

**THE RELATIONSHIP BETWEEN OCCUPATION AND HEALTH:
IMPLICATIONS FOR
OCCUPATIONAL THERAPY AND PUBLIC HEALTH**

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Abstract

This thesis proposes an occupational theory of human nature based on the observation that all humans engage in occupation to survive, be safe, and meet their needs for social approval and self actualisation. The core idea under investigation is that engagement in occupation is, in evolutionary terms, a central mechanism for health. In order to test the theory, the thesis scrutinises ideas held about human biological capacities, occupational history, and health.

The scrutiny supports the notion that health and engagement in occupation are inextricably linked: however occupation is so much a part of everyday life that this relationship is hardly acknowledged. In addition, it is difficult to consider the purpose and meaning of occupation, or its relationship to health, in an holistic way because occupation has been arbitrarily divided into work, play, leisure and rest, particularly within post-industrial societies. The exploration, using a history of ideas approach, reveals that health outcomes, either good or bad, can be traced to occupational determinants such as the type of economy, governmental policies, and societal values such as the 'work ethic'.

Following an exploration of health and illness from an occupational perspective, the position of occupational therapists as agents for promoting health according to their view of occupation is considered. An account of the profession's genesis makes it clear that its basic philosophical stance is congruent with World Health Organisation and 'New Public Health' ideologies. Despite pressures throughout its development to conform with the medical model, occupational therapy has emerged with a strong commitment to research and practice based on its distinctive view of occupation and its centrality to health and well-being.

An occupational therapy approach to public health is postulated based on action-research. Five models of health promotion, 'wellness', 'preventive medicine', 'social justice', 'community development' and 'ecological sustainability', are discussed to illustrate the breadth of an occupational approach to 'public health'. Strong recommendations are made for occupational therapists to implement an occupational approach within public health.

STATEMENT OF ORIGINALITY

This work contains no material which has been accepted for the award of any other degree or diploma of any other university and, to the best of my knowledge and belief, the thesis contains no material written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for photocopying and loan.

Signed.....

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Chapter 1

Introduction

This thesis explores the relationship between occupation and health, how this relationship is addressed by occupational therapists, and its importance to public health. Throughout the thesis the word 'occupation' is used to mean 'all purposeful human activity'.

Four particular questions are addressed; namely the importance of occupation in human life, occupation as a positive influence on health, the potential of occupational therapy to be a health promoting profession, and the compatibility of occupational therapy with current public health and World Health Organisation (W.H.O.) objectives. The benefits ^{that} ~~of~~ a greater emphasis on the relationship between occupation and health may yield are discussed, with the recommendations that there should be greater recognition of the potential role of occupational therapists in programs initiated by primary health care and public health organisations.

The exploration, which has led to the development of an occupational view of human nature and health, was prompted by documents from the W.H.O. and the Better Health Commission of Australia which called for an acceptable level of health for all by the year 2000¹. These documents stressed the need for the reorientation of all health professions towards the pursuit of health. For each profession particular perspectives of health and illness are somewhat different, and for each professional there are also slight differences according to underlying beliefs, values and experiences. Nevertheless, there is scant

¹World Health Organisation. *Primary health care*. Report of the international conference on primary health care. Alma Ata. 1978; Better Health Commission of Australia. *Looking forward to better health*. Canberra: Australian Government Publishing Service, 1986.

acknowledgment that basic ideas about what health is may not be constant between professions or within the general population. There is therefore little appreciation that, in order to meet professional, community and individual goals, health care workers, including occupational therapists need to be able to define clearly what they, their clients, and the communities they serve understand by health and illness.

This in no way implies that a standard definition is required by health professionals. In fact, because ideas about 'health and well-being' do differ between individuals, communities, professions, societies and cultures, it is important to search for factors common to the experience of 'health', and for those which may have been overlooked. It is also necessary that occupational therapists, along with other disciplines, should be able to describe clearly their profession's particular views, and their own underlying views and values. Such clarification is also necessary for the researcher, so, a brief history of my own personal and professional orientation is included, (as is common practice in qualitative research), prior to discussion about the focus of the thesis.

I trained as an occupational therapist in England between 1958-61, where training was based on physical and mental health care concepts according to the medical model². A commitment to and interest in rehabilitation, established during the second world war, was still dominant within this model. Students learned about anatomy, physiology, psychology, medical, surgical and psychiatric disorders, along with practical training in numerous occupations such as woodwork, weaving, recreation, dance, household,

² An example of the influence of the medical model on occupational therapy at that time is provided by the following quote:

"Occupational therapy is the term given to the use of activities of many kinds, medically prescribed, for the distinct purpose of contributing to recovery from disease or injury, or for the maintenance of function when complete recovery is not possible. It is directed to ultimate re-establishment of the patient in home and employment, or in work or recreation under sheltered conditions"

MacDonald EM, editor. *Occupational therapy in rehabilitation*. 2nd ed. London: Bailliere, Tindall and Cassell, 1964, p.2. (1st edition, 1960).

gardening and process work to a level of competence enabling graduates to teach or use these in the treatment of patients. The relationship between these occupations and health was hardly considered in philosophical terms, and theoretical considerations were directed to the prescriptive use of occupation to remedy physical, mental and, occasionally social, disorders. In common with educational practices of the time, information sharing was didactic and authoritarian, rather than participatory, so that the teaching and learning environment did not, on the whole, encourage questioning or self directed study. The result of this mix was an occupational therapist competent to practice within a wide range of medical services, with a strong belief in the efficacy of occupation to influence health status, but little ability to articulate a rationale for this belief. This latter factor made it difficult to defend the value of occupation to health when medicine adopted an increasingly reductionist, 'scientific', and technological stance from the late nineteen sixties onwards.

This difficulty did not result, in my case, in a decrease of belief in the efficacy of occupation's influence on health because experience had provided strong empirical evidence that this was the case. Experience had also broadened my concept of health to incorporate the notion of maximising individual potential and well-being. Four case histories which I experienced illustrate the point.

In 1961, Harriet was a forty five year old lady who had been disabled with rheumatoid arthritis from her late teens. She was unable to sit at all, spending her time lying in bed, or standing for brief periods, having reached this upright position with the mechanical aid of a tilting mechanism. She had minimal shoulder, elbow and finger movement, to the extent that she could not touch her face, feed herself without aids, or attend to even simple self care. Because of this restricted mobility, and tremendous pain, throughout her adult life she had suffered gross occupational deprivation. During the course of our professional association she mentioned, by chance, that she envied those who could paint, and by inference that this, for her,

was beyond the realms of possibility. As this was before the days of rehabilitation and education aid catalogues, much to her surprise a 'Heath Robinson' device , which enabled her to paint tiny areas of a pre-drawn canvas, was concocted and set up across her bed. With a master painting to follow for colour, she completed piece by painful piece, a small landscape, which to her was the equivalent of a 'Constable'. There is no way to describe her joy as she went on to her next masterpiece, or the disappointment she expressed in a letter she wrote after a move to another treatment facility where she was unable to continue her new found occupation.

Two men, in their thirties, lived, more or less permanently, in hospital following spinal injuries which left them quadriplegic. The first, Peter, it was reported, had had an unusual and deprived childhood, brought up in an institution with intellectually handicapped children following abandonment as an infant. As a result he had experienced minimal education, and poor job opportunities. Following his accident Peter was taught by an occupational therapist to do tapestry embroidery, in which he became very interested, and skilled. He entered and won competitions in local shows, and became a local celebrity as a result. He regularly glowed with well-being following his occupational achievements being recognised and applauded. The other man, David, supplemented his pension by making simple carpentry objects on commission. He was introduced to wood turning, on an electric lathe, which was initially a challenge but which became an ongoing and absorbing occupation. Many years later I was able to visit David, unexpectedly, and thought he didn't remember me. His response -"How could I forget the person who introduced me to wood turning. Now look under the bed and pull out the box. I am working on clock faces at the moment!"

Sharon was seventeen when her nightdress caught fire. She was badly burned over her face, neck, chest, arms and hands. Ultimately she lost several fingers, and suffered facial disfigurement. At first meeting, early in the medical and functional restoration process, it was obvious to her that she would be unable to follow her previous long term plan which was to join the armed forces. To provide greatest choice for her future it was suggested that she could, if she wished, use the years of treatment as a time to rebuild her future. She chose to undertake external matriculation studies between bouts of surgery. It was hard work, and took a long time, but resulted in entry to university, and successful graduation into a profession. This course of action facilitated a new way of life and enabled Sharon, despite physical loss to utilise capacities which had previously been untapped.

These examples of people, who despite residual disability, were enabled to reach higher levels of well-being through maximising untapped potential led me to a belief in 'growth models of health' advocated by psychologists such as Maslow. Ideas based on this belief are central to the notions about occupation and health discussed in this thesis.

I became aware of other important health related functions of occupation through four years experience in a small acute psychiatric unit as the sixties gave way to the seventies. This unit was run as a therapeutic community which used the community's social processes as treatment for those admitted. The strategies included group therapy, in which feedback was given on individual behaviour by others in the group; encouragement of frank expressions of thoughts and feelings about the here and now, and peer group pressure³. Group therapy was not restricted to discussion, but included action and community occupation⁴. The idea upon which the seven day a week occupational therapy sessions was based was that when people are 'well', and are together in a group, they formulate plans quite quickly for how they will spend their time together, and having decided on a course of action will engage in what they have chosen to do⁵. Therefore the program planners held a positive and stated expectation that members of the group would spend two to three hours each morning together in what was known as 'the practical relationship room', and that they would engage in group activity of their choice. The staff's role was to encourage such activity but not to initiate it.

³ Levy BS. Therapeutic Community. In: Kuper A, Kuper J, editors. *The social science encyclopedia*. revised ed. London: Routledge, 1989.

⁴ For interest, see: Friedland J, Murphy M. A group approach in psychiatric occupational therapy. *Canadian journal of occupational therapy* 1965; 32: 109-118; Shannon PD, Snortum JR. An activity group's role in intensive psychotherapy. *The American journal of occupational therapy* 1965; 20: 68-71; Mumford MS. A comparison of interpersonal skills in verbal and activity groups. *The American journal of occupational therapy* 1974; 28: 281-283.

⁵ Johnson H. Psychiatrist, Shortland Clinic, Royal Newcastle Hospital, professional communication, 1968.

What happened in these sessions was, of course, a major topic for consideration in other parts of the program. What did happen for sometimes days, weeks even stretching, occasionally, into months, was often very little in the way of group occupation but a great deal in terms of difficulties experienced by members of the group in initiating occupation. Staff discovered many ways to encourage activity, often tapping unexpected capacities in themselves in their efforts to overcome occupational deprivation resulting from the patients' lack of mental health. It was a difficult role for staff who tended, erroneously, to equate the patients' reduced engagement in purposeful occupation as a reflection of their own techniques being ineffective, and themselves had to contend regularly with their own frustration as well as the extremely demanding work of helping the patients explore what was happening. As this challenging process was worked through the patients eventually arrived at a state in which their drive for occupation was restored. It usually occurred for most of the group at about the same time, and resulted in some dynamic, exciting and different activity. We held art shows, made movies, built brick barbecues, and even 'group' knitted with 'group'-turned ten foot long knitting needles. Completion of a major community occupation was almost a signal for discharge: health, well-being and occupation appearing to be inseparable, just as lack of health had resulted in poverty of occupational engagement⁶.

These experiences made me reflect about the purpose of occupation in human life, and on the apparent close association between mental health and occupation.

My more recent experience has concentrated firstly on neurological rehabilitation⁷, with some time spent undertaking post graduate study in

⁶ Wilcock AA. *Shortland clinic memoirs*. Unpublished document written at the time of transfer to another post, 1972

⁷ Wilcock AA. *Occupational therapy approaches to stroke*. Melbourne: Churchill Livingstone, 1986.

neuropsychology at Flinders University with Professor Genna Geffen, whose work on dichotic listening is well known⁸, and Dr Mike Wood, whom I was able to observe using a wide range of neuropsychological tools to assess clients with central nervous system damage. A principle text recommended by these authorities was Kolb and Whishaw's *Fundamentals of Human Neuropsychology*, which still contains material relevant to many of the issues addressed here⁹. Interest in neuro-science has led to an appreciation of the role of the central nervous system in all aspects of human life, including the promotion of health, and in understanding humans as occupational beings, because as Edelman proposes

*"In the course of evolution, bodies came to have minds. But it is not enough to say that the mind is embodied: one must say how. To do that we have to take a look at the brain and the nervous system and at the structural and functional problems they present"*¹⁰

A second major interest has been in public health and health promotion, influenced by studies undertaken towards a masters degree in public health at the University of Adelaide, which introduced me to the concepts of social medicine and social health.

