that there must be underlying psychiatric or neurological illness, then there is the possibility that an operation will be carried out only in order to achieve social conformity. Even then, some might say that such patients have severe personality disorders which could be regarded as psychiatric conditions. Furthermore, it can be theoretically postulated that an individual might be better off accepting a highly limited form of psychosurgery such as amygdalotomy in order to control excessive aggressiveness not of known pathological origin, rather than spend long periods incarcerated. But for most, the ethical implications in such cases remain unacceptable. It would seem essential to retain the need for patients accepted for psychosurgery to be manifestly *ill*, however difficult it is to precisely define illness. With regard to operations on subnormal patients, perhaps other medical colleagues should help neurosurgeons and psychiatrists to consider this particular problem, because there are obvious merits in trying to help such people rather than rejecting the possibility out of hand.

Stereotactic hypothalamotomy has been suggested for disturbed behaviour as well (Schvarcz *et al.*, 1972) and hypothalamotomy has been used in some patients with sexual deviations (Roeder *et al.*, 1972). Here, it is unlikely that one could regard such cases as ill and in considerable distress except that they may well be in conflict with society, so these operations will give rise to major ethical doubts.

Ethics

There has always been understandable concern about the possibility of irreversible damage being caused to the brain by psychosurgery, which is reasonably regarded as a special organ giving man his own individuality. Many psychiatrists have been appalled by the effects of the original standard prefrontal leucotomy which left patients in grossly withdrawn states who are still alive in our large psychiatric hospitals to testify to the great wave of psychosurgical over-enthusiasm of twenty-five years ago. There is therefore wide-spread apprehension that history may repeat itself.

It is true that psychosurgical operations can pose major ethical problems as has been pointed out, but the problems are more difficult with some aspects of

psychosurgery than with others and careful delineation of indications, methods and results is not always observed. For example, a severely depressed patient, with whom there may be a high risk of suicide and whose illness has not responded to all the very many forms of treatment that are available for depression, may well decide that the relatively small risks of the contemporary stereotactic operations are worth taking in relation to his continuing suffering. This patient would feel that an overriding insistence that the brain remains structurally intact, when it is clearly functioning pathologically, is an irrelevant nicety. In this connection, the study by Göktepe *et al.* (1975) showed that among the group of patients who subsequently did well after operation there were 5 suicidal attempts in the post-operative period up to review, but as many as 33 during similar periods before. In such circumstances, risk of operative side-effects is worth-while.

There is a report (Boston University Law Review, 1974) of a 36-year-old mental patient at the Iowa State Hospital, Michigan who was invited to participate in a state-funded experiment, the goal of which was to test the comparative efficacy of two methods of reducing aggression in wards where the patients were persistently violent. The man concerned had been committed as a sexual psychopath. He agreed to participate in the psychosurgery treatment group and his parents concurred. But the Michigan Legal Services Attorney brought a suit to stop the experiment and succeeded. In this case there are clearly major ethical uncertainties. The problems of amygdalotomy also have been considered.

However, where patients are severely and unrelentingly depressed or anxious or obsessional, and these cases are nearly always able to give free and informed consent, there can now be few ethical objections because the side-effects are, with contemporary operations, reasonable in relation to the severe illnesses for which the operations are appropriate. Nonetheless, many remain virulently opposed to all psychosurgery and one State at least in the United States has banned this form of treatment, as has the U.S.S.R. Rigid responses of this kind do nothing to clarify the therapeutic issues posed or to help severely ill patients.

The especially turbulent controversy about psychosurgery in the United States may derive as much from the psychodynamic basis of much of American psychiatry as from the undesirable use of some psychosurgical operations. There is a tendency for opposition to build up to all forms of physical treatments; in ascending order of unacceptability, they would be psychotropic medication, electroconvulsive therapy and psychosurgery. All are regarded as intolerable physical assaults on the uniqueness of personality, with the implication that psychotherapy and social readjustment is all that is required to overcome all psychiatric illness and personal problems.

With the impressive advances in psychopharmacology over the past twenty years, it is becoming increasingly likely that illnesses that are now intractable will respond to future developments in medication. But a review of the progress of psychosurgical research suggests that at present there remain a very few patients who have severe and even potentially fatal illnesses which seem to respond only to surgical treatment, the contemporary forms of which offer reasonable risks in these dire circumstances. Constructive discussion will

help with ethical attitudes to operations for some of the less readily acceptable indications, where the personal distress may, nonetheless, be as considerable.

Conclusions

It is apparent that psychosurgery was originally developed with the intention of producing some degree of emotional blunting as a means of treating neurosis and excessive emotional responsiveness. In the event, the operations proved to be of some value in schizophrenia, many cases of which at that time were impossible to control otherwise, but such treatment was found from the first to have most effect in cases of intractable depression. So with the advent of the phenothiazines, schizophrenia was no longer a primary indication. At the same time, the drastic prefrontal leucotomy came to be replaced by modifications, for which the main indications were resistant cases of depression, anxiety and obsessional neurosis.

The modifications were subsequently refined even further when stereotactic placement of lesions of controlled size were devised, so that clinical improvement came to be achieved with only a minimal risk of side-effects, and virtually no chance of significant personality change. It is clear that the subcaudate area is of main value for the psychiatric illnesses mentioned. There is at the moment doubt as to whether additional lesions in the cingulate region significantly increase the success rate, although it seems that lesions in the

Table 27.2
Indications for modern stereotactic psychosurgery

Subcaudate and Cingulate operations

Depression	of endogenous or involutional type, either chronic or persistently recurrent
Anxiety	chronic or recurrent anxiety or tension, or phobic anxiety states
Obsessional neurosis	

Operation may be considered when these symptoms are severe or chronic and do not respond to other treatments or respond inadequately, or when attacks of illness keep recurring.

Less often, operations may be appropriate for patients with schizophrenia when tension, depression or obsessional symptoms are prominent.

Amygdalotomy

Some cases where abnormal, severe and uncontrollable aggressiveness is associated with a psychiatric or neurological illness.

General aspects

Appropriate type of illness

Severity of illness

Absence or inadequacy of response to all other treatments

Absence of contra-indications (mainly prominent antisocial personality traits and some organic cerebral conditions)

Patient's consent

cingulate area alone do not offer advantages. Amygdalotomy appears to be of considerable value in some cases of abnormal aggression but the ethical problems associated with this indication can cause much concern. The characteristics of modern psychosurgery have been suggested by Bridges and Bartlett (1977) (table 27.2).

Many ethical problems would be more likely to be resolved if operations were carried out in specialised centres run by a neurosurgeon and psychiatrist in close association, where experience can be built up, where arrangements might be made for society to monitor the work in some appropriate way, and where other disciplines might help with the practical clinical problems of consent, assessment and evaluation of outcome. Psychosurgery now merits serious re-evaluation and it is of interest that, after much hostile criticism in the United States, a National Commission there (1976) has recently expressed favourable attitudes after a very detailed review of the present and recent situation.

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28 Drug Treatment of Depression

Thomas Barnes and Robin Braithwaite

Depressive illness is the most common affective disorder and the range of disturbance that patients may present with is extremely wide. In its mildest form it may be very difficult to distinguish between apparently normal feelings of disappointment, frustration and unhappiness and morbid depression. At the other extreme, urgent measures are indicated for psychotic symptoms, depressive stupor and suicidal intent. The depressive syndrome also leads to considerable morbidity with impairment of domestic, social and occupational aspects of life. However, with regard to therapy, the tricyclic compounds and monoamine oxidase inhibitors (MAOIs) introduced almost 20 years ago, have proved to be effective and relatively safe treatments. The tricyclic compounds still remain the most popular antidepressant medication although the prescription of minor tranquillisers for mild depressive reactions is a recent trend and lithium has become established as the drug of choice for stabilisation of manic depressive illness. The tetracyclic compounds, L-tryptophan and low dose neuroleptics are all relatively new antidepressant treatments that are still being evaluated clinically.

Increased knowledge regarding the mode of action of antidepressant drugs has prompted much research into the association between the biogenic amines (dopamine, noradrenaline, 5-hydroxytryptamine and acetylcholine) and pathological mood states. It was known that a small proportion of patients treated with the obsolete antihypertensive agent, reserpine, developed severe depression of mood (Quetsch *et al.*, 1959). This drug was also known to deplete central monoamine stores (Shore *et al.*, 1955; Carlsson and Hillarp, 1956). Antidepressant drugs were found to reverse reserpine-induced effects in animals. Further pharmacological investigation of the acute action of antidepressants showed that in most cases they tend to increase the amount of monoamine transmitter available to act at postsynaptic receptor sites in the brain.

Findings of this nature led to the formulation of the biogenic amine theory of affective disorder (Schildkraut, 1965; Coppen, 1967). In its simplest form this states that depression is related to a functional deficiency of noradrenaline or 5-hydroxytryptamine (5-HT, serotonin) at central postsynaptic receptor sites, while mania is associated with excess amine. Elaborations on this hypothesis include the suggestion that depression is characterised by increased 5-HT activity and relatively reduced catecholamine (dopamine and noradrenaline) activity while mania is determined by increased catecholamine activity.

and relatively reduced 5-HT activity (Tissot, 1975). Alternatively, Janowsky *et al.* (1972) have postulated that the affective state is dependent on a balance between cholinergic and noradrenergic activity; the adrenergic system being overactive in mania while cholinergic activity predominates in states of depression. However, these proposals remain purely speculative.

Various techniques have been used to test these biogenic amine theories including direct measurement of the amine content in brains of depressed suicides. A reduced concentration of 5-HT and its metabolites has been reported (Shaw *et al.* 1967; Lloyd *et al.*, 1974) but the large number of variables and practical difficulties involved in post-mortem studies make the results difficult to interpret. Biogenic amines and their metabolites have also been measured in the urine and CSF of patients with affective disorders and the findings are similarly difficult to evaluate.

Other investigators have tried to selectively increase or reduce brain amine levels and monitor the subsequent behavioural changes in an attempt to elucidate the role of specific amines in the development of mood disorder. Administration of biogenic amine precursors would seem a logical way to elevate brain amine levels and this principle has formed the theoretical basis for the present use of L-tryptophan as an antidepressant (see below).

Reserpine, as mentioned previously, causes a general depletion of brain amine stores. Drugs with a more selective amine depleting action have been administered to both healthy volunteers and psychiatric patients with monitoring of subsequent behavioural changes. Mendels and Frazer (1974) have reviewed these studies and concluded that 'the depletion of brain noradrenaline and dopamine or 5-HT is, in itself, not sufficient to account for clinical depression'.

The idea that the drug may exert its antidepressant action by modification of a single amine system is probably simplistic as 5-HT, dopamine, noradrenaline, acetylcholine and other neurotransmitters may all be involved in affective disorder. Evidence that electrolyte and hormonal changes may modify monoamine function adds to the confusion of the present situation. In this chapter we have attempted to outline the present state of knowledge of some of the currently available antidepressants in terms of their biochemical actions and clinical usefulness.

The Tricyclic Antidepressants

History and Usage

The first tricyclic antidepressant drug, imipramine, was introduced into clinical practice by Kuhn in 1957 and soon gained acceptance as an effective agent in the treatment of depressive illness. Following the success of imipramine, the synthesis of chemically related tricyclic compounds yielded many other effective antidepressants, the most important of which has been amitriptyline. The use of this group of drugs has increased dramatically over the past 15 years and they now represent the most common pharmacotherapeutic approach to the treatment of depressive illness.

Although the antidepressant effect of this group of drugs remains firmly established in psychiatric practice, it is common clinical experience to find that a fair proportion of patients so treated fail to show a satisfactory or sustained clinical response. Important considerations in this context are, however, the diagnostic criteria used in the selection of patients for treatment and the optimum dosage in an individual patient.

At the present time there are 12 different tricyclic antidepressants in regular clinical use (table 28.1). Studies have so far failed to demonstrate any

Table 28.1
Tricyclic antidepressant drugs

Approved Name	Trade-Names	Recommended daily dose (mg) Range
Amitriptyline	Laroxyl, Lentizol, Saroten, Tryptizol	50–150
Butriptyline	Evadyne	75–150
Clomipramine	Anafranil	30–75
Desipramine	Pertofran	50–200
Dibenzepin	Noveril	240–480
Dothiepin	Prothiadene	75–150
Doxepin	Sinequan	30–300
Imipramine	Berkomine, Tofranil	50–150
Nortriptyline	Allegron, Aventyl	75–100
Opipramol	Insidon	150–300
Protriptyline	Concordin	15–60
Trimipramine	Surmontil	50–100

consistent differences in general clinical efficacy. The question of dosage is also unclear. Some studies suggest that high dosages are more effective than lower doses, whereas others indicate the opposite. However, a factor not to be underestimated is the extent to which patients take the drugs they are prescribed. For example, Willcox *et al.* (1965) reported that 40 per cent of psychiatric out-patients being treated for depression with imipramine were not taking their medication as directed. Further, a more recent study by Johnson (1973) of depressed patients treated in general practice showed that of the patients given 'therapeutic doses' of antidepressants, 50 per cent had stopped taking them three weeks after they were first prescribed.