My interest in studying the occupational nature of humans was precipitated by the emergence of a new generic discipline - namely occupational science. This sparked, for me, a professional 'revelation' of the need to understand, more fully, the apparent human need for occupation as a basis for the practice

⁸See, for example: Geffen G, Traub E. The effects of duration of stimulation, preferred hand and familial sinistrality in dichotic monitoring. *Cortex* 1980; 16 (1): 83-94; Geffen G. Reliability and validity of the dichotic monitoring test for language laterality. *Neuropsychologia* 1981; 19(3): 413-423; Geffen G, Reynolds M. Pure-tone perception and ear advantages in dichotic listening. *Perception and psychophysics* 1982; 31 (1): 68-74; Geffen G, Quinn K. Hemispheric specialization and ear advantages in processing speech. *Psychological bulletin* 1984; 96(2): 273-291; Geffen G. The effects of orientation and maintenance of attention on hemispheric asymmetry for speech perception. *Cortex* 1988; 24(2): 255-265.

⁹ Kolb B, Whishaw IQ. *Fundamentals of human neuropsychology*. 3rd ed. San Francisco: W.H. Freeman and Company, 1990.

¹⁰ Edelman G. *Bright air, brilliant fire: On the matter of the mind*. London: Penguin Books, 1992, p.15.

of occupational therapy. Occupation, to date, has received little attention within the conventions of medical scientific inquiry. Those who have considered it have usually regarded aspects of occupation as observable human behaviour which can be used as a surrogate measure for other criteria they wish to research. In recent years occupational therapists, prompted by the work of Mary Reilly at the University of Southern California(USC) in the 1960s, have begun to develop an interest in the study of human occupation in a holistic sense¹¹, but Dr Elizabeth Yerxa from USC was most responsible for the 'naming and 'framing' of occupational science as the study of humans as occupational beings¹². Interest in this new science has culminated for me in the bringing together of a history of ideas surrounding the relationship between occupation, health, public health and occupational therapy.

This thesis therefore has the character of an exploration based on observations and reflections of professional experience in clinical practice and education in occupational therapy and the health care system over three decades. The rationale for this approach is an appreciation that every person holds a view of human nature formed as a result of life experiences and extensive and on-going contact with people, cultures and communities. This provides an often unacknowledged source from which to draw a theoretical model.

However, developing a perspective centred on humans as occupational beings is particularly difficult because occupation is such an integral part of life, and of already accepted, but different, perspectives on life. To rethink issues from this different, yet familiar, focus demands that "the ways of

¹¹ See, for example: Reilly M. The education process. *The American journal of occupational therapy* 1969; 23: 299-307; Kielhofner G, editor. *A model of human occupation*. Baltimore: Williams and Wilkins, 1985; Christiansen C, Baum C, editors. *Occupational therapy: overcoming human performance deficits*. New Jersey; Slack Inc., 1991.

¹² Yerxa EJ. Occupational science: A source of power for participants in occupational therapy. *Journal of occupational science: Australia*, 1993; 1(1): 3-10.

thinking which seem so natural and inevitable that they are not (usually) scrutinised with the eye of logical self consciousness" be identified and analysed, and following scrutiny, re-synthesised¹³. Even a background in occupational therapy has not foreshortened, for me, the development of a sense of competence in processing problems from an occupational viewpoint. Despite the difficulty, at a global and political level, in rehabilitation, in health care generally, in education, and for 'social' problems, tentative ideas from this perspective have broadened my ways of looking at vexed problems such as ecological degradation, paid employment, resource allocation, 'street kids', or the destructive behaviour of youth gangs, which appear to be unresponsive to present initiatives formulated within the context of primarily 'market economy' or 'social' perspectives.

Another difficulty encountered when trying to formulate approaches to study this perspective is the prevailing reductionism of traditional scientific methods. Human engagement in occupation is complex and varied and almost impossible to measure according to methods which are essentially reductionist and contextually controlled. To reduce engagement to component parts would, on the whole, diminish its study as it is the integrated complexities of engagement which require the most rigorous exploration¹⁴. Indeed, the complexities of human characteristics and the variety of occupational environments are often seen by traditional experimental researchers as contaminants to research design¹⁵. Gergen, a social psychologist, is one of many who criticise using traditional science methodology for studying human beings, because techniques do

¹³ Lovejoy AO. The study of the history of ideas. 1936. In: King P, editor. *The history of ideas*. London and Canberra: Croom Helm. 1983, p.182.

¹⁴ Yerxa EJ, Clark F, Frank G, Jackson J, Parham D, Pierce D, Stein C, Zemke R. An introduction to occupational science: A foundation for occupational therapy in the 21st century. *Occupational therapy in health care* 1989; 6(4): 1-17.

¹⁵ Yerxa EJ. A Mind is a Precious Thing. *The Australian occupational therapy journal* 1990; 37 (4): 170-171.

decontextualise, are atemporal and deterministic and lead to inadequate and distorted findings¹⁶. Open minded consideration of different research methodologies, such as those used in developmental and social psychology, anthropology, sociology, history and evolutionary biology which study people contextually, view their activities diachronically, and recognise individual will, are more suitable as a means of building a knowledge base for a science of occupation¹⁷. Additionally, methods advocated by critical social scientists as appropriate for interdisciplinary research about the "conditions which make possible the reproduction and transformation of society, the meaning of culture, and the relationship between the individual, society and nature" are valuable to consider as tools in understanding the occupational nature of humans¹⁸. This thesis asserts that a synthesis of ideas from a wide range of disciplines is required for the broad issues being explored, therefore the exploration takes the form of a history of ideas¹⁹. The next few pages discuss the research approach.

The term 'history of ideas' was advanced by Arthur Lovejoy in the 1920's to cover study approaches which centre on concepts, and how changes in their meaning and associations alter according to history²⁰. Lovejoy proposed that the task of the history of ideas is to

*"attempt to understand how new beliefs and intellectual fashions are introduced and diffused, to help to elucidate the psychological character of the processes by which changes in vogue and influence of ideas have come about; to make clear, if possible, how conceptions dominant, or extensively prevalent, in one generation lose their hold upon men's minds and give place to others"*²¹.

¹⁶ Gergen K. *Towards transformation in social knowledge*. New York: Springer-Verlag, 1982.

¹⁷ Yerxa EJ, et al. An introduction to occupational science, A foundation for occupational therapy in the 21st century...

¹⁸ Held D. Frankfurt School. In: Bottomore T, editor. *A dictionary of Marxist thought*. 2nd ed. Oxford: Blackwell Publishers, 1991, p209.

¹⁹ Lovejoy AO. *Essays in the history of ideas*. Baltimore: The Johns Hopkins Press, 1948.

²⁰ Burke P. History of ideas. In: Bullock A, Stalleybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*. London: Fontana Press, 1988, p.388.

²¹ Lovejoy AO. The study of the history of ideas... pp.179-194.

He described, as a major part of this research method, the viewing of ideas "from the standpoint of a particular purpose", made possible by considering and dividing "in great part...the same material as the other branches of the history of thought", so that "new groupings and relations" emerge. He argued for the history to be concerned with "ideas which attain a wide diffusion, which become part of the stock of many minds", which "disregard national and linguistic boundary lines", and cross barriers between different disciplines and thinking, so demonstrating that ideas which emerge at any one time usually manifest themselves in more than one direction.

The particular purpose of this thesis is the exploration of the meaning and associations between concepts of occupation and health, within the framework of an occupational theory of human nature and in relation to occupational therapy and public health. It does so by grouping and relating already 'known' thoughts and facts in a different way, contending that the concept and meaning of occupation and of health has changed with occupational technology and subsequent socio-cultural evolution, ideas and expectations. This thesis reviews material from other disciplines, from several cultures, and from ideas and artefacts of 'the people', as well as known 'experts' in a new light from the standpoint of the proposed occupational theory. Like other histories of ideas it "aims at interpretation and unification and seeks to correlate things" which in our present structures and reductionist ways of thinking may appear unconnected. "At first glance" it may appear, as other historical inquiry sometimes does, to be "a strange combination of incongruences: general but detailed; straight forward but intricate; pragmatic but abstract", and because it tells a story, the rigour of the research effort is easily overlooked²².

²² Hamilton DB. The idea of the history and the history of ideas. *Image: Journal of nursing scholarship* 1993; 25 (1): 45-48.

The history of ideas approach taken here can be viewed as both critical research, and as a method of developing theory, in a way similar to grounded research²³. Immersion and saturation in relevant, but broad ranging, literature, is a valid method of discovering how others have viewed the issues which are the subject of this inquiry. Literature is the major source of data. Analysis occurs as critical reading and reflection trigger understanding of the data. Hypotheses, definitions, and new ideas emerge as the research progresses, so that the direction of the study is a dynamic and changing process. For example I presumed quite early in the exploration that humans have always engaged in occupation, then realised that I had to discover if this was generally held to be so. This led to a voyage of discovery through evolutionary texts, to anthropology, sociology and philosophy, to ethology, socio-biology, genetics, labour studies, psychology, ecology and Neural Darwinism, and in no place did I find a direct answer to my query. Engagement in occupation is so fundamental it is taken for granted. As I ploughed backwards and forwards through these, as well as texts from other disciplines, issues emerged and fresh connections were made. Ideas disregarded at one stage became important at a later stage. As immersion led to saturation, themes and, eventually, hypotheses developed. For me, the history of ideas process also facilitated a 'critical' viewpoint because it enabled me to look at the world through a different lens. It generated a belief in the need for political and social change to improve occupational experience, health and well-being, along with sustaining the ecology, and the need for occupational therapists to become social activists has become an unexpected focus of parts of the thesis.

²³Glaser B, Strauss A. *The discovery of grounded theory: strategies for qualitative research*. New York: Aldine, 1967.

Note: Different researchers have suggested several stages of analysis in grounded theory which include category development and saturation, formulating abstract definitions, and using definitions and categories, by linking, testing and connecting them with existing theory; See, for example: Field P, Morse J. *Nursing research: The application of qualitative approaches*. Rockville, Maryland: Aspen, 1985, pp.109-113; memoing, sorting and coding memos to produce an outline and discovering overriding analytic schemes . See, for example: Wilson HS. *Research in nursing*. Menlo Park, California: Addison Wesley, 1985, pp.415-422.

The writing was also an essential aspect of the research process. As Laurel Richardson suggests, writing can be "a way of 'knowing' - a method of discovery and analysis". She argues that even within qualitative research the scientific paradigm has blanketed creative and expressive writing which is a part of the act of discovery. This has led to boring texts about riveting topics, and to important research being little read. Historical research, in contrast to most other forms of qualitative work, depends upon the quality of a reasoned argument or interpretive dialogue, which is considered of more importance than particular methodological steps or stages which are in accord with scientific conventions²⁴. Learning this art even to my current novice level, has been the most difficult part of this exploration.

Histories of ideas carry another risk apart from misunderstanding of the nature, depth and rigour of the exploration and analysis:

*"Because the historian of an idea is compelled by the nature of his enterprise to gather material from several fields of knowledge, he is inevitably, in at least some parts of his synthesis, liable to the errors which lie in wait for the non-specialist"*²⁵.

For this reason I have made use of secondary and tertiary sources of information as well as referring to primary works. Primary sources of literature are generally considered preferable, but secondary sources which are accounts "reacting to the ideas of a primary author" can further illuminate the original ideas and point the novice towards new or different sources of evidence. Tertiary sources, such as current books and articles, are also useful for suggesting lines of inquiry, and acquaint the researcher with other historians viewpoints. The story, which emerges from this process, though,

²⁴ Richardson L. Writing: A method of inquiry. pp.516-529. In: Denzin N, Lincoln Y, editors. *Handbook of qualitative research*. London: Sage, 1994, p.522.

²⁵ Lovejoy AO. *Essays in the history of ideas*...p.195.

must open up "new avenues of investigation, criticism and reflection not simply recreate another authors interpretation of the past"²⁶.

Relevant material for this research is wide ranging, from works pertaining to those disciplines noted earlier, as well as human anatomy and physiology, public health and health promotion, archaeology, occupational evolution, philosophy, economics, and research which considers occupation or relates to the human need for occupation. The latter required an extensive 'meta-review' of occupational therapy journals and texts, viewing historically and collectively, rather than in the a-historical, sequentialist way in which journal articles are necessarily published. For enquiry outside the health field I found specialist dictionaries and encyclopaedia, such as *The Cambridge Encyclopedia of Human Evolution*²⁷, Tom Bottomore's *A Dictionary of Marxist Thought*²⁸ and Kuper and Kuper's *The Social Science Encyclopedia*²⁹, to be useful as first ports of call for new lines of inquiry as they emerged. Electronic searches were used for particular topics such as sleep, alienation, well-being, community development, bipedalism, deprivation and so on, although only a fraction of the available material could be used to illustrate the arguments being pursued. Choice was made according to my interpretation of their relevance to the questions being explored and to the importance given to a particular point of view by other historians, scientists, time or culture, all within the confines imposed by a huge amount of material - so vast a topic has this proved to be.

²⁶Hamilton DB. The idea of the history and the history of ideas...

²⁷Jones S, Martin R, Pilbeam D. *The Cambridge encyclopedia of human evolution*. Cambridge: Cambridge University Press, 1992.

²⁸Bottomore T, editor. *A dictionary of Marxist thought*. 2nd ed. Oxford: Blackwell Publishers, 1991.

²⁹Kuper A, Kuper J, editors. *The social science encyclopedia*. revised ed. London & New York: Routledge, 1989.

Because the topic is so broad ranging, mention is made of many issues or themes which, to do them justice, could be expanded. However, I have had to be content with raising them as relevant, and choosing to provide some lengthier, but still brief, discussion on a few outstanding examples, as in chapter 4, where a number of particular human characteristics or capacities are examined, or the several times the ideas of Konrad Lorenz or Karl Marx are raised. I did not set out expecting to include Marx as I knew little of his work. I have been continually surprised to find how similar are many of his concepts, particularly of his early humanist period, to those of occupational scientists and therapists.

I have also supported some of the central or emerging concepts with ideas which arose out of many small empirical studies which I conducted, mainly utilising questionnaires, employed with a variety of people from the community, as well as occupational therapists and students. The sampling employed in these differed. One study used random sampling, others cluster sampling, and still others, total populations in particular situations, such as students or participants at a seminar or conference. Questionnaires were also used in a pilot study which accessed a convenience sample of people known to the group of students taking part in the research. All of these studies were exploratory in nature, seeking to expand understanding of the relationships between health and occupation, and beliefs, values, perceptions and ideas that people, including occupational therapists, hold about this relationship. Some of these studies are reported concisely in the appendices.

Having discussed the way in which this research was conducted, a few important concepts need to be introduced about health, about occupation and about biological and socio-cultural approaches to studying health and occupation, which provide a backdrop to the study: all are revisited later in the text.

Firstly, in seeking to clarify people's beliefs, values, perceptions and ideas about the relationships between health and occupation, it is important to recall that in present times, in post-industrialised societies, health care, including public health, is dominated by medical science. This is based, in the main, on contemporary understanding of physiology, biochemistry, pathology and bio-statistics, and societal acceptance of modern technological surgical and pharmaceutical advances. Medical science values are so integral to post-industrial culture's thinking it is difficult for those brought up in such a society to perceive health from other than a medical science perspective. To some extent this limits the study of health to ideas, beliefs and approaches which are valued, advocated and deemed important by medical science.

Even the growing behavioural-health, social-health and health science professions, different and distinct from medicine, are still influenced by medical science values and perspectives, in that they challenge or utilise medical science categories and theories, accept many medical science priorities and are concerned with strategies to diagnose or analyse, reduce or prevent illness resulting from physical, behavioural or social factors. Because of this emphasis the major preoccupation in health research is to uncover the causes of ill-health and disease. Notwithstanding the holistic philosophy of the Ottawa Charter for Health Promotion which has been adopted by the 'new public health' movement³⁰, health research remains preoccupied with reducing the incidence of ill-health at the expense of detailed exploration of the causes of good-health and well-being. Recent interest in social determinants of health, health promotion and 'wellness' has centred to a large extent on the prevention of illness, many people using the terms

³⁰ World Health Organization, Health and Welfare Canada, Canadian Public Health Association. *The Ottawa Charter for Health Promotion*. Ottawa, Canada: 1986. For insight into the 'new public health' see, for example: Ashton J, Seymour H. *The new public health: The Liverpool experience*. Milton Keynes: Open University Press. 1988

'prevention' and 'health promotion' synonymously. Preventive approaches, which dominate health promotion just as medicine dominates health care, generally take for granted a medical science explanation of the cause of disease and the mechanisms for prevention.

The 'new public health' is also influenced by a post-industrial debate between the values of economic rationalism and social equality. Caught between the presumptions of medical science and the debate about social values, public health has largely failed to consider how basic human needs relate to health, unless the 'needs' can be reduced to obvious physiological functioning or monetary terms. Rather like 'instinct theory', the idea of human needs is unfashionable and to a large extent ignored, being associated with "naturalistic fallacy"³¹ and out of step with the dominant notions of behaviourism and cultural relativism. This stance ignores the needs and potential of humans which are part of their 'hard-wired' neuronal structure, and as Doyal and Gough maintain in their award winning book *A theory of human need*, even if, as is their view, needs are not identical with drives or a "motivational force instigated by a state of disequilibrium...neither are they disconnected from 'human nature'".

*"To argue for such disconnection would be to identify humanity with no more than human reason and to bifurcate human existence from that of the rest of the animal world."*³²

It is argued here that health is related to the meeting of biological needs and potential; to learning "how nature intended human beings to live"³³; and that the needs of any living organism are related to health from the point of view of "how a specimen" of that kind of organism "can be recognised as flourishing"³⁴.

³¹ Watts ED. Human Needs. In: Kuper A, Kuper J, editors. *The social science encyclopedia...* p.367.

³² Doyal L, Gough I. *A theory of human need*. London: MacMillan, 1991, pp.35-36.

³³ Coon CS. *The hunting peoples*. London: Jonathan Cape Ltd, 1972, p.393.

³⁴ Watts ED. Human needs. In: *The social science encyclopedia...* p.368.

Secondly, this thesis holds that humans have 'occupational needs' which go beyond the instinctive patterned behaviours of many other animals, and that these needs are related to health. In fact, they are the species' primary health mechanism, motivating the provision of other basic requirements as well as enabling individuals to utilise their biological capacities and potential, meet socio-cultural expectations and thereby flourish. The adaptive capacity of the human brain allows the innate drive for purposeful activity to respond to cultural forces and values which add a social dimension to the relationship between occupation and health. The thesis explores health from an occupational perspective by considering how biological and socio-cultural needs influence each other.

Although in recent times occupation, in its own right, has not been a focal point of study, socialist reformers, in England and Europe who recognised the value of human labour, and pragmatist philosophers in the United States of America in the late 19th and early 20th Centuries, did recognise the centrality of occupation to life. Since then sociology, economics, technology and medical science have so dominated thinking that occupation has been considered from these perspectives rather than in its own right. It is interesting to note that socialist and pragmatist recognition of the importance of occupation in life grew from the results of huge social change from a technology of human labour based on agriculture to one based on industry, and that occupational therapy originated as a result of this occupational interest. The current resurgence of interest in occupation by occupational therapists may well be a response to a particular need to re-consider human occupational requirements afresh at another time of change.

Thirdly, in order to understand health and occupation both biological and cultural issues require exploration. This history of ideas focuses on

combining two different approaches - an evolutionary, biological approach and a modern culture concept approach. This is not an unusual combination for occupational therapists, although it is uncommon for biological and socio-cultural determinants of human behaviour to be studied in tandem in the present day.

This exploration of the innate evolutionary aspects of health and occupational behaviour and those determined by experience, learning and cultural evolution, involves ideas similar to those of modern ethologists seeking to discover, amongst other ideas, the survival function of the behaviour under study. Ethology has emerged over a period of around 75 years, the term having been initially applied in a variety of contexts, overlapping at one extreme with ecology and at the other with psychology³⁵. The current view of ethology that behaviour demonstrates the interactions between the inborn, natural aspects of behaviour and those determined by experience and learning, contrasts with the 'ultra-environmentalism' of modern anthropology and sociology³⁶. Durant argues that the "idea of innate character in animals (and man) was central to the work" of Konrad Lorenz³⁷. Lorenz (1903-89), an Austrian zoologist, who explained ethology as the process of examining:

*"animal and human behaviour as the function of a system owing its existence, as well as its special form, to a development process that has taken place in the history of the species, in the development of the individual and, in man, in cultural history"*³⁸.

In line with Lorenz's perspective I consider prehistoric occupational traits alongside 'natural' health behaviours of early hominids, before they were

³⁵ Durant JR. Innate character in animals and man: A perspective on the origins of ethology, Chapter 4 . In: Webster C, editor. *Biology, medicine and society 1840-1940*. Cambridge: Cambridge University Press, 1981.

³⁶ Webster C. *Biology, medicine and society 1840-1940*...p.3.

³⁷ Durant JR. Innate character in animals and man... pp.164-165.

³⁸ Lorenz K. *Civilized man's eight deadly sins*. translated by Latzke M. London: Methuen & Co Ltd., 1974, p.1.

affected by millions of years of acquired health and occupational values, the assumption being that human traits resulting from biological evolution will have affected occupational evolution, just as changes in social values and occupational technology will have affected 'natural' health behaviours. However making inferences about occupational behaviour and health by considering early human lifestyles is difficult because of the lack of written records. Historians, anthropologists and the like, have had to make do with hypotheses about human evolution informed by archaeological fragments and by inference from twentieth century cultures which appear similar to those of early humans. This thesis uses accounts of such work in order to pursue the evolution of occupation and its relationship to health.

The thesis has four main sections which address the particular questions explored; chapter two proposes a theory of human nature and chapters three and four consider the importance of occupation in human life according to that theory; chapters five and six suggest the positive influence of occupation on health, and the negative effects of occupational alienation, deprivation and imbalance; chapters seven and eight inquire into the potential of occupational therapy to be a health promoting profession, and the last chapter explores a role for occupational therapy with current World Health Organisation and public health objectives. Each chapter will now be outlined.

Chapter two of the thesis defines occupation as a central aspect of the human experience because it covers the whole range of purposeful human activity whether work, play or rest, obligatory or chosen, biological or socio-cultural in origin. Occupation is so much a part of the ordinary fabric of life that it is taken for granted, despite the fact that it provides the mechanism to fulfil basic human needs essential for survival, and to enable people to adapt to biological, social and environmental changes. A theory of human nature based on the human need to engage in occupation is proposed. It takes an evolutionary, and humanist view, which has the incidental advantage of

bringing reductionist presumptions under question³⁹. It also advocates for ecological sustainability, because, although the humanist / ecological mix may seem somewhat incompatible, a line taken argues that because of our occupational natures humans now dominate the ecological chain yet tend to see themselves as separate from it. They degrade the environment, in part, in response to the materialism resulting from occupational 'progress', and in part, because they do not appreciate the consequences of meeting their occupational needs.

Many existing views of human nature have influenced, or are integral to the theory that humans are occupational beings. For example, from Plato, comes the notion that humans are fitted by nature for different activities because of their particular aptitudes and interests; from Freud and the psychoanalysts, agreement that all mental entities have some physiological basis, but that we are not aware or conscious of them all; from existentialist theories the concept of the uniqueness of individuals, and that meaning, purpose and choice in human life is as important as scientific or metaphysical truths; and from outside the Occidental tradition, the need for balance, which is central to many Eastern views, is seen as important to occupational well-being. These as well as modern biology, sociology, behavioural and neuropsychology offer a variety of views which, collectively, sustain an occupational view of the nature of humans.