Structure and Pharmacological Action

Structurally, the tricyclic antidepressants would at first sight appear very similar, all having a basic three ring (tricyclic) system (figure 28.1). The chemical differences between various members of this class of drugs are due to either modification of the central seven-membered ring (cf. imipramine, amitriptyline, doxepin), changes in side-chain structure (cf. amitriptyline,

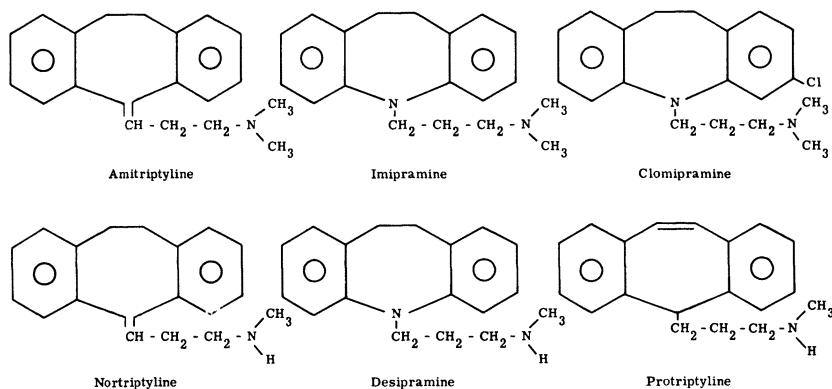
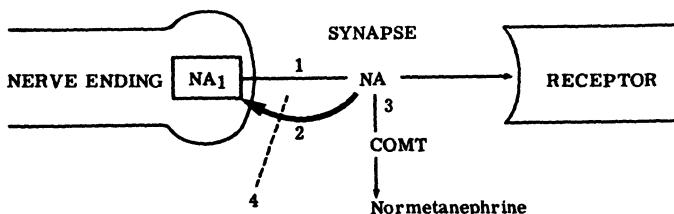


Figure 28.1 Structure of some tricyclic antidepressants

nortriptyline) or substitution in one of the outer rings (cf. imipramine, clomipramine). It is therefore surprising that clinical differences between various tricyclic antidepressants are not more in evidence.

Tricyclic antidepressants are extensively metabolised by the hepatic microsomal enzyme system and tertiary type antidepressants, viz. amitriptyline, imipramine, clomipramine, give rise to demethylated products which are also active clinically, viz. nortriptyline, desipramine, chlordesipramine respectively. The previously held theory (Sulser *et al.*, 1962) that demethylation of tertiary type antidepressants was necessary for their therapeutic action and that this was mediated wholly through the *in vivo* formed active 'metabolite' would not seem to be sustained by recent experimental findings or clinical experience.

The principal pharmacological action of tricyclic antidepressant drugs appears to reside in their inhibition of the re-uptake process for serotonergic and noradrenergic neurotransmitter systems (figure 28.2) (Carlsson, 1965). However, this action is complex and still not fully understood, particularly with regard to the chronic pharmacological effect of tricyclic antidepressant medication. Originally, interest was focused on the effect of tricyclic drugs on the re-uptake process in the noradrenergic neurone. However, recent work has established that whereas tricyclic antidepressants of the secondary amine type (for example nortriptyline, desipramine, protriptyline) preferentially inhibit the noradrenergic re-uptake system (figure 28.2a) (remaining rather ineffective inhibitors of the serotonergic re-uptake system) drugs of the tertiary amine type (for example amitriptyline, imipramine, clomipramine) preferentially inhibit the re-uptake process of the serotonergic system (figure 28.2b) (Carlsson *et al.*, 1969*a*; 1969*b*; Lidbrink *et al.*, 1971; Hamberger and Tuck, 1973). These effects are more complicated in the case of tertiary type tricyclics as they all will undergo demethylation to produce variable amounts of secondary amine type antidepressants. Thus, clomipramine, the most potent inhibitor of the serotonergic re-uptake system produces chlordesipramine which is a potent inhibitor of the noradrenergic re-uptake system.

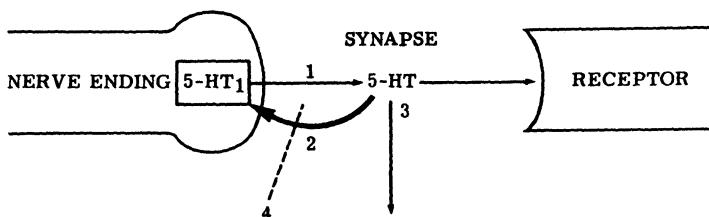


NA₁ Intraneuronal store of noradrenaline

COMT - Catechol-o-methyl transferase

1. Release of NA into synaptic cleft
2. Reuptake of NA from synaptic cleft
3. Extracellular metabolism of NA by COMT
- 4. Inhibition of reuptake by secondary amine tricyclic antidepressants eg.
Nortriptyline, Desipramine, Protriptyline.

Figure 28.2a Simplified model of a noradrenergic neuron showing the fate of noradrenaline (NA). (After Schildkraut and Kety (1967))



MAO - monoamine oxidase

5-HT₁ - Intraneuronal store of 5-Hydroxytryptamine

1. Release of 5-HT into synaptic cleft
2. Reuptake of 5-HT from synaptic cleft
3. Extracellular metabolism of 5-HT by MAO
- 4. Inhibition of reuptake by tertiary amine tricyclic antidepressants eg.
Amitriptyline, Imipramine, Clomipramine.

Figure 28.2b Simplified model of a serotonergic nerve ending showing the fate of 5-hydroxytryptamine (5-HT)

(Tuck and Punell, 1973). The ability of various tricyclic antidepressants to effect differentially these two main neurotransmitter systems is potentially of great clinical importance, particularly in the light of increasing evidence which suggests that depressive illness may be a biochemically heterogeneous disorder, affecting at least two major neurotransmitter systems (Sjöqvist, 1971). In those patients with a disturbance of a predominantly serotonergic nature one might expect a noradrenergic inhibitor type antidepressant to have a poor effect. Thus Asberg *et al.* (1973) have demonstrated that depressed patients with low CSF levels of 5-hydroxyindole acetic acid (5-HIAA) (indicating a biochemical disturbance of a serotonergic nature) had a poor

response to nortriptyline medication compared with patients with normal CSF levels of 5-HIAA. Conversely, patients with a disturbance of a noradrenergic nature might be expected to show a good response to antidepressant medication with a noradrenergic inhibitor type antidepressant. Thus Maas *et al.* (1972) have shown that patients who excrete abnormally low amounts of 3-methoxy-4-hydroxyphenylglycol (MHPG) (indication of a noradrenergic type disturbance) show a good response to imipramine medication, which, owing to extensive demethylation to desipramine *in vivo*, is probably predominantly acting as an inhibitor of noradrenergic uptake with negligible effects upon serotonergic function (Tuck and Punell, 1973). A recent demonstration of the differential biochemical effects of two different tricyclic antidepressants, clomipramine and nortriptyline, has been reported by Bertilsson *et al.* (1974) who examined the influence of these two drugs on CSF level of 5-HIAA and MHPG. Both drugs depressed CSF levels of MHPG indicating a noradrenergic type effect, but only clomipramine significantly lowered 5-HIAA levels, indicating an additional serotonergic effect for clomipramine. Further advances in our understanding of the biochemical aetiology of depressive illness will hopefully enable different pharmacodynamic effects of tricyclic antidepressants to be used to their full advantage.

Plasma Concentrations of Tricyclic Antidepressants

For a number of drugs in widespread use (for example lithium, phenytoin, digoxin) plasma level measurements have been found to be valuable aids in maximising the drugs' effectiveness at the same time as reducing unwanted side-effects. In the prophylaxis of manic-depressive illness with lithium, maximum beneficial effect with a minimum of toxic side-effects are obtained, only when the serum lithium concentration is regularly monitored and maintained within the therapeutic range [0.8–1.2 milliequivalents per litre (meq)] (Schou *et al.*, 1970). Moreover, it would now be considered bad clinical practice to use lithium *without* plasma level measurements being carried out (Schou, 1973).

Thus, in the mid-1960s work was initiated in several centres to investigate the relevance of plasma concentrations of tricyclic antidepressant drugs in explaining variations in therapeutic response and the incidence of side-effects. With repeated administration of tricyclic antidepressants, plasma concentrations rise until a plateau, or what is more commonly known as a steady-state level, is achieved (Alexanderson and Sjöqvist, 1971). Most patients achieve a steady-state level within about eight days, although some patients having particularly slow rates of drug clearance may take much longer (Alexanderson and Sjöqvist, 1971). However, the most significant finding is that patients receiving the same dose of antidepressant exhibit large variations in mean steady-state plasma concentrations (figure 28.3). This variability has been shown to be largely genetically determined and mainly due to individual differences in the rate of drug metabolism, although these levels may be modified by concomitantly prescribed drugs (Alexanderson *et al.*, 1969).

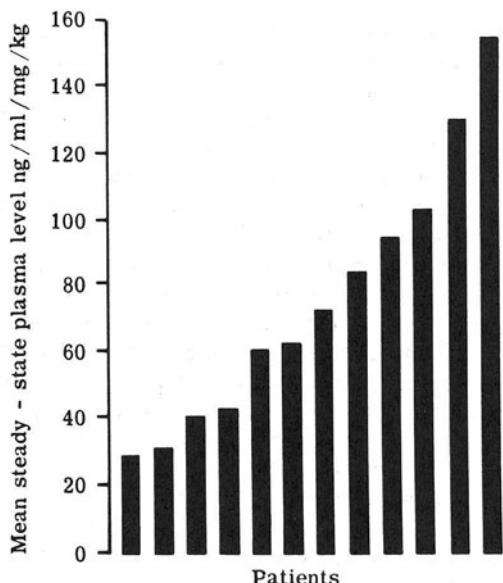


Figure 28.3a Variation in mean steady-state plasma nortriptyline levels obtained in patients receiving equivalent doses of nortriptyline (Braithwaite, unpublished material)

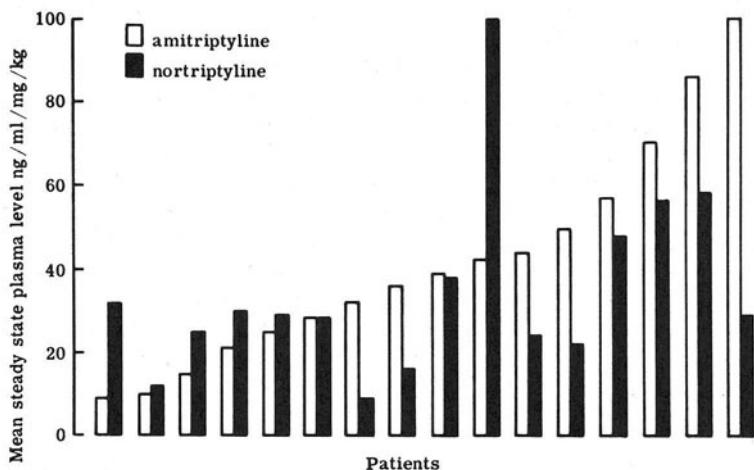


Figure 28.3b Variation in mean steady-state plasma amitriptyline and nortriptyline levels obtained in patients receiving equivalent doses of amitriptyline (Braithwaite, unpublished material)

The Correlation of Plasma Antidepressant Levels with Clinical Effects

Side-effects

Side-effects to nortriptyline, in both volunteer subjects and patients, have been reported to occur more frequently at high plasma nortriptyline

concentrations, potentially dangerous reactions occurring at extremely high drug concentrations (Åsberg, 1974). But the relationship between plasma concentrations of antidepressant drugs and side-effects is a difficult area to investigate, because many of the well-known 'drug-induced' side-effects (e.g. dryness of mouth, tremor, sweating, constipation, tiredness) can also be symptoms of depressive illness. However, if a count is made of the 'side-effect' score shown by patients whilst receiving a placebo, before active tricyclic antidepressant therapy is started, and this is subtracted from the side-effects score obtained at various points during treatment, a truer measure of drug-induced side-effects may be obtained. Using this procedure, Åsberg *et al.* (1970) demonstrated a positive relationship between 'true' side-effects and plasma nortriptyline concentrations during the first few weeks of nortriptyline treatment. However, this correlation with plasma concentration seems to disappear with time, probably due to the antidepressant effect of the drug (Åsberg *et al.*, 1970). Plasma nortriptyline levels have also been shown to be related to changes in visual accommodation which might in part account for the blurred vision sometimes seen with antidepressant medication (Åsberg and Germanis, 1972).