Chapter three, based mainly on biological and neurosciences, explores, from an occupational perspective, the particular mix of human characteristics and capacities which have enabled us to survive healthily and successfully as a species. In the latter half of the twentieth century evolutionary theories regarding biological determinants of behaviour have been dominated by sociological postulates that human actions are determined by socio-cultural

³⁹ Stevenson L. *Seven theories of human nature*. 2nd ed. New York: Oxford University Press, 1987, p.143.

environments, rather than inherited characteristics. Human capacities are indeed developed according to individual utilisation, experience and socio-cultural environments, as sociologists postulate. However, it is also true that there are particular neuronal systems genetically endowed with the capacity for particular behaviours such as bipedalism, dexterity, speech and language, body image, or visual perception⁴⁰. This chapter provides a basis for the later argument that the human drive for purposeful use of capacities, through occupation, is a biological endowment, but that the purpose is the result of socio-cultural values and forces.

To understand the relationship between occupation and the socio-cultural environment, chapter four traces 'occupational evolution', comparing the lifestyles of early and modern humans in order to discover basic occupational drives, and how engagement in occupation has changed throughout time. Human occupation has become extremely complex because of the never-ending development of occupational technology, and the social structures and values which accompany it. People's occupational nature is evidenced by the diversity of activities which are culturally valued, as well as the diversity of values given to the many ways of dividing and classifying occupation.

The exploration covered by chapters two to four leads me to propose that the evolutionary functions of occupation are integral to survival and health, but that the basic occupational needs of people are now obscured by the values imposed by the cultures and societies in which they live, and by prevalent philosophies. This leads naturally to chapter five, which explores positive health from an occupational perspective. I argue that there is an integrated biological and socio-cultural construct of health which relates to survival of the species, enables individuals and communities to flourish, and which has inbuilt flexibility in that it can change according to context. The chapter is

⁴⁰ Kolb B, Whishaw IQ. *Fundamentals of human neuropsychology...*

founded on the W.H.O.'s 1946 definition of health and well-being and how the Ottawa Charter for Health Promotion describes health.

In the search for links between occupation and health the biologically endowed relationship between needs of humans and health is considered by focussing on health issues for hunter-gatherer peoples, and views held about 'natural' health. Just as concepts of occupation have changed throughout history, so have changes to major occupational structures and foci distorted early health behaviours so that they no longer serve their original purpose effectively. The importance to health of balanced utilisation of capacities through engagement in occupation, according to individual need, emerges as a primary consideration from this exploration of an occupational perspective of health.

This thesis makes an unexamined assumption that aiming health care towards good-health and well-being is a laudable and desirable objective. As part of this aim it recognises the need to prevent illness. This being so, chapter six discusses the relationship between occupational structures and illness at population levels, and goes on to consider evidence, from existing studies, about ill-health resulting from occupational deprivation, alienation and imbalance. I argue that there is inadequate consideration of underlying socio-cultural determinants which lead to occupational deprivation, alienation, or the need for balanced utilisation of capacities, in health care, education or social and political policies, strategies and programs. This should be a concern for public health.

Current fascination with health, driven both by personal vitalism and by economic doctrines, is associated with much rhetoric published by health professionals and political authorities about the importance of developing health promotion programs. There may be some health professionals who do

not perceive good-health as their concern. Whether or not this is the case, there are few opportunities available for established health services to either evaluate services or to undertake major program changes towards facilitating good health and well-being. Indeed for one of occupational therapy's traditional client groups, the chronically disabled, programs with that aim appear to be disappearing.

To address these issues, and others, an original exploration of occupational therapy's role and potential in promoting health is offered. Occupational therapy has not been thoroughly reviewed from a perspective of the relationship between occupation and health. The profession developed from ideas generated by the work of 19th Century social reformers and philosophers as mentioned earlier, and has been one health profession intimately concerned with occupation. Despite a common assumption that it is, similar to other medically accepted health sciences, most applicable to the remediation of ill-health, occupational therapy's philosophical base relates to the facilitation of good-health and well-being through engagement in purposeful occupation. Occupational therapists have long held a belief that health can be enhanced by occupation which is beneficial to human well-being. However, present social and political thinking fails to acknowledge a human need for occupation for its own sake, apart from paid employment for monetary reasons. Occupational therapy's appreciation of a basic value of occupation is therefore out of step with dominant values. The next two chapters ask how occupational therapy's focus on occupation and on health has changed, historically as a result of both external and internal pressures.

Chapter seven describes and analyses the origins of occupational therapy in North America at the beginning of the twentieth century. Notions about occupation and the development of human potential surfaced then as themes common to philosophies and policies proposed by industrialists, educators,

philosophers, social and health workers. This melange of themes culminated, in the health arena, in the formation of occupational therapy. Occupational therapy is, in fact, different from many other health professions in that it began with a philosophy that is not based on physical science: its growth was a response to social problems stemming from wide spread industrialisation, to a growing appreciation of the value of human labour, and to ideas central to 'moral treatment' of mental illness in the 19th century. This difference has made it hard for others to understand. Occupational therapists tried to reduce the difference by conforming to physical science presumptions of other health professions. The conformity achieved some useful outcomes, but at the cost of devaluing and almost losing many of occupational therapy's distinctive features. Because of the uncertainties caused by a shifting foundation and by medical science directives which encouraged reductionist rather than holistic approaches, occupational therapists have experienced many difficulties in explaining their contribution to health care and have suffered some loss of overall direction of professional aspirations.

Chapter eight analyses the historical relationship between occupational therapy and occupation. Although the twentieth century has been an era of rapid change in occupational technology, occupational issues have on the whole been addressed through legislation and procedures aimed at social equity or the economy. In response to these forces, plus advances in medical science and, frequently, in the organisation of health care services, occupational therapists have altered substantially, if temporarily, the value and importance given to occupation. This led eventually to serious consideration being given by the profession to re-identifying its ideological foundation and theory base. An exploration of this theoretical soul-searching in recent years demonstrates that occupational therapists are developing a

greater appreciation of their profession's original philosophy, with most now identifying occupation as their particular focus in health care.

The chapter also considers the relationship between occupational therapy and health promotion. Occupational therapy's philosophical base, even when aimed at remediating ill-health, relates to the promotion of health. Practice is founded on the notion that health can be improved by people being enabled to reach their 'occupational' potential. However occupational therapy's contribution to health promotion is not recognised for many reasons, including its long association with the medical model which, to an extent, deflected some of occupational therapy's initial purpose. Other important factors in the lack of recognition are the poorly understood relationship between occupation and health; the differing views of health and the promotion of health between health care workers; differing models of practice within professions; and the fact that views of occupational therapists do not necessarily agree with changing cultural values of the most influential health care workers and policy makers. The chapter explores these issues as well as occupational therapy's particular contributions to health promotion. Key concepts important in health promotion rhetoric are integral to the aims of occupational therapy, such as being primarily responsive to client participation and goals, facilitating quality of life, and enabling people to maximise potential, independence, self growth and actualisation. Current difficulties and problems which prevent the achievement of these aims are identified. One source of empirical data for the exploration is a national survey of occupational therapists undertaken to evaluate their interest and current professional direction towards and in health promotion.

Although the thesis concentrates on exploring health from an occupational perspective, in the process it also attempts to clarify different approaches to health. Such clarification is required to provide a foundation for considering

the actual and potential relationship between public health and occupational therapy. Based on the assumption that occupation is important to the health of individuals and communities, the last chapter proposes an actual and potential role for occupational therapy in public health. It structures this proposal around five different health approaches which, together, form an integrated view of health promotion. The approaches span wellness within conventional medicine, preventive medicine, social justice, community development, and ecological sustainability. This view, should it be implemented, would enable systematic and logical integration of the W.H.O. health objectives into health care. Priority health strategies could be encouraged and reinforced, and non-competitive recognition and encouragement of different values, approaches and contributions may be more possible than at present. The current, non-integrated, structure of health care is arbitrarily divided, for example, in terms of acute versus long term, individual versus community, or medical versus social health. The 'new public health' direction towards 'health for all' is relevant to all aspects of health care from illness to wellness and cannot be seen to start where conventional medicine, for example, is assumed to leave off.

Within these approaches, occupational therapists, attending to the relationship between occupation and health, can make special and particular contributions towards public health. The chapter outlines a new synthesis of occupational therapy using action-research approaches compatible with its philosophical and theoretical base as well as subsequent development. It is proposed that an occupational perspective on health would allow occupational needs to be integrated with medical science approaches. Preventive medicine and health and wellness education would expand to address issues such as the importance of balancing and making use of human capacities, and community development and social justice initiatives would cast occupational deprivation issues and inequalities in a new light. In all

approaches a stronger focus on the development of services aimed at disadvantaged people is required. Finally I propose that an occupational perspective of health will assist ecologists in a better understanding of how to harness or adapt human occupational traits to sustain rather than destroy the earth.

Chapter 2

An occupational theory of human nature

This chapter introduces occupation as a central aspect of the human experience, defining it by using descriptions formulated by occupational therapists and others. The discussion in the chapter leads to the proposition that, from an evolutionary perspective, there is a three-way link between survival, health and occupation, in that occupation provides the mechanism for people to fulfil basic human needs essential for survival, to adapt to environmental changes, and to develop and exercise genetic capacities in order to maintain health.

As a particular focus for the history of ideas explored in the thesis a theory of human nature is proposed, based on the idea which defines the emerging discipline of occupational science, that humans are occupational beings¹. This chapter sets out the main direction of the theory, but the details are explored in chapters 3 to 6. A theory, in the sense it is used here, is a system of ideas held to explain a group of facts or phenomena. It includes a "related set of principles" which "tie two or more concepts together, usually in a correlational or causal way" such as those in the paragraph above relating to survival, health and occupation². According to Lewin's three stages of theory development - the speculative, the descriptive and the constructive, this theory is at the second stage of development, the descriptive, which is a time for testing. In this case, throughout the thesis the concepts, relationships and

¹Yerxa EJ, Clark F, Frank G, Jackson J, Parham D, Pierce D, Stein C, Zemke R. An introduction to occupational science, A foundation for occupational therapy in the 21st century. *Occupational therapy in health care* 1989; 6(4): 1-17.

²Duldt BW, Giffin K. *Theoretical perspectives for nursing*. Boston: Little, Brown & Co., 1985, p.47. See also: Miller BRJ. What is theory, and why does it matter? In: Miller BRJ, Sieg KW, Ludwig FM, Shortridge SD, Van Deusen J. *Six perspectives on theory for the practice of occupational therapy*. Rockville, Maryland: An Aspen Publication, 1988.

principles will be measured against a broad range of ideas and against known research from other theories³.

That the theory is concerned with human nature is ambitious, but I have chosen to address it in this way to emphasise the extent of the complexity and of the influence engagement in occupation has had upon cultural evolution, upon our present circumstances and upon the health of individuals and communities. "The notion of human nature involves the belief that all human individuals share some common features" and characteristics that are innate⁴. Accepted by many Marxist theorists, this is a concept central to humanist and critical theorists, with whom I identify strongly, in that it provides the grounds for aiming towards growth models of health, and for critical analysis of social or health environments which inhibit human potential. Although Marx made valuable contributions to a social and occupational view of human nature the notion is, however, dismissed in the official ideology of socialist countries, and by Marxist structuralism⁵.

Well articulated examples of differing views of human nature range as widely as those proposed by Marx, Plato, Freud or Sartre as well as those embraced in creeds as diverse as Christianity or Taoism. In addition, I argue, that each person thinks and acts according to a personal view of human nature, but seldom attempts to articulate or to test this view, preferring, instead to profess allegiance to one or other socio-culturally accepted view. These diverse theories about human nature provide the context for beliefs

³ Lewin K. *Principles of topological psychology*. New York: McGraw Hill, 1947

⁴ Markovic M. Human nature. In: Bottomore T, editor. *A dictionary of Marxist thought*. 2nd ed. Oxford: Blackwell Publishers, 1991, p209; See also Venable V. *Human nature: The Marxian view*. 1945, reprinted Gloucester, Mass.: P. Smith, 1975.

⁵ Althusser L. *For Marx* Paris: F. Maspero, 1965; translated by Brewster B. London: Allen Lane, 1969.

about the meaning and purpose of life, about visions of the future, and about what humans should or should not do⁶.

This thesis proposes a theory of human nature based on the idea that we have an innate need to engage in occupation. This need has, on the whole, been overlooked in scientific inquiry and in most theories of human nature because it is so mundane. That engagement in occupation is innate, inborn or natural, is indicated by the fact that people spend their lives almost constantly engaged in purposeful 'doing' even when free of obligation or necessity. They 'do' daily tasks including things they feel they must do, and others that they want to. Human evolution has been filled with ongoing and progressive 'doings', which, apart from enabling the species to survive, has stimulated, entertained and excited some people and bored or stressed others according to what was done. Doing is so much a part of everyday life, that within Western cultures people frequently identify themselves and each other by what they do. For example, common forms of introduction name occupational pursuits, such as, "May I introduce Fred Jones? He is a computer operator". Many family names from England and Europe reflect long past occupations of their members, such as Smith and Barber. Frequently children are asked "What are you planning to do when you grow up?" or "what have you been doing?". It is as if the occupational background, present or future of people is a major reflection of every individual, that what they do, in some ways, is what, or who, they are. The things people do are described as occupations.

As occupation is a central theme of this thesis it is necessary to clarify, as far as is possible, what is meant by the word in this particular context. It will be used here as occupational therapists use it, in the generic sense, perhaps reflecting common usage of the word when their profession was developing

⁶ Stevenson L. *Seven theories of human nature*. 2nd ed. Oxford: Oxford University Press, 1987.

in the first decades of this century. In The Concise Oxford Dictionary of 1911, occupation was defined as "occupying or being occupied; what occupies one, means of filling up ones time, temporary or regular employment, business, calling, pursuit"⁷. In Websters Revised, Unabridged Dictionary of the English Language of 1919 the definition includes "that which occupies or engages the time and attention"⁸.

'Occupation' has several meanings in contemporary dictionaries, also. The 1989 Oxford English Dictionary defines the aspect of occupation central to this thesis as "being occupied or employed with, or engaged in something"⁹. Despite this generic meaning, occupation is currently commonly used to refer to paid employment, specifically. The adjective 'occupational' is particularly used in this way, as in 'occupational health and safety' and 'occupational diseases'. The use of occupation to refer, as it does in this thesis, to all purposeful human activity is sometimes misunderstood. It may therefore be useful to consider other words with similar meaning in order to justify the continued generic usage. These are - 'praxis', which is used in various ways in scholarly or academic circumstances, but seldom as part of common usage, and words in common use such as 'work', 'labour', 'leisure' and 'activity'.

Praxis, from the Greek for 'of action', according to Lobkowicz "refers to almost any kind of activity which a free man is likely to perform; in particular, all kinds of business and political activity"¹⁰. In Roget's *Thesaurus* praxis is given as a synonym for action¹¹, but it is such a specialised word that it does not appear in all dictionaries. In the *Oxford English Dictionary* where

⁷The concise Oxford dictionary of current English. Oxford: Clarendon Press, 1911.

⁸Webster's revised unabridged dictionary of the English language. London: G Bell & Sons Ltd, and Springfield: G & C Merriam Company, 1919.

⁹The Oxford English dictionary. 2nd ed. Vol.XII. Oxford: Clarendon Press, 1989.

¹⁰Lobkowicz N. *Theory and practice: History of concept from Aristotle to Marx*. Notre Dame, Ill. and London: University of Notre Dame Press, 1967, p.9.

¹¹Roget PM. *Roget's thesaurus of synonyms and antonyms*. London: The Number Nine Publishing Company, 1972.

it does appear, it is defined as "doing, acting, action, practice", yet in another dictionary it is defined as 'accepted practice or custom'¹². In neuro-rehabilitation, apraxia (no action) is a not uncommon sequelae of stroke or head injury¹³. In that instance it refers to a lack of ability to carry out purposeful activity or skilled movement when there is no physical, cognitive or emotional reason for difficulty. In the same vein 'praxiology' - the science of efficient action, is a discipline "dealing with methods of doing anything in any way...from the point of view of its effectiveness"¹⁴

Marx's use of 'praxis' is, perhaps the most similar to occupation as it is used in this thesis. To him praxis was "the free, universal, creative and self-creative activity through which man creates (makes, produces) and changes (shapes) his historical, human world and himself"¹⁵. Marx usually opposes 'labour' to 'praxis', but in *Economic and Philosophical Manuscripts* is sometimes inconsistent, using 'labour' synonymously with 'praxis'¹⁶. Praxis, as action, is used in the present day as a descriptor for many types of action-research, such as critical praxis research or critical feminist praxis¹⁷. Its many different meanings, and its obscurity, despite increased usage since the 1960s following translation and availability of Marx's early writings, preclude 'praxis' as the most appropriate word for all purposeful activity.

¹²The Oxford English dictionary, Vol XIII... p.291; The standard English desk dictionary... p.663;

¹³This disorder was first defined by Hughlings Jackson in the 1860's, named by Steindthal in 1871, but detailed analysis is attributed to Leipmann from 1900 onwards, and described in: Leipmann H. *Drei Aufsatze aus dem Apraxiegebiet*. Berlin: Springer, 1908.

¹⁴Kotarbinski T. The goal of an act and the task of the agent. In: Gasparski W, Pszczolowski T, editors. *Praxiological studies: Polish contributions to the science of efficient action*. Dordrecht, Holland: D Reidel Publishing Company, 1983, p.22.

¹⁵Petrovic G. Praxis. In: Bottomore T, editor. *A dictionary of Marxist thought*... p.435

¹⁶Marx K. Economic and philosophical manuscripts, 1844. In: Livingstone R, Benton G, translators. *Karl Marx: Early writings*. Penguin Classics, 1992.

¹⁷See, for example: Comstock D. A method of critical research. Chapter 18. In: Bredo E, Feinberg W, editors. *Knowledge and values in social and educational research*. Philadelphia, Pennsylvania: Temple University Press, 1982, pp 370-390; Lather P. Research as praxis. *Harvard educational review* 1986; 56 (3): 257-277.

Dictionary definitions of 'work' describe it as "action involving effort or exertion, especially as a means of gaining livelihood"¹⁸. Work derives from an old English word "Weorc" and is described by Williams as the most general word for "doing something and for something done", however its current predominant use is, like 'occupation', for "regular paid employment"¹⁹. Its usage in this way is even more specialised than 'occupation'. Williams notes that "the specialisation of work to paid employment is the result of the development of capitalist productive relations" which in part shifted the meaning "from the productive effort itself to the predominant social relationship". "Work (in its widest sense, including labour)", observes Parker, is "independent of any particular form of society". It "is a basic condition of the existence and continuation of human life"²⁰. It is also the antithesis of play, leisure, rest and recreation, implying an element of compulsion or necessary toil, so earning a description as "everything we do to keep body and soul together"²¹.

'Labour', like work, is used for activities which are for some reason necessary or enforced. Williams suggests it has a "strong medieval sense of pain and toil", and that it is a harder word than work, with manual workers being described as labourers from the thirteenth century⁵. Labour is described by Marx as

*"a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material reactions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body in order to appropriate Natures productions in a form adapted to his own wants."*²²

¹⁸ Work. *The standard English desk dictionary...* p.975.

¹⁹ Williams R. *Keywords*. London: Fontana, 1983.

²⁰ Parker S. *Leisure and work*. London: George Allen & Unwin, 1983, p.13.

²¹ Smith R. *Unemployment and health: A disaster and a challenge*. Oxford: Oxford University Press, 1987.

²² Marx K. *Capital, Volume 1*. Hamburg: Otto Meissner, 1867.

Ruskin, English nineteenth century socialist, described it as the "contest of the life of man with an opposite; – the term 'life' including his intellect, soul, and physical power, contending with question, difficulty, trial or material force."²³ Harry Braverman, a contemporary socialist, in his 1974 book addressing the degradation of work in the twentieth century, writes that labour "represents the sole resource of humanity in confronting nature...whether directly exercised or stored in such products as tools, machinery, or domesticated animals", and cites Aristotle's description of labour being "intelligent action"²⁴.

Despite these very broad concepts, 'labour' like 'work' is not used for activities which are restful or playful, and although neither means only paid employment, like 'occupation', they are used frequently in this way. Both describe an aspect of what can be meant by 'occupation', that is, work and labour are an integral part of 'occupation'.

Time other than that spent in paid employment is described as 'leisure' from the Latin "licere" meaning permit and from the 14th century meaning of opportunity or free time. An alternative is a "holiday, the old word for religious festival"²⁵, although this has implications of a contained time, such as a 'day' or 'week' and, "in countries affected by the Hebrew tradition", the Sabbath "is not so much a day of leisure as a day of ceremonial inactivity, a day of restraint"²⁶. Leisure, holiday and religious pursuits are also occupations.

²³ Ruskin J. Preface. 1862. In: Yarker PM, editor. *Ruskin: Unto this last*. London: Collins Publishers, 1970.

²⁴ Braverman H. *Labor and monopoly capital: The degradation of work in the twentieth century*. New York: Monthly Review Press, 1974.

²⁵ Williams R. *Keywords...*

²⁶ Parker S. *Leisure and work...* p.17.

'Activity' is defined as "the state of being active; the exertion of energy, action"²⁷, and, like occupation, describes specific deeds or action. It is often used interchangeably, even by occupational therapists, but unlike it is seldom used to imply paid employment, despite its derivation from Latin "agere", to do²⁸. Of these choices, despite its frequent limited use, occupation remains the only word which can be used for all types of activity, and is therefore the most appropriate word to use.

Occupation is so much a part of everyday life that it is reasonable to make empirical statements about it. It can be said, therefore, that humans engage in occupation, with individuality of purpose; they think about the effects, conceptualise and plan before undertaking activity; and they are able to reflect and mentally alter future behaviour as a result of outcomes. Occupations demonstrate an individual's culturally sanctioned intellectual, moral and physical attributes. It is only by their activities that people can demonstrate what they are, or what they hope to be. Accolades for individual achievement are often surrounded with ritualised activities, such as graduations, ticker-tape parades and initiation ceremonies. Awards and rituals are highly valued as demonstrations of the appreciation of occupational achievement.

In order to satisfy their need to exercise their capacities, humans seek out various and sometimes novel ways to pass the time. Without occupation time appears to pass extremely slowly, as any long distance air traveller can attest, even with the frequent meals, drinks and movies. Occupation is a natural user of time which provides a sense of purpose, and without which humans are apt to be bored, depressed and sometimes destructive. Even the stylite, the eremite or the monk pass the time in a way purposeful to him or

²⁷The Oxford English Dictionary, Vol I... p.130.

²⁸Word finder, The Australian thesaurus. Sydney: Reader's Digest, 1983.

her, despite the purpose perhaps appearing obscure to others. People so commonly express a need to 'do something to pass the time', that we have a word for this in the English language - pastime. Exploring how and why people use time the way they do provides a rich source of data on many different socio-cultural and health related issues and, so, this perspective of occupation has been subject to scrutiny. Time-use surveys originated early this century, with most studying large population groups for comparative purposes, to inform social planners at National and International levels²⁹.

Adolf Meyer, an American psychiatrist, eminent in the first half of this century, and credited with providing a philosophy to occupational therapy, also proposed that how people use time is very important. He asserted that in order to maintain and balance the organism that is a person, there is a need to act in time with bodily and natural rhythms, and that timely activity and rest are vital components of healthy living. He observed to an historic meeting of occupational therapists in 1922 that

*"Human ideals have unfortunately and usually been steeped in dreams of timeless eternity, and they have never included an equally religious valuation of actual time and its meaning in wholesome rhythms. The awakening to a full meaning of time as the biggest wonder and asset of our lives and the valuation of opportunity and performance as the greatest measure of time; those are the beacon lights of the philosophy of the occupational worker"*³⁰.

²⁹ See for example: Castles I. *How Australians use their time*, Catalogue No 4153.0. Australian Bureau of Statistics, 1992 (embargoed to 1994); Harvey AS. Quality of life and the use of time theory and measurement. *Journal of occupational science: Australia* 1993; 1(2): 27-30; Andrew C, Milroy BM, editors. *Life spaces: Gender, household, employment*. Vancouver: University of Vancouver Press, 1988; Robinson JP. *How Americans use time: A social-psychological analysis of everyday behaviour*. New York: Praeger Publishers 1977; Szalai A. *The use of time: Daily activities of urban and suburban populations in twelve countries*. The Hague: Mouton, 1972.

³⁰ Meyer A. The philosophy of occupational therapy. *Archives of occupational therapy*, 1922: 1: 1-10. In: *The American journal of occupational therapy*, 1977; 31(10): 639-642.
Meyer is the subject of a brief biographical note included in Chapter 7.

Despite this early pointer, it was not until about the nineteen seventies that occupational therapists began, seriously, to recognise the value of time-use research and the study of human temporality³¹.