More serious in their implications are the studies showing a relationship between the cardiac effects of tricyclic antidepressants and plasma concentrations. Burrows *et al.* (1974b), investigated the effect of therapeutic doses of nortriptyline on A-V conduction measured by His bundle electrography and found that it was prolonged by 30 ms or more in patients with plasma levels greater than 200 mg/l. Taylor and Braithwaite (1977), using measurements of systolic time interval (STI) changes in patients receiving nortriptyline have shown that myocardial contractility is reduced during treatment, the magnitude of which is related to the plasma nortriptyline concentration. This effect on myocardial contractility has also been reported to occur during treatment with other tricyclic antidepressants (Müller and Bruckhardt, 1974). In elderly patients with a history of cardiac disease unexpected sudden death has been reported to occur in those receiving amitriptyline (Moir *et al.*, 1972). The cardiac dangers associated with tricyclic antidepressant medication would, therefore, seem to be very real, particularly in those patients who accumulate very high plasma concentrations, which could have serious consequences in the elderly and those patients who myocardium is already compromised.

Therapeutic Effects

With regard to the most important action of tricyclic antidepressant medication, that is their therapeutic effect, there have been a number of studies in recent years that have attempted to relate plasma antidepressant concentrations with clinical response and at first sight it would seem that the findings are contradictory.

Most studies have concerned nortriptyline, which is more easily measured analytically and does not produce any significantly active metabolites. The initial observations of Åsberg and her colleagues (1971) were that in patients with endogenous type depression, the antidepressant effect of nortriptyline was related to the plasma concentration in a complex curved pattern.

Maximum antidepressant effects were found to occur within an intermediate plasma level range and concentrations both above and below this range produced a poor response. This relationship, in particular the poor antidepressant effect of high plasma nortriptyline levels, was confirmed in a later more critical study by Kragh-Sørensen *et al.* (1973). In a very elegant follow-up study by these same workers, with the random adjustment of plasma nortriptyline levels to within the range 80–150 µg/l or above 180 µg/l, a significantly poorer clinical response was obtained in those patients with high plasma nortriptyline levels (Kragh-Sørensen *et al.*, 1976). Although Burrows *et al.* (1972, 1974a) and Lyle *et al.* (1974) were unable to confirm these findings, two separate and more recent studies have confirmed the original Scandinavian results (Ziegler *et al.*, 1976b; Montgomery *et al.*, 1977). This apparent conflict could well be accounted for by the difference in the design of the various trials as well as the criteria used for the selection of patients. A plasma concentration-effect relationship is easily open to distortion by factors such as the inclusion of placebo responders and of patients less likely to benefit from tricyclic antidepressant medication. The reproducibility of analytical methods used in the measurement of drug plasma levels is another very important consideration. Kragh-Sørensen *et al.* (1973) suggested that the upper limit for nortriptyline's therapeutic action was in the region of 175 µg/l and a therapeutic range of 50–150 µg/l was recommended in order to maximise the antidepressant effect (Kragh-Sørensen *et al.*, 1976).

In the case of amitriptyline, clinically the most important tricyclic antidepressant of all, the relationship between plasma concentrations and clinical response has been studied relatively little. The relationship for amitriptyline is potentially far more complex because of its partial conversion to nortriptyline during treatment and since both compounds have different pharmacodynamic actions, the combined antidepressant effects will be difficult to separate. In the first study of amitriptyline reported by Braithwaite *et al.* (1972) a strong positive correlation between plasma concentrations of parent drug plus metabolite nortriptyline and clinical response was obtained. The main finding of this study was that those patients with 'low' antidepressant levels (less than about 80 µg/l amitriptyline plus nortriptyline) showed a poor clinical response, whereas those with higher levels did much better. In a similar study of amitriptyline reported by Ziegler *et al.* (1976a) almost identical findings to those obtained by Braithwaite *et al.* (1972) were obtained. In a much larger study of amitriptyline reported by Montgomery (1975) involving 28 patients who received a standard dose of 150 mg amitriptyline over six weeks, patients with combined (amitriptyline plus nortriptyline) plasma levels within the range 80–200 µg/l exhibited a much greater clinical response than those with levels above and below this range. Since all three amitriptyline studies were very similar in design and duration, using the same daily dose of amitriptyline, it is perhaps not surprising that the findings are in broad agreement. Table 28.2 shows the result of combining the raw data from all three studies and the overall relationship between plasma levels and clinical response. It can be seen that patients (the majority in fact) with combined antidepressant levels (amitriptyline plus nortriptyline) between 80 and 200 µg/l achieved the best therapeutic response, with a

Table 28.2
Clinical response to amitriptyline: combined results*

Number of total patients <i>n</i> =61	Therapeutic failures (HRS \geq 16) % Patients	Partial response (HRS 8–15) % Patients	Therapeutic success (HRS \leq 7) % Patients
'Low' plasma levels (< 80 $\mu\text{g}/\text{litre}$) (<i>n</i> =16)	25	44	31
Intermediate levels (80–200 $\mu\text{g}/\text{litre}$) (<i>n</i> =39)	3	23	74
High levels (>200 $\mu\text{g}/\text{litre}$) (<i>n</i> =6)	33	17	50

HRS—Final Hamilton Score at end of 6 weeks treatment with amitriptyline.

* Braithwaite *et al.*, 1972; Montgomery, 1975; Ziegler *et al.*, 1976.

surprisingly small number of actual therapeutic failures (3 per cent). However, in patients with levels below 80 $\mu\text{g}/\text{l}$ the therapeutic response was relatively poor with a large number of therapeutic failures (25 per cent). In patients with levels above 200 $\mu\text{g}/\text{l}$ (surprisingly few; only about 10 per cent of the whole group) therapeutic response was inferior to that obtained in the intermediate range, although the small number of patients which were in this range makes this a more speculative observation. It is difficult to unravel the separate parts played by amitriptyline and nortriptyline plasma levels in influencing therapeutic response to amitriptyline medication. Patients with combined amitriptyline and nortriptyline levels of 80–200 $\mu\text{g}/\text{l}$ are likely to be within the recommended range for nortriptyline alone (50–150 $\mu\text{g}/\text{l}$). As the combined plasma levels exceed 200 $\mu\text{g}/\text{l}$ the chance of exceeding the upper limit for nortriptyline must also increase and it is therefore not unreasonable to anticipate an upper therapeutic plasma level limit for amitriptyline medication. What seems remarkable is that only a few patients on a standard dose of 150 mg amitriptyline achieve unreasonably high levels; almost the opposite to that seen for nortriptyline medication.

A tentative conclusion from this, and one which has considerable clinical implications, is that the most frequent cause of therapeutic failure with nortriptyline medication might be the attainment of too *high* drug plasma levels, whereas as for amitriptyline, lack of response may be because plasma levels are too *low*. Consequently, whereas raising the dose in cases of therapeutic failure with amitriptyline might produce beneficial results, the exact opposite (lowering the dose) might be required for nortriptyline. In the absence of the knowledge of an individual patient's plasma antidepressant concentration, it would be difficult to make the decision to either raise or lower the dose in the event of therapeutic failure.

The clinical significance of plasma levels of other tricyclic antidepressants has not yet been properly evaluated. The most significant results are probably those reported by Whyte *et al.* (1976) concerning protriptyline (an antidepressant similar to nortriptyline). Patients with plasma protriptyline levels within an intermediate range demonstrated a greater clinical improvement than those either above or below this range. This report by Whyte *et al.* (1976) therefore, confirms the main findings with nortriptyline.

As regards imipramine, the first tricyclic antidepressant to be introduced, there are reports of a reduced therapeutic response at low plasma concentrations of either imipramine (Walter, 1971) or combined imipramine and desipramine concentrations (Olivier-Martin *et al.*, 1975; Gram *et al.*, 1976). This drug may, therefore, behave in a similar fashion to amitriptyline (a similar tertiary-type tricyclic antidepressant), but the limits of the 'therapeutic range' are unclear and more investigations are required.

Maintenance Therapy with Tricyclic Antidepressants

There is a difficult problem in deciding appropriate prophylactic treatment for patients with recurrent depressive disorders, particularly those of a bipolar nature. It is unfortunate, therefore, that studies of the long-term administration of tricyclic antidepressants in both unipolar and bipolar patients have been relatively few. However, recent investigations suggest that tricyclic antidepressants are able to exert a prophylactic effect superior to placebo in preventing recurrent episodes of depression but their value in preventing episodes of mania seems poor (Davis, 1976). An investigation by Prien *et al.* (1974) showed that lithium was superior to tricyclic antidepressants in preventing both manic and depressive episodes in patients with bipolar type illness, but, in patients with unipolar type depression equal benefit was obtained from maintenance treatment with lithium or tricyclic antidepressants. Further investigations are urgently required to confirm these important findings. An obvious bias in studies comparing maintenance therapy with lithium and tricyclic antidepressants is that whereas lithium plasma concentrations have been controlled, plasma levels of tricyclic drugs have not. This difference is probably important because it is only by first establishing the optimum therapeutic plasma level range (as has been done for lithium) that maximum prophylactic effects can be obtained.

The potential value of maintenance therapy with tricyclic antidepressants combined with plasma level control has been investigated by Kragh-Sørensen *et al.* (1974). This interesting study concerned a group of 22 patients suffering from endogenous depression who were successfully treated with nortriptyline and who were followed up for a period of five months on an out-patient basis with regular monitoring of plasma nortriptyline levels. Depressive relapses were seen in only three patients but all related to *low* plasma nortriptyline levels; presumably due to poor drug compliance. The result of this study also indicates that the use of reduced dose during maintenance therapy (compared to that used to obtain an initial therapeutic response) may be unwise because this would clearly produce lower plasma antidepressant concentrations which may easily compromise the drug's prophylactic effect.

Because tricyclic antidepressants do not prevent the recurrence of manic episodes, lithium is probably the prophylactic agent of choice for bipolar type patients. However, in patients with unipolar type depression there is insufficient data to indicate whether lithium or tricyclic antidepressant drugs are superior in preventing further depressive episodes. Further trials comparing the full prophylactic benefits of lithium and tricyclic antidepressants with the control of plasma levels are necessary in order to resolve this question.*

Summary

Although there are a large number of tricyclic antidepressant drugs in wide clinical use we have not yet discovered how to use them to their full potential. A large proportion of patients routinely treated with tricyclic antidepressant drugs either fail to show a satisfactory response or suffer from side-effects. Further, many patients relapse after an initial successful treatment. More research is needed concerning the psychopathology of depressive illness in order that we may learn to use the complex pharmacodynamic effects of tricyclic antidepressants to maximum benefit in a greater proportion of patients. It is only unfortunate that our understanding of the relationship between the pharmacological action of antidepressant drugs and actual therapeutic effect is still so incomplete. Nevertheless, it is quite possible that tricyclic antidepressant therapy could be drastically improved if plasma level measurements were more routinely available and use made of them in psychiatric practice. There are a number of clinical situations where the measurement of tricyclic antidepressant plasma levels would be extremely valuable; these are listed in table 28.3.

Table 28.3

Clinical situations where the measurement of plasma levels of tricyclic antidepressants* May be of value

-
- (1) After receiving a seemingly adequate dosage the patient shows no response
 - (2) The patient complains of or sustains troublesome or serious side effects
 - (3) Patients receiving other medication with which there is a strong possibility of a drug-interaction
 - (4) Patients who have complicating medical condition, e.g. liver failure, renal failure, cardiac failure
 - (5) The patient relapses during a period of medication—is this related to poor compliance?
 - (6) The control of long-term prophylaxis of recurrent depression
-

With a knowledge of the plasma antidepressant concentration it should be possible to maximise therapeutic effects at the same time as reducing the incidence of serious side-effects.