Occupation also provides the mechanism for social interaction, and societal development and growth, forming the foundation stone of community, local and national identity, because individuals not only engage in separate pursuits, they are able to plan and execute group activity to the extent of national government or to achieve international goals, for individual, mutual and community purposes. Anthropologists describe this unique human trait as 'culture' and suggest

*"It is the unique blend of biology and culture that makes the species Homo sapiens' a truly unique kind of animal...Humans are different, not so much for what we do...but rather the fact that we can do more or less what we want. That is what having a highly developed culture really means."*³²

Statements by occupational therapists suggest a view within the profession that occupation is central to the human experience. In the professional literature occupation has been described as a natural human phenomenon

³¹ See for example: Mackinnon J, Aiston W, McCain G. Rheumatoid arthritis, occupational profiles and psychological adjustment. *Journal of occupational science: Australia* 1994; 1(4): 3-10. Stanley M. An investigation into the relationship between engagement in valued occupations and life satisfaction for elderly South Australians. *Journal of occupational science: Australia* 1995; 2(3): 100-114. Yerxa EJ, Locker SB. Quality of time used by adults with spinal cord injuries. *The American journal of occupational therapy* 1990; 4: 318-326. Pentland W, McColl MA, Harvey A, do Rozario L, Neimi I, Barker J. *The relationship between time use and health, well-being, and quality of life*. Proceedings of a multidisciplinary research meeting. Kingston, Canada: Queens University, 1993; Kielhofner G. The temporal dimension in the lives of retarded adults. *The American journal of occupational therapy* 1979; 33: 161-168; Neville A. Temporal adaptation: Application with short-term psychiatric patients. *The American journal of occupational therapy* 1980; 34: 328-331; Rosenthal LA, Howe MC. Activity patterns and leisure concepts: A comparison of temporal adaptation among day versus night shift workers. *Occupational therapy in mental health* 1984; 4: 59-78; Weeder TC: Comparison of temporal patterns and meaningfulness of daily activities of schizophrenics and normal adults. *Occupational therapy in mental health* 1986; 6: 27-45.

³² Leakey R, Lewin R. *People of the lake: Man: His origins, nature, and future*. Penguin Books, 1978, pp.38-39.

which is taken for granted because it forms the fabric of everyday lives³³, more specifically, as purposeful use of time, energy, interest and attention³⁴ in work, leisure, family, cultural, self-care and rest activities. It includes activities that are playful, restful, serious and productive which are carried out by individuals in their own unique ways based on societal influences, their own needs, beliefs and preferences, the kinds of experiences they have had, their environments and the patterns of behaviour they acquire over time³⁵. Occupation which is culturally sanctioned is seen by some as a primary organiser of time and resources, enabling humans to survive, control and adapt to their world, be economically self sufficient³⁶ and to experience social relationships and approval, as well as personal growth³⁷. This view of occupation is applicable to communities at local to global levels, and should not be seen as referring only to individuals.

All aspects of this description will be integral to the meaning given to occupation throughout this text and provides a base for the occupational theory I propose. This theory meets the criteria of empirical accuracy and predictive capacity required by contemporary cannons of science being based upon few arbitrary elements derived from multiple and ongoing observations³⁸. It can also definitely predict that people will in the future

³³ Cynkin S, Robinson AM. *Occupational therapy and activities health: Towards health through activities*. Boston: Little, Brown and Company, 1990.

³⁴ Occupational therapy; its definitions and functions. *American journal of occupational therapy*, 1972; 26: 204.

³⁵ Kielhofner G, editor. *A model of human occupation, theory and application*. Baltimore: Williams and Wilkins, 1985.

³⁶ Yerxa EJ, et al. An introduction to occupational science...p.3.

³⁷ Wilcock AA. *Occupational therapy approaches to stroke*. Melbourne: Churchill Livingstone, 1986.

³⁸ For example, Stephen W Hawking in *A brief history of time* (Toronto: Bantam Books, 1988) suggests that

"a theory is a good theory if it satisfies two requirements; it must accurately describe a large class of observations on the basis of a model that contains only a few arbitrary elements, and it must make definite predictions about the results of future observations." (p.10).

continue to engage in occupation, although the form of the occupations will change according to socio-cultural evolution.

The occupational theory I have set out also meets Stevenson's requirements for a theory of human nature³⁹. It is set within generally accepted scientific theories of the evolution of the universe and the species that inhabit it. Its basic concept of the nature of humans is that as a result of their biological evolution and enculturation humans are occupational beings. That is, the need to engage in occupation forms an integral part of innate biological systems aimed at survival and health; that the varying potential of individuals for different occupations is a result of their genetically inherited capacities; and that the expression and execution of occupation is learnt and modified by the ecology and socio-cultural environments⁴⁰. The theory provides a simple diagnosis and prescription. Namely, that humans have not seriously considered the implications or requirements of their occupational nature; that this has caused deleterious effects to individual, community and ecological health; and that addressing this lack of awareness has the potential to result in major and beneficial changes to social, political, economic, ecological and health policies.

The background to my occupational theory of human nature can be seen in the following brief account of biological and cultural evolutionary theory. Current scientific thought generally accepts that living matter evolved

³⁹ Leslie Stevenson in *Seven theories of human nature* (p.9), sets his requirements as "(1) a background theory of the nature of the universe; (2) a basic theory of the nature of man; (3) a diagnosis of what is wrong with man; and (4) a prescription for putting it right".

⁴⁰ "As natural selection acts on phenotypes, not genotypes, and as phenotypes always include an environmental component, it is of course fallacious to oppose genes and environment" (Berghe PL van den. Sociobiology. In *The social science encyclopedia...* p.797). This concept is in accord with the Csikszentmihalyi's view that human action is shaped by genetic, cultural and self teleonomies (Csikszentmihalyi M, Csikszentmihalyi IS. *Optimal experience: Psychological studies of flow in consciousness*. Cambridge: Cambridge University Press, 1988; Csikszentmihalyi M, Massimini F. On the psychological selection of bicultural information. *New ideas in psychology*. 1985; 3(2): 115-38.), and is supported by Snell's proposal that the making of 'humans' is about 50% genetics and 50% culture (Snell GD. *Search for a rational ethic*. New York: Springer Verlag, 1988, p.140).

naturally from non-living matter in the form of single-celled creatures. Over a period of perhaps a billion years some electrons, protons and neutrons combined to form atoms which formed molecules. Some of these became "more or less well-organised aggregates", one class of which is organic matter. In turn, some original micro-organisms went through a "comparable hierarchical evolution" to primitive plant forms to invertebrates to vertebrates, and, in the last 60 million years, to mammals⁴¹.

Against a background of geologist and naturalist speculation, interest and theories which were out of step with dominant Christian beliefs⁴², Darwin's *Origin of the Species by Means of Natural Selection*⁴³ and *The Descent of Man*⁴⁴ are recognised as the works which brought theories of evolution to public debate and inquiry in the Occident⁴⁵. Dawkins suggests that although it is difficult to explain "how even a simple universe began", Darwin's theory of evolution by natural selection demonstrates a way in which "simplicity could change into complexity" and how collections of stable molecules could eventually, through "high longevity/fecundity/copying-fidelity", evolve into complex living beings⁴⁶. Darwin's theory is based on the empirical observations that there is a tendency for parental traits to be passed to their

⁴¹ Stavrianos LS. *The world to 1500: A global history*. 4th ed. New Jersey: Prentice Hall 1988, p.4.

It must be borne in mind that 'evolutionary trees ('dendograms') are greatly oversimplified, even when depicted as bushes with many shoots side by side, and many branches.

⁴² Speculation, interest and theory is demonstrated by geologist, James Hutton's *Theory of the earth* published in 1795; Clergyman, T.R.Malthus's book *An essay on the principle of population*, published in 1798; French naturalist, Jean Baptiste Lamarck's theory of organic evolution, *Système des Animaux* published in 1801; and Charles Lyell's *Principles of geology* published between 1830-1833. See: Campbell BG. *Humankind emerging*. pp.8-17.

⁴³ Darwin C. *Origin of the species by means of natural selection*. London, 1859. Cambridge, Mass: Harvard University Press, 1964.

⁴⁴ Darwin C. *The descent of man and selection in relation to sex*. London, 1891. New York: Appleton, 1930.

⁴⁵ Darwin's evidence did not come from human-beings, and only his conclusion suggested that his theory would shed light on the origin of man (Darwin C. *Origin of the species*...). Nonetheless his theories were received with moral shock, fear and derision in the lay community although accepted rapidly in biological science, at least until the return of the creationists(Ridley M. Creationism. In Bullock A, Stallybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*. 2nd ed. London: Fontana Press, 1988.)

⁴⁶ Dawkins R. The replicators. chapter 2 of *The selfish gene*. 1976. In: Dixon B, editor. *From creation to chaos: Classic writings in science*, Oxford: Basil Blackwood Ltd, 1989, pp.39-44.

offspring; that despite this, there are considerable and noticeable variations between individuals; and that species are capable of a rate of generation which cannot be supported by available natural resources. That is, more are born than can survive, requiring a struggle for existence. This leads to survival by natural selection of those with "certain inherited variants which increase the chances of their carriers surviving and reproducing"⁴⁷. Spencer termed this "survival of the fittest", in an often-quoted phrase which is frequently misconstrued to mean survival of those physical fit and strong, rather than those with 'expected reproductive success', because it is taken literally, and out of context⁴⁸. Natural selection results in the accumulation of favoured variants which will effect gradual adaptive change in every generation and, over extended periods, produces new forms of life. Diversity and individual uniqueness is the consistent message of evolutionary studies from Darwin's time to the present⁴⁹. Individual uniqueness, particularly in relation to biological characteristics and capacities influencing engagement in occupation is a focal concern of occupational therapists, but not of political, social or health planners for whom population and group similarities rather than individual diversity are the focus. Humans, because their biological capacities enable flexible, adaptable and wide ranging occupations, are fitted for almost any environment and are dispersed across the globe. Cultural and occupational evolution such as tool use, agriculture and modern medicine have broken through natural population restraints which maintained population size of species more or less constant over long periods of time, and as a result have reached a point where humans dominate ecological

⁴⁷Jones S. The nature of evolution. In Jones S, Martin R, Pilbeam D, editors. *The Cambridge encyclopedia of human evolution*. Cambridge: Cambridge University Press, 1992, p.9.

⁴⁸Spencer H. *Principles of biology*. New York: Appleton, 1864, Vol. 1, p 444; See also: Sterelny K. Evolutionary explanations of human behavior. *Australian journal of philosophy* 1992;70 (2): 156-172.

⁴⁹Jones S. The nature of evolution. In: *The Cambridge encyclopedia of human evolution...* p.9.

systems, many believe, to the extent of natural resources not being sufficient to maintain predicted population growth⁵⁰.

Working at almost the same time as Darwin, the Austrian monk Gregor Mendel studied and experimented with plant species which led to his formulation of biological laws of heredity. Virtually ignored at the time, his work was rediscovered in 1900 by three scientists working separately, De Vries, Correns and Tschermak, remarkably, all within a three month period. Mendel's work provided the answer to the "causes of the variations on which natural selection acts"⁵¹. Darwin's theory, modified in the light of Mendelian genetics⁵² is now known as neo-Darwinism⁵³ or synthetic evolution⁵⁴. In recent times "the discovery of the structure and function of DNA has made clear the nature of the hereditary variations upon which natural selection operates"⁵⁵. It is now acknowledged that humans are mammals with much in common with other animals, and that like other species humans have "a certain genetic constitution that causally explains not only the anatomical features...but also our distinctive...behaviour"⁵⁶. As Bronowski explains so succinctly

*"the evolution of the brain, of the hand, of the eyes, of the feet, the teeth, the whole human frame, made a special gift of man...faster in evolution, and richer and more flexible in behaviour...he has what no other animal possesses, a jigsaw of faculties which alone, over three thousand million years of life, make him creative"*⁵⁷.

⁵⁰Jones S. *ibid* p.9; Campbell BG. *Humankind emerging...* p.17.

⁵¹Campbell BG. *Humankind emerging...* pp.60-69.

⁵²Stern C, Sherwood ER, editors. *The origin of genetics*. SanFrancisco: W.H. Freeman, 1966.