Only the next decade of antidepressant treatment and research will indicate the full role of drug plasma level measurements and biochemical investigations in clinical practice.

* See also chapter 29.

Monoamine Oxidase Inhibitors

The monoamine oxidase inhibitors (MAOIs) were introduced into clinical psychiatry in the late 1950s. The first of this group to be tested as a potential antidepressant was iproniazid. This is a derivative of isoniazid, an anti-tuberculous drug which had been observed to produce mood elevation in some patients. Unfortunately, although iproniazid initially seemed to be effective in the treatment of depression, its administration was associated with serious adverse effects, including liver damage, and the drug was withdrawn.

Subsequent efforts to synthesise less toxic MAOIs yielded several interesting compounds. These can be divided into two groups based on their molecular structure (figure 28.4). The hydrazine group, chemically related to iproniazid, includes isocarboxazid, nialamide, phenelzine and pheniprazine. The non-hydrazine group includes tranylcypromine and pargyline. In America, phenelzine and tranylcypromine are the only two MAOIs currently approved by the Federal Drug Administration for antidepressant therapy. The other agents have been withdrawn because of hepatotoxicity and other adverse effects.

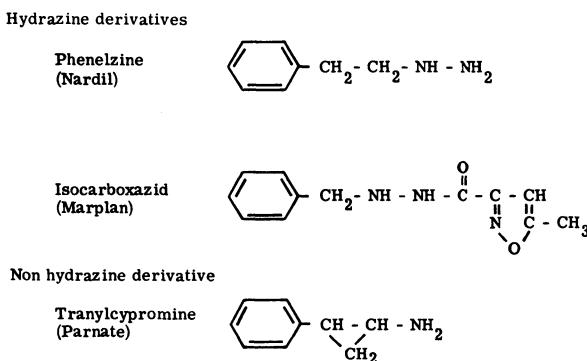


Figure 28.4 Chemical structure of MAOIs

The initial enthusiasm for these drugs inevitably waned, a major factor being the serious interactions reported with other drugs and tyramine-containing foodstuffs. A clinical preference emerged for tricyclics as 'first line' drugs in most cases of depression. By the mid-1960s MAOIs were relegated, by most clinicians, to use in cases of depression which proved resistant to other treatments, although some psychiatrists claimed they were still the drugs of choice for 'atypical depression'. Despite their unpopularity they remain of the greatest theoretical interest and recent clinical research seems to have generated some revival of interest in these agents.

Pharmacology and Mode of Action

Monoamine oxidase (MAO) is an insoluble enzyme found in high con-

centrations in blood, liver and nervous tissue. It catalyses the oxidative deamination of monoamines including noradrenaline, dopamine and 5-hydroxytryptamine (5-HT). Within the pre-synaptic nerve ending MAO regulates the cytoplasmic levels of these neurotransmitters by metabolising any monoamine that is not stored following synthesis or reuptake. Inhibition of MAO produces increased intraneuronal levels of monoamine (Spector, *et al.*, 1963) and accumulation occurs within the presynaptic stores. Thus with the administration of MAOIs there is an increased amount of neurotransmitter released with nerve stimulation which, theoretically, overcomes the presumed functional deficiency and acts as the receptor site. The hydrazine derivative MAOIs produce an irreversible inactivation of MAO and the drug effects only wear off with the synthesis of new enzyme. Thus estimations of the elimination half-life or drug plasma levels are of little relevance to the duration of drug activity.

Two other theories concerning the mode of action of MAOIs have been put forward:

- (1) *The octopamine theory*: (Kopin *et al.*, 1965). A fall in peripheral sympathetic tone with chronic administration of MAO inhibitors has been attributed to the production of octopamine, a false transmitter. Tyramine, normally rapidly destroyed by MAO, accumulates in the presence of a MAO inhibitor. It is converted to octopamine by the enzyme dopamine beta hydroxylase. Octopamine is released along with the normal neurotransmitter but is a very weak adrenergic agonist and a reduction in sympathetic response occurs. The possibility of central monaminergic synaptic transmission being modified in this way and the subsequent effects, are matters of speculation.
- (2) A second suggestion, based on pharmacologic experiments, is that MAO inhibitors act by blocking pre-synaptic reuptake of noradrenaline in much the same way as tricyclics. A correlation was found between the relative potencies of six MAO inhibitors as reuptake inhibitors and their clinical efficacy as antidepressants (Hendley and Snyder, 1968).

The therapeutic response to MAO inhibitors has always been difficult to predict on the basis of clinical presentation (Pare, 1965). Extensive work has been carried out in order to discover specific biochemical determinants of response. Three lines of study where further investigation would appear worthwhile are briefly outlined below:

- (1) *Acetylator Status*. Individuals can be classed as fast or slow acetylators depending on how they metabolise certain drugs, including sulphadimidine and hydrazine derivatives. Phenelzine is a hydrazine derivative and Johnstone and Marsh (1973) found a significant correlation between response to this drug and acetylator status. In patients with neurotic depression, treated with phenelzine, a significantly greater improvement occurred in slow acetylators compared to fast acetylators, presumably because higher plasma concentrations were produced. Thus, perhaps predictably, slow acetylators also seem to be more prone to side-effects.

- (2) *Multiple forms of MAO.* (Neff and Yang, 1974; Youdim, 1973). Multiple forms of MAO have been shown to exist both *in vitro* and *in vivo*. From rat brain studies, two distinct forms, MAO 'A' and MAO 'B', have been demonstrated. The two forms vary in their sensitivity to certain MAO inhibitor drugs and this has allowed the identification of preferred substrates. MAO 'A' metabolises 5-HT, noradrenaline, dopamine, tyramine and tryptamine, while MAO 'B' metabolises only dopamine, tyramine and tryptamine. Thus, theoretically, a specific MAO 'A' inhibitor (for example isocarboxazid, phenelzine, iproniazid) will tend to increase brain levels of 5-HT, noradrenaline and dopamine, while a specific MAO 'B' inhibitor (for example tranylcypromine, nialamide) will produce a rise in dopamine levels. Although theoretically appealing, it remains to be determined how far these animal studies are relevant to man and this work, so far, has no practical clinical implications.
- (3) There is evidence that MAO activity is increased in depressive illness (Sandler *et al.*, 1975). A selected group of depressed patients were shown to have a significant decrease in conjugated tyramine output after an oral tyramine load, compared to normal controls. This was taken as an index of *in vivo* MAO activity and the suggestion was made that MAO activity is increased in depressive illness and inhibition of this increased activity is relevant to the therapeutic effect of MAO inhibiting drugs. Other workers have suggested that if the dosage of MAOI is increased until 80 per cent MAO inhibition occurs in the platelets there is a better chance of therapeutic benefit (Robinson *et al.*, 1973).

Clinical Uses and Efficacy

In 1965, a major clinical trial compared ECT, imipramine, phenelzine and placebo in the treatment of depressive illness. Phenelzine was found to be only as effective as placebo in men and gave even less favourable results than placebo in females (Medical Research Council, 1965). Morris and Beck (1974) looked at 18 studies involving tranylcypromine or phenelzine compared with imipramine and with placebo. They concluded that MAO inhibitors generally failed to show the same degree of superiority over placebo as tricyclics. Thus it would seem that in the treatment of severe depressive illness, tricyclic antidepressants are to be preferred. However, Tyrer (1976) reviewed 12 controlled trials comparing phenelzine and placebo and found that a more favourable outcome in six of the studies seemed to be associated with a larger dose than normal (45 mg/day) and continuation of treatment for at least six weeks. If these two criteria are necessary for a therapeutic response to be produced in certain patients, then many of the earlier comparative studies, including the MRC trial, could perhaps be criticised for inadequate dosage and duration of MAO inhibitor treatment.

Patients considered suitable for treatment with MAO inhibitors have been described as having an 'atypical', 'reactive' or 'neurotic' depressive illness (Sargent, 1961), while tricyclics are the drugs of choice in patients with a typical endogenous depressive symptomatology. Whether 'atypical depression' constitutes a valid diagnostic entity is still a matter of debate

(Kendell, 1976). MAO inhibitors have also been shown to be of benefit in anxiety states and phobic anxiety, especially agoraphobia and social phobias (Kelly, 1973). It certainly appears that MAO inhibitors have a unique therapeutic range, including anxiolytic, anti-phobic and antidepressant properties. However, the indications for their use remain ill-defined and they are inconsistently prescribed. Rather than trying to determine which diagnostic categories of patients will be helped by MAO inhibitors, it may be more useful to look for specific clinical features common to all MAO inhibitors responders.

Tyler (1976) has listed the clinical features correlating with response to MAO inhibitors in four controlled trials. Hypochondriasis, somatic anxiety, irritability, agoraphobia, social phobias and anergia, were all associated with a positive response, while depressed mood, guilt, ideas of reference, nihilistic delusions, and an affective personality disorder, were all associated with a negative response. In a study treating phobic patients with phenelzine, a significant degree of depression prior to therapy actually seemed to hinder response (Tyler, 1973). This brings into question the precept that MAOIs have a specific antidepressant action.

Combined Antidepressant Therapy

The administration of a MAO inhibitor and a tricyclic drug together has been reported to produce severe adverse effects, including hyperactivity, hypertension, hyperpyrexia and coma (Leading Article, *Lancet*, 1965). Sethna (1974) reviewed 28 reports on the dangers of combining antidepressants and concluded that it was the sequential use of these drugs that had been responsible for the adverse effects noted. There was no clear evidence of severe reactions occurring with combined oral antidepressant therapy in appropriate therapeutic dosage when prescribed simultaneously. This combination of antidepressants has been recommended by several authors in cases of depression that have failed to respond to other treatments (Pare, 1965; Sargant, 1963), the rationale for this therapy being that both drugs act in different ways to increase the synaptic levels of monoamines. Together they will produce a greater rise in brain monoamine concentration, and subsequently, a greater antidepressant effect than if prescribed individually. However, MAO inhibitors may interfere with the metabolism of tricyclics and the effectiveness of combination therapy could be related merely to increased tricyclic plasma concentration.

Administration of a combination of a MAO inhibitor and tricyclic drug is usually only considered in patients whose depression has proved refractory to other treatments. Winston (1971) reported on 20 patients with chronic resistant depression; 16 improved on combined antidepressant therapy although ECT was given concurrently in some cases making the response to drug therapy difficult to evaluate. Sethna (1974) found that this type of patient tended to suffer from a 'neurotic' depression, with a considerable degree of anxiety and a 'continuous morbidity' with exacerbations in response to life stresses, rather than discrete depressive episodes. They failed to show typical endogenous features such as early morning waking or diurnal variation of

mood, and none displayed psychotic features. In 12 cases of chronic resistant depression, he found the combination of amitriptyline and phenelzine proved to be significantly more effective than previous treatments. However, Tyrer (1974) felt that these patients, on the basis of the clinical descriptions, were primarily anxious and the improvement with combined therapy was due to an anxiolytic rather than antidepressant action.

In summary, it appears from the literature that the hazardous interactions occurring with this therapy are usually associated with sequential prescription. Winston (1971) recommended cautious prescription of these drugs; the second antidepressant being added in the minimum possible dosage, the dose being gradually increased until the desired response is achieved. Lipsedge (1976) lists seven necessary precautions to be observed when prescribing this potentially dangerous drug combination. The risks can only be justified in cases of chronic resistant depression and there is, so far, no convincing evidence that the concurrent administration of a tricyclic agent and a MAOI is of benefit in these patients.

Adverse Effects

Unwanted effects are unfortunately more common with MAO inhibitors than with tricyclic compounds. Dry mouth, blurred vision and other anti-cholinergic effects are commonly seen, while postural hypertension often occurs with higher doses. More seriously, the hydrazine compounds have been associated with severe liver damage. The worst offender in this respect is iproniazid, which is now rarely prescribed. It is also well known that patients receiving MAO inhibitors are in danger of potentially serious reactions to certain drugs and foodstuffs. These reactions can be classified into two types (Boakes, 1971).

(1) *Hypertensive Crises*

Inhibitions of MAO causes an increase in the pre-synaptic stores of noradrenaline at adrenergic nerve endings. Catastrophic rises in blood pressure result from displacement of this accumulated noradrenaline by sympathomimetic drugs or tyramine-containing foodstuffs.

Tyramine is formed by the action of microbial decarboxylase on the amino acid tyrosine. Thus tyramine levels in foodstuffs will vary from sample to sample depending on the degree of microbial decomposition. Tyramine is normally broken down in the gut and liver by MAO but with inhibition of this enzyme absorption can occur.

Patients taking MAO inhibitors should be aware that foods with a high concentration of tyramine, including cheese, yeast extract, pickled herrings and chianti, should be totally avoided. Sympathomimetic drugs such as amphetamine, ephedrine and fenfluramine will act in the same way as tyramine and are thus contraindicated in patients taking MAO inhibitors, as are methyldopa, and levodopa. Should a hypertensive reaction occur, urgent treatment with a short acting blocking agent, for example phentolamine (Rogitine) is required to lower the blood pressure.

(2) Potentiating Interactions

MAO inhibitors are not specific in their action and other oxidising enzymes are inhibited. Thus, the detoxification of other drugs may be impaired and the actions of pethidine, barbiturates, alcohol and other CNS depressants may be exaggerated and prolonged.

As a general principle, when prescribing any drug that is normally metabolised by the liver to a patient already taking an MAO inhibitor, the danger of potentiation must be considered.

Low Dose Neuroleptics

The phenothiazine group of drugs are generally labelled as potent neuroleptics while the tricyclic compounds are thought of, almost exclusively, as antidepressant agents. However, they both possess a three ring molecular structure and share many pharmacodynamic properties (Herr *et al.*, 1961). There is also some evidence, in the form of clinical trials, to support the idea that certain phenothiazine derivatives may be useful in the treatment of depression.

Overall *et al.* (1964) in a controlled study, were unable to find any marked difference between thioridazine and imipramine, in the treatment of depressed patients. Thioridazine was, however, significantly superior in relieving, among other symptoms, guilt feelings, tension and hostility, while imipramine was more effective only in reducing motor retardation. The patients were classified into three sub-groups based on their initial symptom profiles. Further statistical analysis of the results showed thioridazine to be superior in 'anxious' depressives while imipramine was beneficial in 'retarded' depressives. There was no difference between the drugs in 'hostile' depressives. A more recent double blind study looked at patients with mixed anxiety and depression (General Practice Clinical Trials, 1972). Thioridazine (90–180 mg/day) and imipramine (75–150 mg/day) were prescribed using flexible dosage regimes. The results again showed little difference between the two drugs although thioridazine displayed some slight advantages in regard to earlier onset of effect and fewer unwanted effects.

Similar results have been reported from controlled studies with chlorpromazine. Fink *et al.* (1965) found both chlorpromazine and imipramine to be superior to placebo with equivalent antidepressant actions. Paykel *et al.* (1968) confirmed these findings in a double blind controlled trial using imipramine (200 mg/day) and chlorpromazine (200 mg/day) for three weeks. The drugs were found to be equally therapeutic in 99 depressed patients. There were no significant differences between the two treatment groups in their effects on individual symptoms or on any empirically derived sub-groups of patients. In a similar study Raskin *et al.* (1970) used a double blind procedure to compare chlorpromazine, imipramine and placebo in 555 depressed patients. Median daily dosages over seven weeks were 300 mg of imipramine and 600 mg of chlorpromazine. They concluded that placebo was generally as effective as the two active drugs for the neurotic depressives. Imipramine was significantly better than chlorpromazine in relieving motor retardation. The analysis of drug response in the three overall depressive sub-types revealed only minor differences. During the initial treatment 'anxious' and 'retarded'

depressives both did slightly better with imipramine medication. The 'hostile' depressives appeared to benefit most from placebo.

There have also been claims that flupenthixol, a thioxanthine derivative and proven neuroleptic, displays antidepressant effects. Sonne (1966) first reported that the drug, in low doses, showed specific antidepressant properties coupled with an anxiolytic but non-sedative effect. Reiter (1969) treated 130 depressed out-patients in an uncontrolled study and concluded that flupenthixol, in individually titrated dosage upto to 3 mg/day, showed 'interesting normalising properties' and no significant unwanted effects. A remission rate of 60 per cent was produced; improvement often occurring in the first 24 hours and always within a week. Merskey (1971) found a 'worthwhile sustained improvement' in 24 out of 53 patients with affective disorders that had proved resistant to tricyclic medication and in some cases also monoamine oxidase inhibitors and ECT.

A controlled trial of flupenthixol and placebo in general practice patients was reported by Frølund (1974). An initial dosage of 1 mg per day (0.5 mg b.d.) was increased to 1.5 mg daily during the trial in almost half the patients. A remission rate of over 60 per cent and rapid onset of therapeutic effect was again noted; however, the drug was given for only two weeks and almost a quarter of the patients failed to complete the trial. In a double blind controlled comparative study (Young *et al.*, 1976) treatment was continued for six weeks. Sixty depressed out-patients were prescribed either amitriptyline (75–225 mg/day) or flupenthixol (1.5–4.5mg/day) using flexible dosage regimes. Flupenthixol proved to be 'at least as effective as amitriptyline as both an antidepressant and anxiolytic, and it was less likely to produce side-effects'. The marked improvement of patients on both drugs within the first week of treatment was interpreted by Kellet (1976) as being due to the sedative properties of the drugs and 'placebo response' rather than a specific antidepressant action.

Predescu *et al.* (1973) reported on a double blind placebo-controlled study where flupenthixol produced symptomatic relief in patients manifesting neurotic states with anxiety and depression. Ovhed (1976) carried out a double blind study to compare flupenthixol and placebo in 43 general practice patients with 'diffuse nervous complaints or somatic symptoms' including mild to moderate anxiety and depression, and claimed flupenthixol was significantly superior in relieving symptoms, despite a high placebo response.

Effective drug therapy for 'neurotic depression' would undoubtedly be welcome but so far there is very little evidence to support the notion that low dose neuroleptics are of value in this condition. The prescription of these powerful drugs for minor mental disorders and emotional disturbance requires careful consideration. Chronic administration may produce long-term adverse effects as well as physical and psychological dependence. However, one advantage of using these drugs in depressed patients would be the possibility of long acting depot preparations which would greatly reduce the risk of overdose. In the meantime further controlled studies with low dose neuroleptics should be designed to not only clearly determine the presence of a specific antidepressant effect but also to differentiate this from any anxiolytic effect and thus help to define the clinical indications.

L-Tryptophan (Optimax, Pacitron)

Tryptophan (figure 28.5) is a dietary amino acid and a natural precursor of the central neurotransmitter, 5-hydroxytryptamine (5-HT). It is the only amino acid found to be protein bound in the plasma (McMenamey *et al.* 1957) and only the free (unbound) fraction can cross the 'blood-brain barrier'. A rise in the free plasma tryptophan leads to an increase in the levels of brain tryptophan (Knott and Curzon, 1972; Tagliamonte *et al.*, 1973) and an increase in 5-HT synthesis, as tryptophan hydroxylase, the rate limiting enzyme for 5-HT synthesis, is normally unsaturated at physiological brain concentrations of the amino acid.

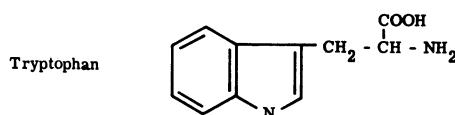


Figure 28.5 Tryptophan

There has been increasing evidence over the past 10 years that 5-HT is involved in depression. Shaw *et al.* (1967) demonstrated that the 5-HT content in the brains of depressive suicides was lower than that of people dying in traffic accidents. Van Praag *et al.* (1970) and Van Praag and Korf (1973) showed that the cerebrospinal fluid concentration of the 5-HT metabolite, 5-hydroxyindoleacetic acid (5-HIAA) was reduced in depressed and manic subjects and he also produced evidence suggesting that central 5-HT turnover is reduced in depressed patients. Coppen (1972) has postulated that a defect in brain 5-HT synthesis may occur in depressive illness and he found reduced free plasma tryptophan levels in depressed females, compared to controls (Coppen *et al.*, 1973).

Tryptophan was first used in depression in combination with an MAOI drug. The combination of an MAOI and L-tryptophan was found to be more effective in the treatment of depression than the MAOI alone (Coppen *et al.*, 1963; Pare, 1963). MAOIs are thought to increase brain 5-HT concentration and the potentiation of this effect by the concurrent oral administration of L-tryptophan is thought to be the reason for the enhanced antidepressant action.

The status of tryptophan alone as an antidepressant is still being evaluated. Two studies have compared the antidepressant effects of tryptophan and imipramine. Coppen *et al.* (1972) found depressed patients responded equally well to imipramine (150 mg daily) or to L-tryptophan (9 mg daily). Jensen (1975), in a double blind study on patients with a diagnosis of endogenous depression, showed tryptophan (6 mg daily) and imipramine (150 mg daily) both produced significant reduction in Hamilton Rating Scale scores. Imipramine produced a more rapid reduction of symptoms but there was a lower incidence of unwanted effects with tryptophan. Rao and Broadhurst (1976) confirmed these results, finding L-tryptophan and imipramine to be equally effective.

Coppen *et al.* (1967) found tryptophan to be 'as effective as ECT in treating

depressive illness' although this finding has not been supported by other similar trials (Caroll *et al.*, 1970; Herrington *et al.*, 1974).

Tryptophan has also been prescribed in combination with tricyclic antidepressants. Walinder (1975) found that chlorimipramine plus L-tryptophan was more effective in the treatment of depression than the tricyclic alone. Chlorimipramine is a potent 5-HT re-uptake blocker and the additional administration of tryptophan might serve to further increase the availability of newly synthesised 5-HT. This study also reported that the addition of tryptophan to chlorimipramine had a greater effect on the patients' depression-anxiety score than the retardation ratings, suggesting that this form of therapy may be most beneficial where depression of mood is the predominant feature.

Viloxazine Hydrochloride (Vivalan)

Viloxazine hydrochloride is a recently introduced antidepressant drug with a new chemical structure unrelated to other psychotropic drugs (Mallion, 1972). There is evidence from experiments in both animals and humans that viloxazine blocks the reuptake of released 5-HT and noradrenaline at the neuronal membrane (Lippmann and Pugsley, 1976; Ghose *et al.* 1976a) and the drug appears to have negligible anticholinergic properties (Bayliss and Duncan, 1974). It possesses a short plasma half-life of approximately 3.5 hours (Case and Reeves, 1975) which precludes once daily dosage.

Viloxazine has been compared with tricyclic antidepressants in several controlled trials (Peet, 1973; Bayliss *et al.*, 1974; Tsegos and Ekdawi, 1974; Renfordt *et al.*, 1976). The majority of reports indicate that Viloxazine has few sedative or anxiolytic properties and a low incidence of anticholinergic effects. The most frequent adverse effects noted were nausea, vomiting and abdominal discomfort. Although these tend to be transient phenomena persistent vomiting has been an occasional problem.

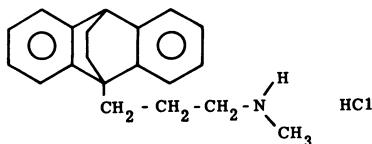
However, with regard to effective antidepressant properties, these have yet to be established and further controlled trials are required to confirm the possible clinical usefulness of this drug.

Tetracyclic Antidepressants

In the last few years a number of psychotropic compounds with a 'tetracyclic' structure have been introduced for the treatment of depressive illness.

The first of these drugs, maprotiline (Ludiomil) is classified as a dibenzo bicyclo-octadiene with a chemical structure related to the conventional tricyclic drugs. However, the presence of a bridge across the central ring produces a more rigid tetracyclic structure very similar to that of another psychotropic drug, benzoctamine (Tacitin). Pharmacologically it exhibits the characteristic pattern of activity found with the tetracyclines (antagonising the central effects of reserpine and tetrabenazine), although it appears to be less potent than imipramine in these effects (Delini-Stula, 1972). Maprotiline also possesses an anticholinergic action and has been shown to be a specific and

powerful inhibitor of noradrenaline uptake into nerve endings (Maître *et al.*, 1971). The drug is totally absorbed when administered orally and has an elimination half-life of approximately 48 hours.

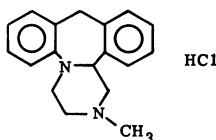


(recommended daily dose: 75 - 300 mg)

Controlled clinical trials have compared maprotiline with amitriptyline and imipramine. In general little difference between drugs was found in terms of efficacy and onset of therapeutic effects. Unwanted effects resembled those of tricyclics and the same contraindications to prescribing apply. Epileptic attacks have been noted with high dosage in younger patients (Delini-Stula, 1972; Kuhn-Gebhardt, 1972). Coppen *et al.* (1976a) investigated the usefulness of maprotiline in the long-term treatment of affective disorder. A double-blind comparison with lithium as prophylactic therapy in recurrent depression showed lithium to be superior. However, the authors point out that the plasma levels of lithium were maintained within the therapeutic range while maprotiline was given in a fixed daily dose. An investigation of the relationship between plasma levels of maprotiline and therapeutic response has been reported by Angst and Rothweiler (1974). These authors observed that low and very high plasma-maprotiline levels correlated with poor antidepressant effects and that best results were those obtained for the tricyclic antidepressant (see previous section).