⁵³Medawar P. *Darwinism*. In: *The Fontana dictionary of modern thought...*

⁵⁴McHenry HM. *Evolution*. In: *The social science encyclopedia...*

⁵⁵Dyson F. The argument from design. From: Disturbing the universe 1979. In: Dixon B. editor, *From creation to chaos: Classic writings in science*. Oxford: Basil Blackwood Ltd, 1989, p.49.

⁵⁶Stevenson L. *Seven theories of human nature...* p.137.

⁵⁷Bronowski J. *The ascent of man*. London: British Broadcasting Corporation, 1973, p.42.

Bronowski's description of human difference is a useful bridge between Darwinist theories of evolution and the next stage of my central interest - the occupational nature of humans - which will be introduced here and explored more fully in the next 2 chapters.

The next stage of my argument relies upon three related sets of principles. First, I propose that all people (unless prevented by congenital or acquired dysfunction such as brain damage) engage in complex and self initiated occupational behaviour because of their species common combination of biological features, such as consciousness, cognitive capacity, and language. Although it is higher cortical adaptations, such as these, which have generated and made possible the complex occupational behaviour which sets humans apart from other animals, anatomical and physiological characteristics of the body, such as bipedalism, upright posture and hand dexterity are vital instruments in the execution of occupation. Because of the integrated function of each, the mind and body are not seen as separate entities but, "simply one and the same"⁵⁸. Lorenz contends that this is the only possible view "tenable for the evolutionary epistemologist" and that "the razor-edge demarcation" seen as existing between them by some disciplines is only for the purpose of understanding them⁵⁹. Certainly, since Descartes, in the seventeenth century, separated the body from the mind epistemologically, generations of scientists, up to the present day, have fed the assumption that mind and body can and should be considered separately⁶⁰. This separation has hindered the growth and understanding of humans as occupational beings who because of mind-body unity are able to engage in occupation.

⁵⁸ Lorenz K. *The waning of humanness*, Munich: R Piper & Co Verlag, 1983. Translated USA: Little Brown and Company, 1987, p.93.

⁵⁹ Lorenz K. *The waning of humanness...* p.93.

⁶⁰ Consider, for example, how the treatment of people with mental disorders is separated from those with physical disorder.

Second, I hypothesise that engagement in occupation is indispensable to survival, as well as being an integral part of complex health maintenance mechanisms. The latter point will be explored further in chapters 5 and 6. This hypothesis is in line with another of Lorenz's suggestions, that the principal purpose of both anatomical characteristics and behaviour patterns is survival⁶¹, and with Ornstein and Sobel's proposition that "the major role of the brain is to mind the body and maintain health"⁶². My theory of occupation combines these views, maintaining that a primary function of human anatomical characteristics and particularly of the brain is to facilitate healthy survival, and that occupation is a primary mechanism for this function. To this end the whole of the brain is involved in survival and in health and the whole of the brain is involved in engagement in occupation. This notion is complementary to a predominant view that genomic reproduction is the principle goal of evolution, contending that, as reproduction can only occur during a particular stage of the life cycle, to reach reproductive age individuals have to survive and resist disease and death, and that positive health enhances survival and reproductive success. After reproduction offspring require nurture and education so that they too can eventually reproduce. Engagement in occupation is not only required for survival to the point of reproduction, but also for a long time after to provide support for the immature of the species. Views held about 'kin selection' or 'gene selection' which develop the concept of Darwinian 'fitness' to include reproductive success of individuals who share genes⁶³, accounts, at least in part, for social and altruistic behaviours and occupations. Given the short life expectancy of humans until fairly recently, support, beyond that provided by biological parents, was often necessary because human young have lengthy

⁶¹Lorenz K. *The waning of humanness...* p.21.

⁶²Ornstein R, Sobel D. *The healing brain: a radical new approach to health care*. London: MacMillan, 1988, pp.11-12 .

⁶³Campbell BG. *Humankind emerging...* pp.90-91.

childhoods. See Figure 2.1, on this page, for a diagrammatic representation of human life expectancy during evolution.

Third, the theory recognises as important that, in large part, genetic traits or capacities are inherited and that there is considerable variation between individuals because of genetic recombination which "theoretically ...can create nearly an infinite number of different organisms simply by reshuffling the

immense amount of genetic differences between the DNA of any two parents"⁶⁴. The differences between humans are discussed further in the next chapter, and the importance of considering the exercise of the particular range of capacities of each individual is also raised in later chapters as an important issue in terms of positive health and well-being, and in preventing illness.

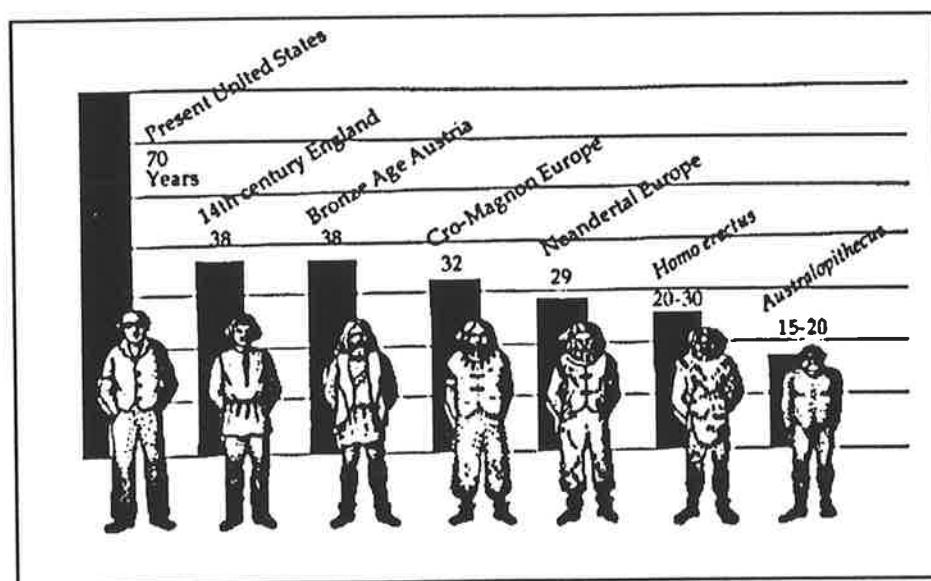


Fig. 2.1: Since the time of the Cro-Magnons, life expectancies have doubled in countries with modern medicine and technology. We probably live three to four times as long as *Australopithecus* did. The increased life span has made possible a rapid increase in cultural complexity, skill and knowledge.⁶⁵

⁶⁴McHenry HM. Evolution. In: *The social science encyclopedia*...p.280.

⁶⁵Fig. 2.1: is from Campbell BJ. *Humankind emerging*... p.521.

Integral to the principles are ideas about the biological and socio-cultural bases of behaviour, the haphazard nature of evolution, the similarities and differences between species, brain size and capacities, and the impact of occupational humans upon cultural change. Whilst acceptance of a biological basis for occupational behaviour may be criticised by those who claim that human behaviour depends on culture rather than genetics, modern sociobiologists and ethologists contend that

"within [a] gene-environmental action model, culture can be seen as the man-made part of the environment, preselected by the specifically human genome...Culture can have no empirical referent outside of the human organisms that invent and transmit it, and, therefore, its evolution is inevitably intertwined with the biological evolution of our species"⁶⁶.

Such contention provides "a factual background for a middle view"⁶⁷ which is in accord with the theory of human nature proposed here because it "demonstrates the importance of evolutionary origins in the behaviour of the species"⁶⁸, but also maintains that, because of their biology, humans' occupational behaviour, as sociologists claim, is, in large part, socio-culturally determined.

I also hold, in common with evolutionary biologists, that the origin of the human species was not inevitable but a consequence of "a long series of events, each depending on the other, and each unpredictable and unique"⁶⁹. As Lorenz explains, species have evolved in "unforeseeable ways" not "predetermined and directed toward some purpose"⁷⁰. This notion is fundamental to a humanist approach which recognises freedom of choice and self responsibility. Because humans are goal-directed and committed by their nature to purposeful occupation, it is difficult to appreciate that evolution

⁶⁶Berghe PL van den. *Sociobiology*. In: *The social science encyclopedia*... p.797. See also: Wilson E. *On human nature*. Cambridge Mass.: Harvard University Press, 1978.

⁶⁷Snell GD. *Search for a rational ethic*... p.140.

⁶⁸Edelman G. *Bright air, brilliant fire: On the matter of the mind*. London: Penguin Books, 1992, p.40

⁶⁹Pilbeam D. *What makes us human*. In: *The Cambridge encyclopedia of human evolution*... p.1.

⁷⁰Lorenz K. *The waning of humanness*... p.5.

may not have an ultimate purpose. This notion of pre-destination has led many theories of human nature, such as Marxism, to maintain that advances in cultural evolution must progress to the enhancement of human nature. In fact the occupational nature of humans may not be progressive in terms of ultimate 'good' for the species. It may lead to less desirable outcomes for health and well-being, with occupational technology, for example, having the potential to destroy the earth's environment and the species.

In this theory the need to 'do' is not species-specific, since all living things carry out survival activities. For example, birds build nests, decorate bowers to attract mates, and dive from great heights for fish or small prey, and domesticated dogs can learn that certain activities will be rewarded by food or praise, or will run or play with a ball for no apparent reason except for fun, but which coincidentally maintains their level of physical fitness and acuity. What animals do and how much freedom they have in the choice of occupations depends upon the size, structure and capacities of their nervous systems, as well as upon environmental opportunities and constraints. In the evolution of the human brain, through the processes of natural selection, many pathways and connections remain from earlier developmental stages, and few structures have been discarded, although there may be alterations in size and function. Current evidence suggests that new brain functions are the result of "systematic reorganisation, elaboration or reduction of existing structures or shifts in proportions of existing connections"⁷¹. In fact, except for the neocortex, all cerebral regions have a rudimentary equivalent in reptilian brains⁷². Bronowski observes that, whilst "every human action goes back in some part" to animal origins, an important distinction remains:

⁷¹Deacon TW. The human brain. In: *The Cambridge encyclopedia of human evolution*...p.123.

⁷²Rose S. *The conscious brain*. revised ed. England: Penguin Books, 1976.

"What are the physical gifts that man must share with the animals, and what are the gifts that make him different?"⁷³.

All animals appear to have some special attributes which are paramount to their survival and which influence their regular occupations. This varies between and within species. For some it is speed, for others the ability to camouflage, and for yet others, highly developed visual or auditory capacities. Many animals possess qualities and characteristics once thought unique to humans, which is not surprising as all mammalian brains have neuronal circuitry and systems which enable them to receive, attend to, interpret, communicate with, and act upon information from the environment. In fact, "there is no strong evidence of unique brain-behaviour relationships in any species within the class Mammalia"⁷⁴. The gifts that make humans different are particular adaptations which evolved with increased brain size and, more specifically, association areas of the cortex.

The degree of difference is manifest in the size of the human brain which is "the largest primate brain that has ever existed"⁷⁵. It is 6.3 times larger than expected for mammals of the same body size⁷⁶. Deacon suggests that the structure, configuration and architecture is typical of other primates despite unique anatomy and functions for special human adaptations such as "symbolic communication, speech, tool usage and culture", and that "comparative size of brain may not be as important as its internal

⁷³Bronowski J. *The ascent of man*...p.31.

⁷⁴Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology*. 3rd ed. San Franscico: W H Freeman and Company, 1990, p.106.

Cf Campbell,

"Our brain is not so much different from other brains, it is bigger. We are not a whole new experiment in the evolutionary process, but a superprimate. A quantitative change in the evolving human brain, however, has produced a qualitative change of extraordinary significance"

(Campbell BG. *Humankind emerging*... p.366.)

⁷⁵Deacon TW. The human brain. In: *The Cambridge encyclopedia of human evolution*... p.115.

⁷⁶Jerison H J. *Evolution of the brain and intelligence*. New York: Academic Press, 1973.

organisation". He puts a case that "language abilities may be the 'special intelligence' of humans", that the "brain has been shaped by evolutionary processes that elaborated the capacities needed for language, and not just by a general demand for greater intelligence", and that "when all such species specific biases are taken into account, 'general intelligence' will be found to be less variable among species than once thought"⁷⁷ Others attribute the difference to an increase in association areas of the cortex. This difference is clearly indicated in Figure 2.2 from Rose.