Mianserin (Bolvidon, Norval)

Mianserin is a piperazino-azepine compound with a tetracyclic structure.



(recommended daily dose: 30-60 mg)

Its biochemical profile does not resemble the traditional antidepressant agents although the experimental findings of Goodlet and Sugrue (1974) suggest mianserin may share, with tricyclics, the ability to competitively inhibit the membrane amine pump of central noradrenergic neurones. The consideration of this drug as a potential antidepressant was based on electroencephalographic findings similar to those of the tricyclics (Itil, 1973).

As with maprotiline, controlled clinical trials have compared the drug with amitriptyline and imipramine. The reports indicate little difference between

the drugs in terms of antidepressant effect. Some of the studies noted fewer complaints of anticholinergic side-effects from the patients receiving mianserin. A virtual absence of anticholinergic activity has been demonstrated by physiological studies (Ghose *et al.*, 1976b).

Coppen *et al.* (1976b) found no relation between the plasma concentration of mianserin and therapeutic effect. Drug interactions remain to be investigated but it has been recommended that the same precautions in prescribing are observed as with the tricyclic antidepressants (Drug and Therapeutics Bulletin, 1977).

Thus mianserin seems to be an effective antidepressant which may be especially useful in patients with a low tolerance for anticholinergic side-effects. However, further studies are required to confirm the important findings so far, particularly as mianserin's mode of antidepressant action remains obscure.

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29 Lithium in Psychiatry

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Lithium was discovered by Arfvedson in Sweden in 1818 as an impurity in iron ore (Saran and Gaind, 1973). In the last century, long before its therapeutic value in psychiatry became established, efficacious medicinal properties were claimed for its carbonate and citrate salts in the treatment of such conditions as uraemia, renal stones and gout. Lithium bromide was advocated as a sedative. In the 1940s lithium chloride was used as a salt substitute for patients requiring a low sodium diet, but this led to cases of intoxication, including some fatalities, so that its use had to be abandoned (Corcoran *et al.*, 1949; Hanlon *et al.*, 1949; Stern, 1949). However, at the same time as these unfortunate reports were appearing the foundations of modern lithium treatment were also being laid.

Lithium in Mania

The psychotropic action of lithium was a chance discovery in Australia by J. F. J. Cade who was studying biochemical changes in manic-depressive illness working on the hypothesis that there was an excess of substance 'X' in manic illness and a lack of it in depression. He injected guinea pigs with urine from manic patients and hoped to enhance the effect of the injections by adding uric acid in the form of lithium urate, which was chosen as the most soluble salt of uric acid. Against his expectations Cade found that addition of lithium urate apparently protected guinea pigs from the toxic effects of the urine. Subsequently he tried lithium carbonate in a group of excited patients (Cade, 1949). Ten of these patients, who were manic, improved; but out of six suffering from dementia praecox only three became calmer. There followed a number of uncontrolled reports on the psychotropic effects of lithium, but no general interest in lithium salts was generated until Schou *et al.* (1954) published a controlled trial. The basis of our present knowledge of lithium therapy is due in large part to the efforts of Schou and his co-workers. In their early study 48 manic patients were administered either lithium salts or placebo in a double-blind trial. According to their criteria of therapeutic response 39 (out of 48) patients showed improvement. In 18 of these 39 patients the improvement was definitely attributed to lithium. Maggs (1963) confirmed these findings in a double-blind trial. Subsequent trials including that of Wharton and Fieve (1966) led to similar conclusions. Johnson *et al.* (1968) conducted a double-blind trial with manic and schizo-affective patients to compare the effects of lithium with those of chlorpromazine. They concluded that both reduced overactivity but that lithium normalised the mood to a much greater extent than chlorpromazine which also produced sluggishness

and drowsiness. Spring *et al.* (1970) conducted a somewhat similar trial and found that both lithium carbonate and chlorpromazine were beneficial in mania with no statistical difference between the two drugs. In summary it has been fairly well established that 70–80 per cent of manic patients respond to lithium in the acute phase of illness. The clinical indications for lithium in the treatment of mania are discussed below.

Lithium in Depression

The possible effect of lithium as an antidepressant has been investigated ever since its introduction into psychiatry, but the evidence as yet is inconclusive. The pioneers in this field failed to demonstrate any beneficial effect (Schou, 1959). When, in the 1960s, lithium was noted to protect manic-depressive patients from further episodes not only of mania but also of depression, a fresh impetus was given to research into possible antidepressant actions of lithium. Since 1968 a number of investigations have been published and these have been reviewed by Mendels (1976). Stokes *et al.* (1971) found that although depressed patients improved towards the end of treatment the effect was not significantly superior to that of placebo. However, a number of later studies (Goodwin *et al.*, 1972; Mendels *et al.*, 1972; Noyes *et al.*, 1974; Johnson, 1974; Baron *et al.*, 1975) have claimed to demonstrate a definite antidepressant action especially with bipolar patients. In summary there is now suggestive evidence that lithium can be of benefit in a few cases of depression, which is an interesting finding as it raises further questions as to the relationship between mania and depression. Its practical use, however, is limited in view of the large number of antidepressant drugs now available with a more predictable action. Furthermore as a footnote, in one study (Cundall *et al.*, 1972), four out of nine patients given placebo after taking lithium became depressed on re-starting lithium.

Lithium as Prophylaxis

Hartigan (1963) noted that manic-depressive patients being treated with lithium also had fewer depressive attacks. In 1964 Bastrup published case reports of 11 such patients. Later Bastrup and Schou (1967) published the first systematic study of the prophylactic effects of lithium. On comparing the frequency and duration of illness in 88 female patients (51 manic-depressive, 22 recurrent depressive and 15 atypical) taking 900 mg of lithium carbonate daily with an equivalent period prior to treatment they found that the rate of relapse (number of episode starts per year) dropped from 1.55 to 0.20 and the mean psychosis rate (number of psychotic months per year) from 3.17 to 0.36. This paper was severely criticised by Blackwell and Shepherd (1968) on methodological grounds. These authors argued that it was the selection and assessment criteria of Bastrup and Schou rather than the lithium therapy itself, which produced the apparent beneficial effect of prophylaxis. In the years that followed there was considerable discussion as to the prophylactic

effects with a number of publications, some semi-controlled and some controlled, but there is now enough evidence to say that in some patients lithium salts do prevent attacks of both mania and depression (Angst *et al.*, 1970; Bastrup *et al.*, 1970; Coppen *et al.*, 1971; Cundall *et al.*, 1972; Stallone *et al.*, 1973; Prien *et al.*, 1974a; Coppen *et al.*, 1976). A description of all these and other trials would take too much space so that the findings of only two (multicentre) trials will be discussed here. In that of Coppen *et al.* (1971), out of 65 patients who completed the trial 28 had been given lithium and 37 placebo. The patients on lithium required less antidepressant medication and none needed ECT, while 43 per cent of the placebo group received ECT. Eighty-six per cent of the lithium treated group had little or no affective disorder as compared with only 8 per cent of the placebo group. Similarly, only 11 per cent of the lithium group remained unimproved while 75 per cent of the placebo group did not get better. There was no difference in response to lithium between unipolar and bipolar illness and results from the different centres in the trial were comparable.

In 1974 Prien *et al.* (1974a), reported the findings of a large multicentre trial carried out in America. The study was divided into two main parts. In the first, 205 patients who presented in a manic phase were given either lithium or placebo. Out of 101 who received lithium 48 per cent remained free of illness while 10 per cent of 104 given placebo did so. In the second study depressed patients were given either lithium, imipramine or placebo. These patients were further sub-divided into a bipolar or a unipolar group according to their past history. Of the 39 depressed patients in the two sub-groups who were on placebo only 8 per cent remained symptom-free. Out of 45 patients on lithium 50 per cent of bipolar and 32 per cent of unipolar remained symptom-free. Out of 38 patients on imipramine 44 per cent of unipolar remained free of illness while only 15 per cent of bipolar did so. The conclusions drawn are that lithium is effective in preventing relapse of both mania and depression. Imipramine is statistically as effective in preventing depression in unipolar patients as lithium, but not as effective in bipolar patients. Whether both lithium and imipramine help the same sub-type of recurrent unipolar depression or different sub-types is a moot point.

It is now generally accepted that lithium is useful in preventing relapses in some patients with affective illness and workers have tried to identify those patients who are most likely to respond (Prien *et al.*, 1974b and Dunner *et al.*, 1976). There is evidence to suggest that 'rapid cyclers' and schizo-affective patients do not respond very well. On the other hand a positive family history is claimed to be a good prognosticator. If a patient does not respond to lithium within one year the chances of a response in future are minimal. These impressions need to be confirmed.

Practical Management

Lithium has a low therapeutic index, that is to say there is a narrow margin between clinical effectiveness and toxicity. Therefore a knowledge of its pharmacology is essential if side-effects are to be avoided. Lithium is an

element and cannot be destroyed in the body, it can only be eliminated. There is a negligible loss via the skin and the loss in faeces is also very small unless the patient has diarrhoea or is receiving a slow-release preparation which is incompletely absorbed. To all intents and purposes it is urinary excretion that counts. To maintain a steady serum level a dynamic equilibrium has to be achieved between oral intake and renal excretion (figure 29.1).

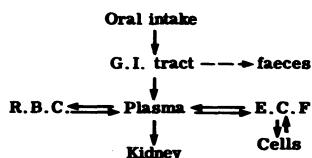


Figure 29.1 Absorption and disposal of lithium

Lithium crosses cell membranes and though there are minor variations in intracellular/extracellular lithium concentration in different tissues, on the whole lithium is equally distributed within the body water. As lithium enters the plasma from the gastrointestinal tract it also leaves the plasma for various cells and for urinary excretion. On a fixed dose of lithium it takes five to seven days for equilibrium to be reached and for a steady serum level to be achieved. If very high doses of lithium are used equilibrium may take longer than a week. The beneficial (and toxic) effects of lithium are dependent on intracellular concentrations and recently workers have been studying these in red blood cells. In isolated cases showing toxic symptoms high intracellular lithium concentrations have been shown to be associated with normal serum levels. This estimation of intracellular concentration is still at an experimental stage, so for present purposes sensible clinical supervision with regular serum estimations are adequate to monitor lithium therapy. However, the timing of a blood sample for serum estimation is crucial in obtaining a clinically reliable result. The blood sample should be taken at least eight hours after the last dose of lithium. Thus, if the patient normally takes a morning dose this should be omitted on the day of venesection as a sample after 24 hours is more reliable than one taken within 8 hours of the last dose.

Since the only effective route of elimination is via the kidneys, conditions interfering with renal function should be excluded before embarking upon treatment. Kidney disease itself, heart disease, low sodium intake, low fluid intake, thiazide diuretics and old age reduce the kidneys' capacity to excrete lithium. These conditions are not absolute contraindications, but if a patient with impaired renal function is prescribed lithium it should be at an appropriately low dose and serum levels should be monitored frequently.

Indications for Treatment

While there are many cautions to be observed there are no hard and fast indications for lithium treatment. Every clinician will have his own scheme

and it would be difficult, if not impossible, to arrive at a single and universally accepted policy. The following should therefore be considered as guide-lines.

(1) In Mania

Although the anti-manic properties of lithium were the first to be discovered it is not often used as the sole treatment for acute mania. This is more especially so because the drug may take up to a week to act effectively, and because it may be difficult to monitor fluid and sodium intake in an acutely disturbed patient. Furthermore the major tranquillisers of the phenothiazine and butyrophenone groups are more rapidly effective and safer in such cases. However, lithium may be used in the treatment of a relatively mild attack of mania, especially when this attack is a relapse considered to be due to the patient stopping the drug of his own accord. This raises the difficult question as to whether a patient stops the drug and thereby causes a relapse, or whether an incipient relapse causes the patient to stop the drug. The question is probably unanswerable but restarting lithium alone does often abort the attack. Another indication for lithium in acute mania may be in the resistant patient when used in conjunction with major tranquillisers.

(2) Prophylaxis

A principal use of lithium is in preventing relapses of unipolar manic and/or bipolar affective illness. Most clinicians do not prescribe it after a first attack, and many do not prescribe it after a second or third if the attacks are separated by several years. However, if attacks are more frequent or if remissions appear to be getting shorter lithium is certainly considered. Further considerations then have to be the patient's likely acceptance of the advice to take lithium, and more important still the likelihood that he/she will be able to shoulder the heavy burden of long term medication and serum monitoring. Drug compliance is as much a problem with lithium as with any other drug, although clinical experience suggests that there is a small hard core of lithium users who stop taking it and relapse. If such a patient is identified early it may be considered preferable to give up the drug at this stage, but other clinicians may prefer to continue while enlisting the help of a relative to enhance compliance. Finally if a patient is found to be taking lithium regularly without clear benefit in terms of prophylaxis, it is the clinician who should show firmness of intent in stopping the drug.

(3) Other Indications

The use of lithium in the prevention of relapses of unipolar depression is perhaps a matter of the clinician's personal preference in view of the less definite evidence of its effectiveness in this respect. Also, many clinicians prefer to use long-term tricyclic antidepressants, which are less hazardous and do not require serum monitoring. The personal preference does sometimes go in favour of lithium, however, the more so when tricyclics themselves have failed.

With recurrent schizo-affective and atypical psychoses as with the so called

'rapid cyclers' the evidence is that lithium is less successful in prevention, as mentioned above. Nevertheless the drug is tried in such cases and successes are claimed.

Administration and Dosage

Lithium salts are all but completely absorbed from the gastrointestinal tract, hence there is no indication for parenteral administration. Both organic and inorganic salts can be used but the organic are preferred because lithium chloride is hygroscopic and corrosive. Of the organic salts (carbonate, acetate and citrate) lithium carbonate is the one of choice, being the lightest. Lithium carbonate is not very soluble but is readily absorbed even by patients with achlorhydria (Amdisen and Schou, 1967).

Clearly there is no fixed dose of lithium carbonate and it has to be adjusted to individual patients. For maintenance therapy the dose usually varies between 800 mg and 2000 mg of lithium carbonate per day although the elderly may require smaller doses (Post, 1976). The serum lithium level 8–16 hours after the last dose is used as a guide, the aim being a serum level between 0.6 and 1.5 mmol/l. Some workers believe that levels below 0.6 mmol/l may be effective but in a recent multicentre trial, primarily designed to test the efficacy of lithium, Prien and Caffey (1976) found that patients with a serum level between 0.8 and 1.0 mmol/l on doses above 1000 mg per day did much better than those patients on a smaller dose with lower serum levels. It needs to be emphasised that the serum level is only a rough guide and some patients develop side-effects at levels under 1 mmol/l. In these cases it is possible that the intracellular level is comparatively high, but the estimation of red blood cell lithium concentration is still an experimental procedure so that dosage has to be regulated by the clinical picture in conjunction with serum estimations.

As the absorption of lithium is virtually complete the dose required depends upon the total body fluid volume and the renal excretory capacity. The factors affecting renal excretion are discussed elsewhere, but as an illustration a young six foot, 85 kg man is likely to need 1600–1800 mg of lithium carbonate while a middle-aged five foot, 55 kg woman may require only 800–1000 mg. It is inadvisable to give lithium to patients with heart failure or kidney disease but if the indications are exceptional a dose of 400–600 mg per day may be required. In such cases frequent serum estimations are imperative.

Lithium carbonate is marketed by three firms in the United Kingdom—Camcolit (250 mg tablets, ordinary preparation, by Camden), Phasal (300 mg in slow-release form by Pharmax), and Priadel (400 mg in slow-release form by Delandale). Slow-release forms can be given in a single dose with less danger of a sudden rise in serum level and appearance of toxic symptoms. However, many patients can tolerate ordinary lithium carbonate in a single bed-time dose without unpleasant symptoms. If a patient fails to achieve satisfactory serum levels or develops unpleasant side-effects it is worth trying a different preparation or giving the same preparation in divided doses, even if the original one is a slow-release tablet. Under rare circumstances a liquid preparation may be dispensed (Schou, 1959).

Toxicity

Gershon and Yuwiler (1960) have listed a large number of toxic effects of lithium. These vary from slight to fatal. Schou *et al.* (1971) have classified unwanted effects as

- (1) Initial harmless.
- (2) Persistent harmless.
- (3) Prodromes of intoxication.

Nausea, loose stools, polyuria and polydipsia, fine tremor, weakness and lethargy are said to be the initial harmless effects. Most of these can be persistent and relatively harmless, while mild oedema and weight gain can be added to the list. Although the symptoms are called harmless they may well be sufficiently irksome to cause the patient to stop the drug or to implore the doctor to stop the prescription. The prodromes of intoxication are firstly gastrointestinal, viz. vomiting and diarrhoea leading to prostration and collapse; and secondly neurological, viz. coarse tremor, ataxia, slurred speech, convulsions, and impairment of consciousness leading to coma and death.

Further unwanted effects of lithium include impairment of thyroid function which can lead to frank hypothyroidism requiring replacement therapy. Goitre may also occur (Schou *et al.*, 1968; Fieve and Platman, 1969). Goitre has been reported in the new born (Amdisen, 1969), emphasising the inadvisability of using lithium in pregnancy. Teratogenic effects have been found in laboratory animals, but Schou *et al.* (1973a) concluded from a Register Study that the risk of deformity was much less in man. Nevertheless and notwithstanding reports of healthy infants born to mothers taking lithium, there is insufficient evidence to confirm its safe use in pregnancy. Furthermore there are dangers to the mother. Renal excretion of lithium in pregnancy may increase by 50 to 100 per cent falling precipitately after parturition (Schou *et al.*, 1973b). Thus the dose may be increased during pregnancy to maintain adequate serum levels resulting in sudden onset of severe toxicity in the immediate post-partum period. Therefore if lithium is to be used in pregnancy at all the dose should be greatly reduced before delivery.

Allergic reactions to lithium may occur and mostly present as skin rashes. There are a number of other reactions that can be produced, but rather than memorising an exhaustive list it is better to stop the drug, at least temporarily, until the symptoms have been fully assessed.

Treatment of Lithium Toxicity

Treatment starts with prevention. Patients should be carefully selected before lithium is prescribed, they should be warned of possible side-effects and also instructed not to take an extra dose to make up for a missed one. As the therapeutic index of lithium is low an extra compensatory dose taken with the prescribed one can produce toxic symptoms. It is advisable that the patient's relatives should also be warned of possible side-effects. Patients should have

access to urgent advice in case of unusual symptoms as lithium toxicity can progress rapidly.

When symptoms due to toxicity do appear, or even when suspected, lithium should be stopped and if restarted later it should be at a lower dose. Diuretics should not be given to treat toxic symptoms because they interfere with lithium excretion and may make symptoms worse by inducing hyponatraemia. Thus an adequate fluid and sodium intake should be maintained. There is no effective way to increase renal excretion although aminophylline, and intravenous alkaline infusion have been considered helpful (Gaind and Saran, 1970). If the serum lithium level is above 4 mmol/l the patient should be transferred to a renal unit for haemodialysis. There is no antidote to lithium but in most cases not requiring renal dialysis the maintenance of vital functions while the kidney eliminates lithium will lead to full recovery. There have been isolated case reports of permanent localised brain damage but this is rare.

Concluding Summary

In this chapter the value of lithium in the treatment of mania and depression, and in the prophylaxis of bipolar affective illness has been discussed. Guidelines for management have been put forward and the problems of toxicity have been described. Biochemical mechanisms have not been included, for these are in the early stages of investigation and no comprehensive picture of the metabolic effects of lithium has emerged to explain the more firmly established therapeutic actions. This is important research which should help towards a more fundamental understanding of the physical basis of mood regulation and disturbance. Meanwhile lithium remains one of the most potent aids to the prevention of recurrent affective illness in man.

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30 Benzodiazepines Causing Aggression

Raghu Gaind and Robin Jacoby

The benzodiazepines are among the most prescribed drugs in medical practice. They are all derivatives of the 1, 4-benzodiazepine nucleus and include the so-called minor tranquillisers (diazepam, chlordiazepoxide, oxazepam, lorazepam, medazepam and potassium clorazepate) and the hypnotics (nitrazepam and flurazepam). From the early 1960s when chlordiazepoxide was first available for use in clinical practice the benzodiazepines have been a major growth industry for the pharmaceutical corporations. In 1970, for instance, in Britain the combined total number of EC10 prescriptions (effectively all from general practice) for chlordiazepoxide, diazepam and nitrazepam 14 971 000, compared to 3 361 000 for digoxin or 7 948 000 for ampicillin (Committee on Safety of Medicines, 1964 to 1973). In 1972 in the United States prescriptions from retail pharmacies for benzodiazepine tranquillisers and hypnotics were approximately 81 million (Greenblatt and Shader, 1974). The expenditure on these exceeded 200 million dollars. Unfortunately there are no comprehensive studies of treatment adherence (drug compliance) specifically for benzodiazepines, but Blackwell (1976) has stated that non-adherence of out-patients to medical treatment in general, is between 25 and 50 per cent. If the lower of these percentages is applied to the American figures for 1972 we arrive at a rough estimate of 50 million dollars worth of wasted drugs, which speaks for itself.

Aggression due to benzodiazepines is now becoming more widely recognised but is considered by some to be a minor problem. However, in the context of the enormous number of prescriptions dispensed in both hospital and general practice aggression is a problem that can neither be ignored nor overlooked. In this paper we review the history of benzodiazepine-released aggression, discuss 18 cases which we have collected in two and a half years, and raise some of the broader implications of the benzodiazepine 'boom'.

Aggression and Benzodiazepines

The early animal studies (Randall, 1960, 1961) described the taming effect of chlordiazepoxide on vicious monkeys and fighting mice. Other workers reported similar findings in other species and at doses which did not greatly affect locomotor activity. This is important because benzodiazepines are generally considered to be effective tranquillisers in man at doses which do not oversedate the patient.

However, when chlordiazepoxide first became available to patients, Ingram and Timbury (1960) reported the single case of a school teacher who, having taken chlordiazepoxide, had struck his wife for the first time in 20 years of marriage. This being but an isolated case these correspondents suggested 'circumspection and scepticism' until further data should be obtained. Various experiments were carried out in an attempt to establish a causal link between aggression and benzodiazepine drugs. Fox and Snyder (1969) demonstrated greater aggression and mortality in grouped male mice given diazepam than in a drug-free control group. Guaitani *et al.* (1971) reported similar findings. This raises the point of group interaction as a possible necessary concomitant of benzodiazepine-released aggression. This was investigated in man by Salzman *et al.* (1974) who found that 'inter-personal behavioural hostility' was increased when an element of frustration was introduced to a group of healthy volunteers given chlordiazepoxide as compared with a control group taking a placebo. These authors suggest that an increase in expressed hostility may be a regular rather than paradoxical effect of chlordiazepoxide.

Of course conclusions about man deduced from any animal experiments are fraught with difficulty, but this seems especially so with the benzodiazepines because deductions about the animal experiments themselves are open to doubt. Thus DiMascio (1973) has pointed out that the animal response to benzodiazepines, whether reduction or increase in aggression, is dependent on the test model, the species, the dosage and the length of time for which a benzodiazepine is given. Clinical reports of aggression in man, including that already cited, are described as anecdotal (Greenblatt and Shader, 1974). This is likely to remain so, since it is difficult to see how a properly controlled trial to test specifically for aggression could be ethically designed. Experiments such as those of Salzman *et al.* (1974) could be repeated with patients but it is likely that they would show too general a pattern of aggression, because these workers report this as a regular effect of the drug and would thus fail to differentiate those patients who are most likely to suffer spontaneous and serious outbursts of hostility. Furthermore, such experiments and the animal studies already cited have merely shown that benzodiazepine-released aggression is related to frustration and group interaction. Important as this may be, it is a banal fact of life that frustration and group interaction are everyday experiences from which patients cannot be protected. What we need to know is which patients are most likely to respond to benzodiazepines in this adverse way.

The Patients

These 18 patients were seen mainly in community psychiatric hospital practice, while some were seen at special forensic consultation. Patients were deliberately excluded if alcohol or other drugs could have contributed to the behavioural change. Also excluded were those with a history of physical violence to others. The single exception to this was Case 4, but he had not assaulted anyone for more than 10 years. The facts of these cases were all

corroborated by informants other than the patients.

Case Reports

Case 1

A 29 year old East African Asian housewife with four children, described as incompetent and heavily reliant on the support of her extended family, which she lost on coming to England. No previous history of physical aggression. She was prescribed diazepam for tiredness and inability to cope. Within a few weeks, bruises were found on the two younger children, explained by her as falls. Three months later, the youngest was found in coma and subsequently died from head injury. The mother was convicted of manslaughter.

Case 2

A 37 year old West Indian carpenter given to gambling, moodiness and impulsive acts. No history whatsoever of physical violence. Gambling had brought him to serious mortgage arrears. Confessing himself to be depressed one day, he was given 15 mg diazepam by a cousin and took it as a single dose. The same evening he was criticised for gambling by his sister, which criticism she had previously voiced without causing trouble. A dispute ensued and he attacked his sister and another cousin with a hammer and both required hospitalisation.

Case 3

This 32 year old man sustained serious accidental injuries at the age of 20 leaving a residual right hemiparesis. He spoke with a lisp. Married at 26 he was separated at 30. Described as more irritable and moody after the accident, he had never shown physical aggression. Following trouble with his wife he was prescribed chlordiazepoxide. Soon afterwards at a party, and before he had drunk anything, he started a fight having heard remarks passed on his lisp and limp. He stabbed a man with a kitchen knife causing serious neck injuries. It was his mother who suggested the connection between the chlordiazepoxide and his violence.

Case 4

A 47 year old accountant who had been married 20 years. He had a volatile temper but had not struck his wife for more than 10 years. Before referral he was overstressed at work and had been prescribed diazepam. Two weeks later he assaulted his wife causing serious facial injuries and fractured ribs. He was convicted and put on probation. The diazepam was stopped and there was no recurrence of aggression.

Case 5

A 32 year old prostitute married to a former client, who was very protective and always trying to reform her. He described her as a 'Jekyll and Hyde' personality meaning that when she took diazepam, which she had done for several circumscribed periods since age 23, she was subject to aggression and

serious self mutilation. When not taking diazepam she was either placid, or if angry and frustrated, retired to her room for up to two days. On one occasion shortly after restarting diazepam, following three months of abstinence from the drug, she struck her husband on the head with a poker causing extensive lacerations.

Case 6

This 35 year old housewife was vivacious and histrionic. Her husband was a shy industrious man six years her junior. There were rows between them in which she occasionally threw things on the floor. She was prescribed diazepam, although she told her doctor she wished only to discuss marital problems. Ten days later during a marital row she plunged her arm through a pane of glass and required one month's hospitalisation for operative treatment.

Case 7

A 31 year old housewife, impulsive and prone to shout at her husband and child. She complained of marital problems to her doctor who prescribed diazepam. Soon afterwards during a marital row she kicked her foot through a door causing a tendo Achilles injury with need for extensive skin grafting. She volunteered that diazepam had changed her personality.

Case 8

This 22 year old machinist was an immature histrionic girl who abused amphetamines. Her doctor had weaned her off these by substitution of diazepam and nitrazepam. She claimed that her personality changed as a result, and that she lost control and broke things. She also began to cut her forearms and inflicted a serious tendon injury. The self injurious behaviour stopped completely following withdrawal of diazepam, although her personality problems remained.

Case 9

A 23 year old warehouseman, shy and reticent, who for years had masturbated behind a lace curtain with heterosexual fantasies of the women passing below. Following the engagement of his only friend he complained of loneliness and low spirits and was prescribed potassium clorazepate. He said this gave him 'Dutch courage' and he began to masturbate with the curtain drawn aside exposing himself to public view. He was arrested and convicted after two consecutive complaints from one woman. While he was on probation potassium clorazepate was stopped and he resumed masturbation behind the curtain.

Case 10

This 27 year old housewife was suddenly and unexpectedly deserted by her husband, leaving her with a five year old daughter. She lived in poor accommodation and was very isolated. She was prescribed nitrazepam at night and a proprietary combination of fluphenazine and nortriptyline. Of her own accord she stopped the proprietary combination and took nitrazepam

during the day as well as at night. Following this she complained of 'losing my cool'. She beat her daughter for trivial reasons and brought her to the clinic to show the bruises. She had never done this before and ceased to do it when nitrazepam was withdrawn.

Case 11

A 43 year old docker of explosive temperament but who had never assaulted anyone before. A locum general practitioner mistakenly prescribed different yellow tablets (diazepam 5 mg) for his usual yellow tablets (amitriptyline 25 mg) following which he viciously assaulted his wife and children. This was not repeated following withdrawal of diazepam.

Case 12

A 60 year old professional woman and housewife of timid personality, whose husband was domineering and offered little emotional or domestic support. Desensitisation was unsuccessful for agoraphobia and potassium clorazepate was prescribed to alleviate anxiety. The drug was given against the husband's wishes. The patient said she felt 'marvellous' because she could now stand up to her husband, shout at him and had withdrawn conjugal rights. Only then did the husband say that some years previously the same thing occurred when she had taken diazepam. She continued to take potassium clorazepate and remained assertive at home.

Case 13

An attention-seeking woman of 29, who has attended a supportive clinic since 1963. Only recently her mother reported that the patient became extremely promiscuous at times and that she (the mother) had noted that this occurred only when her daughter was taking chlordiazepoxide and/or diazepam.

Case 14

A 52 year old leather worker with a paranoid personality, who had held the same job for more than 20 years. His doctor had long supported him admirably without medication, but a new doctor prescribed diazepam and nitrazepam. One week later he had a row with his boss and was sacked. Family rows broke out and after a few months his wife left him. Following this he killed himself.

Case 15

An antisocial man in his 40s with convictions for minor offences. He was prescribed diazepam and for the first time became physically threatening. Under threats he extorted from his doctor diazepam for himself as well as amphetamines which he did not take but sold. On admission to a psychiatric ward all drugs were withheld and he was a model patient. After discharge he obtained diazepam from another doctor and again made threats of violence.

Case 16

The 33 year old wife of a 43 year old stockbroker. A timid, malleable personality who found adjustment to her status difficult. She was prescribed

medazepam and flurazepam which, according to her husband, caused a sudden change in personality. She became quick tempered, self-willed and assaulted her husband. Following withdrawal of medication she reverted to her previous personality which she resented.

Case 17

A 32 year old businessman, who during marital therapy revealed morbid jealousy. His accusations were verbal only. After a lapse of time he was referred again to the psychiatric clinic because he had backed up his accusations with physical aggression towards his wife. It transpired that this occurred only after prescription of potassium clorazepate. When this was withdrawn he returned to mere verbal accusations of infidelity.

Case 18

A 37 year old civil servant of quiet, deferential character became depressed following discord with his cohabitee over her child's school refusal. There was no previous psychiatric history and no record of aggression. He was prescribed lorazepam for depression and was referred three days later to a psychiatric emergency clinic because he had assaulted his cohabitee. Lorazepam was withdrawn and no further aggression occurred.

These patients fall into three broad clinical groups. First, those who assaulted others—ten patients (Cases 1, 2, 3, 4, 5, 10, 11, 16, 17, 18). It is noticeable that these assaults were mostly domestic. Second, those who deliberately inflicted injury on themselves—three patients (Cases 5, 8, 14). Third, general aggressive or disinhibited behaviour—nine patients (Cases 5, 6, 7, 9, 12, 13, 14, 15, 16). From these figures it is seen that three patients fall into more than one group (Cases 5, 14, 16).

Most of the patients had shown some premorbid personality maladjustment, but there are no characteristic personality profiles which emerge. Also, it is doubtful whether premorbid personality maladjustment can be taken as a contraindication to benzodiazepine treatment, since this is too vague a judgement and would exclude too many patients. Furthermore a minority of the patients described here were not maladjusted.

Deliberate self injury has not been reported before but suicidal ideas have (Ryan *et al.*, 1968; Hall and Joffe; 1972). We have considered the two patients who deliberately cut themselves together with the man who committed suicide only as representing a group in which aggression was directed inwards rather than at others. It seems unlikely, however, that the response in this group is fundamentally different from that of the other two, namely release of latent aggression.

Several of the patients or their relatives volunteered that the tablets seemed to have caused the change in behaviour, some commenting that the change had been quite sudden and lasted as long as the drug was taken. In only one case (Case 2) was the dose outside the recommended range, and with this exception (15 mg) it was not large. In some the doses were low—Case 9 for instance took only one 15 mg tablet of potassium clorazepate per day.

Retrospectively at least the reason for prescribing benzodiazepines to many

of these patients was rather bizarre. Apart from Case 2 who was not prescribed anything by a doctor, and Case 11 who was given diazepam by mistake, seven patients (Cases 1, 4, 6, 7, 10, 14, 16) received benzodiazepines apparently for relief of life-stress. There is no evidence in the literature that this is a valid indication for such treatment. Four patients (Cases 3, 5, 9, 18) had been prescribed benzodiazepines for what was said to be depression. It is a common finding that these drugs are given for depression, although not usually by psychiatrists. It may be that this is because anxiety is a common fellow-traveller of depression, but there is in fact no evidence that benzodiazepines are antidepressants, rather the contrary is so (Ryan *et al.*, 1968; Hall and Joffe, 1972).

We note with interest that two patients (Cases 12 and 16) were normally reticent characters, who became more assertive with benzodiazepines, one indeed to good effect. Recently we have had a patient whose major problem was her inability to assert herself at home. In addition to a behavioural programme of assertive training we tried a small dose of potassium clorazepate (15 mg per day) with apparently good result. This was achieved more rapidly than one might have expected from behavioural training alone. The instance is anecdotal and experimental but might suggest an hitherto untried therapeutic use for benzodiazepines.

In this group of patients diazepam is the most frequently occurring drug. This is probably due to its greater use than to an intrinsic difference between diazepam and other benzodiazepines. It is interesting to note that oxazepam is the only benzodiazepine not to figure in this series, which may simply reflect a much lower rate of prescription. However, Gardos *et al.* (1968) showed that chlordiazepoxide increased hostile aggressive tendencies in healthy volunteers in contrast to oxazepam which did not. Many benzodiazepines are metabolised to nordiazepam, and it is this compound which is found in highest plasma concentration after medazepam, diazepam, or clorazepate have been given for several days (Lader, 1976). Nordiazepam is itself metabolised to oxazepam prior to conjugation, and it might be that oxazepam, which is therefore a metabolite of several other benzodiazepines, has different properties to those compounds that precede it in the metabolic chain.

Concluding Discussion

The apparent paradox of increased aggression due to benzodiazepines is a phenomenon of which clinicians are becoming more aware. Cases described are necessarily uncontrolled and retrospective, which makes it all the more difficult to identify in advance the patient who is most likely to respond with aggression. The importance of bringing such a problem to the notice of clinicians is all the greater for the reason that benzodiazepines have come to be regarded as pre-eminently safe drugs. We remember the early advertisements for 'Mogadon' (nitrazepam) which proclaimed an enormous LD₅₀ (the dose causing 50 per cent mortality) in mice implying the widest of safety margins for patients. It is not therefore surprising that benzodiazepines replaced the more dangerous and addictive barbiturates. But the benefit of safety has

brought with it the habit of loose prescribing for such things as life-stress and so-called depression. The problem is now further aggravated by the belief prevalent among doctors and patients alike that the logical end-point of a medical consultation must be a drug prescription. This is neatly exemplified by our Case 6 who told her doctor she wanted only to discuss her marital problems. Case 7 is similar. Admittedly it is frequently difficult to differentiate social unhappiness from depression, but it is important to do so for otherwise needless pharmaceutical remedies are liable to be applied to social distress in pointless pursuit of what the German novelist Günter Grass has aptly called the utopian principle of health.

... the 'Suburban Widow' is sitting there. High Fidelity: piles of phonograph records ward off silence. In a moment she will open her little box of librium or inject herself with something or other. Is she sick? I say her behaviour is normal and in keeping with her state of mind, which is social.

Grass, 1976

Such loose prescribing can serve only to increase the risk of aggressive behaviour, the cause of which remains to be determined. Descriptively it can be said that benzodiazepines may be disinhibiting and, more important, that they disinhibit at lower (therapeutic) doses than other tranquillising drugs. It can also be said that they lower the frustration threshold and, while leading to sedation in the majority, may induce dangerous or self-injurious behaviour in the minority. Minority it may be, but we cannot agree with Hollister (1973) who concluded that benzodiazepine-released aggression in man was a problem of little clinical importance.

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