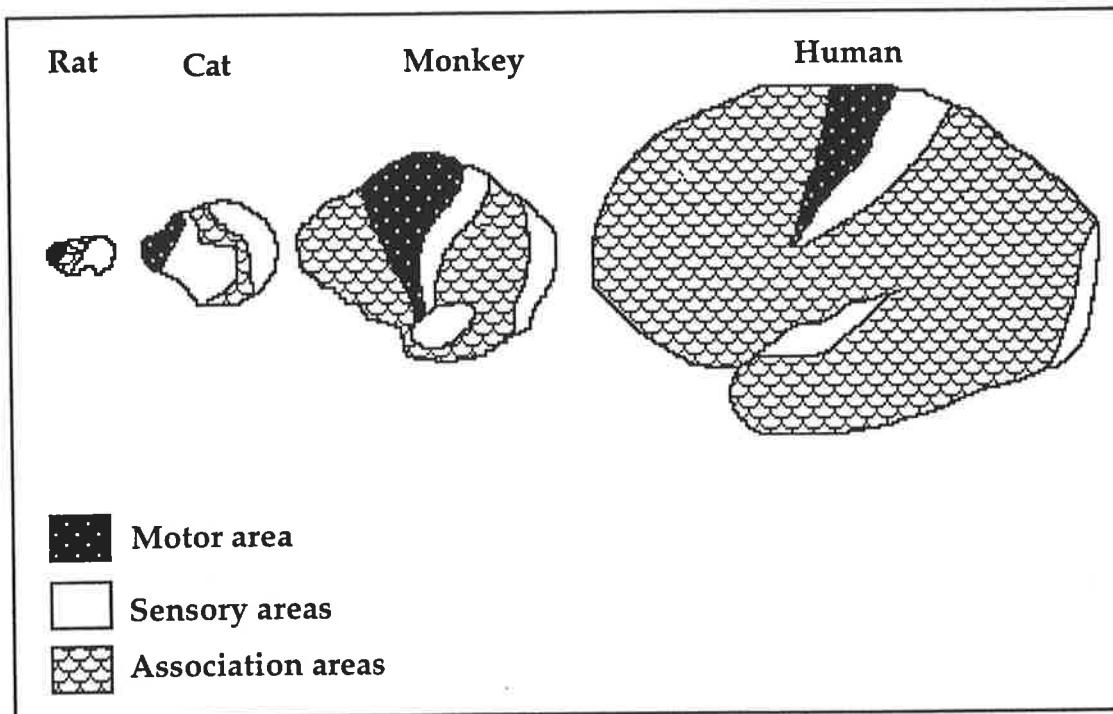


Figure 2.2: Differences in size of association areas of the brain between humans and other mammals (from Rose (p.170))⁷⁸

The association areas are responsible for complex communication and emotional tone, language, thinking, humour, forward planning, problem solving, analysis, judgement and adaptation, and Lorenz has noted that

"among humans...perceptions of depth and direction, a central nervous representation of space, Gestalt perception and the capacity for abstraction, insight and learning, voluntary movement, curiosity

⁷⁷Deacon TW. The human brain. In: *The Cambridge encyclopedia of human evolution*. pp.115,119,123

⁷⁸Rose S. *The conscious brain*. revised ed. England: Penguin Books, 1976

*...exploratory behaviour (and) imitation...are more strongly developed than any of them is among an animal species, even if they represent for those animals a fulfilment of the most vital, life-furthering functions "*⁷⁹.

These highly developed capacities, along with consciousness and particular physical characteristics, such as bipedalism, are the special survival mechanisms of humans, in that they endow unprecedented flexibility, enabling them to adapt to and meet the challenge of many different environments and dangers. The "intelligence and skills of our forebears do not only manifest themselves in the evolutionary transformations of the brain: they can also be seen in the results of their activity"⁸⁰,

The differences in degree of capacity, which frees people from the instinctive and functional constraints of most animals, are central to the particular occupational nature of humans, giving them their apparently strong drive to engage in daily, new or adventurous occupations and to undertake unwelcome or unenjoyable activities according to socio-cultural expectations. Indeed, popular writers such as Desmond Morris, and Lyall Watson contend that most people enjoy a challenge and are neophilic in that they "actively pursue the new and different"⁸¹. Bruner suggests it is only human adults who 'introduce' their offspring to challenging and sometimes frightening new experiences⁸², whilst amongst both birds and other mammals the presence of mothers is required to reduce fear of novel stimuli to enable their offspring to explore⁸³. If Bruner's suggestion is true, perhaps such learning experiences are a necessary precursor for people to take risks to create environments in which they feel comfortable, and to brave exploration of the unknown.

⁷⁹ Lorenz K. *The waning of humanness...* pp.57-58.

⁸⁰ Jelinek J. *Primitive hunters*. London: Hamlyn, 1989.

⁸¹ Morris D. *The human zoo*. London: Jonathan Cape, 1969; Watson L. *Neophilia: The tradition of the new*. Great Britain: Hodder and Stoughton Ltd, 1989.

⁸² Bruner JS. Nature and uses of immaturity. *American psychologist*. 1972; August: 687-708.

⁸³ King DL. A review and interpretation of some aspects of the infant-mother relationship in mammals and birds. *Psychological bulletin*. 1966; 65: 143-155.

Some suggest that humans appear to go beyond survival needs in their pursuit of occupation⁸⁴. The range of capacities available to humans certainly allows them to pursue many options which may not appear to have an obvious relationship to survival, but much deliberation about this point has led me to the position taken in my theory, that this extended ability is an integral part of healthy survival mechanisms, in that engagement in wide ranging occupations enables people to hone their skills, their capacities and their flexibility so that they are competent to deal with novel situations as they occur, as well as providing exercise to maintain the "well working of the organism as a whole"⁸⁵. This freedom and flexibility has, along with genetic and biological variability, resulted in humans from different regions of the world appearing 'different'. A large part of the difference can be attributed to the occupations in which their forebears have engaged over time, and the value given to them by the culture in which they live, because, as Richard Leakey, the anthropologist, observes

*the most pronounced differences are the way in which people do things: their dress, their architecture, their myths, their songs, their ideals and so on...The earth is populated by one people living many different styles of life because of a unique cultural capacity. And the mind that expresses this unique capacity is the one that also universally seeks beyond itself for explanations of man himself and the nature of the world around him.*⁸⁶

Indeed, from birth children, through their predominant occupation of play, seek beyond themselves for explanations of the world and their place within it. As they do this they develop their innate capacities through learnt behaviours, through practising skills, and using their minds and bodies to enable them to survive, to interact with others, and to choose future roles. In going beyond obvious survival needs in their pursuit of occupation people evolve and adapt as occupational beings according to their environment and

⁸⁴Morris D. *The human animal*. England: BBC TV Production, 1994 .

⁸⁵Kass LR. Regarding the end of medicine and the pursuit of health. In: Caplan AL, Englehardt HT, McCartney JJ, editors. *Concepts of health and disease: Interdisciplinary perspectives*. Massachusetts: Addison Wesley Publishing Co., 1981.

⁸⁶Leakey R. *The making of mankind*, London: Michael Joseph Ltd., 1981, p.248.

cultural values. The brain's capacity to adapt to social environs different from those in which humans evolved has led to "culture itself" creating "norms of human behaviour that, in a certain sense, can step in as substitutes for innate behaviour programs"⁸⁷.

The ability of humans for socio-cultural adaptation enables infants at a very early age to assimilate and retain information from the environment, before a conscious appreciation of meaning or significance is possible. This early absorption of observed behaviours enables ontogenetic development to be in step with socio-cultural expectations. In fact, the complexity of the human brain as the species survival mechanism means that human babies are not able to reach a stage where they can take care of themselves before birth, and they require social support for many years to assume 'full humanness'. As part of this process, attitudes, as well as occupational behaviours are absorbed and adopted, and it is those formed before intellectual capacities are sufficiently advanced to allow for adequate understanding or refuting, that have the strongest, albeit 'unconscious', hold on individuals. This mechanism was central to early humans healthy survival because it allowed essential learning to occur from birth, and stimulated the development of capacities. Their view of the strength of such learnt attitudes and behaviours led founding behavioural psychologists Watson and Skinner to argue that only physiological reflexes are inherited, Watson going as far as to claim

*"give me a dozen healthy infants, well-formed, and my own specific world to bring them up in and I'll guarantee to take any one at random and train him to become any kind of specialist I might select – doctor, lawyer, artist, merchant-chief, and yes even beggar-man and thief regardless of his talents, penchants, abilities, vocations, and race of his ancestors"*⁸⁸.

⁸⁷ Lorenz K. *The waning of humanness...* p.124.

⁸⁸ Watson JB. *Behaviourism*, 1924, revised 1930. New York: W.W. Norton, 1970, p104; Skinner BF. *Science and human behaviour*. New York: Macmillan, 1953.

Sociologists might not accept Watson's exaggerated language but a similar understanding by them has led to one of sociology's fundamental postulates, that human actions are limited or determined by past and present environments, and that humans are the products and the victims of their society⁸⁹. Sociologists, in contrast to socio-biologists, also reason that "human beings are made, not born" because, "even if someone argues that human endowments such as soul and rationality are innate, these gifts are not sufficient to ensure that an infant will become a truly functional human being, capable of ethical and cultural responsibility", and that "the infant has to be learned...in short, we enact, rehearse, work, and play our way into the human condition"⁹⁰. However this implies that people have the genetic and biological capacity to learn which is also part of being human. My occupational theory of human nature holds that, because of humans' particular mix of biological characteristics and capacities they are receptive to the process of enculturation and socialisation to the extent that they can indeed be considered products of their particular culture.

It is also held in my theory that societies are the product of humans acting on their environment. As people engage in occupation the physical and social environment is altered. Often, the more sophisticated the occupation the greater the change to the environment which in turn causes further change to and development of people. Karl Marx suggests that "by thus acting on the external world and changing it, [man] at the same time changes his own nature"⁹¹, and Braverman, in the same vein, proposes that people are the special product of purposeful action. He argues that occupation which "transcends mere instinctual activity is the force which created human kind and the force by which humankind created the world as we know it"⁹². Neff,

⁸⁹Shils E. Sociology. In: *The social science encyclopedia...* pp.799-810.

⁹⁰Driver T. *The magic of ritual*. San Francisco: Harper Collins Publishers, 1991, p.16.

⁹¹Marx K. *Capital. Volume 1...*pp. 179-180.

⁹²Braverman H. *Labor and monopoly capital...*

who is not a Marxist, agrees that the most revolutionary force in human history is technological change associated with the way people "wrest their living from nature"⁹³. He argues that social institutions are merely mirrors of technological levels. This idea, apparently well accepted in archaeological circles, as well as Marxist sociology, supports the theory that humans are occupational beings, that occupation has the potential to change the world or the species, and that it provides the mechanism to enable people to survive, and to adapt to biological, sociological and environmental demands. This view points to the need to consider human's occupational nature from an ecological as well as sociological perspective.

The many models of cultural evolution based on occupational technology are sometimes said not to address sufficiently the influences of other variables such as local environments, ecology and climate, war and conquest, spiritual beliefs and social struggles, or the complexities of the interactions between them⁹⁴. From my standpoint, there is some truth in the criticisms because such views have been limited to economic 'work' or 'labour' perspectives, neglecting an holistic view of occupation which of necessity integrates many factors. Other criticisms have been levelled at the notion of cultural evolution itself, particularly as postulated by Victorian anthropologists such as Tyler⁹⁵ and Morgan⁹⁶, in that it seems to imply progress in the sense that advanced technological societies are somehow 'better' or 'higher up the evolutionary ladder' than older cultures with less technical economies⁹⁷. However, the notion of cultural superiority is called into question by the argument that cultures can vary independently of race,

⁹³Neff WS. *Work and human behavior*. 3rd ed. New York: Aldine Publishing Company, 1985, p.20.

⁹⁴Neff WS. *Work and human behavior...*

⁹⁵Tylor EB. *Anthropology: An introduction to the study of man and civilization*. 1881. University of Michigan Press, 1960.

⁹⁶Morgan LH. *Ancient society*. 1877. White LA, editor. Cambridge, Mass.: Belknap, 1964.

⁹⁷Neff WS. *Work and human behavior...*

and that no one culture is superior to another⁹⁸. Similarly the occupational nature of humans is not seen to be more evolved in technologically advanced societies in contrast to hunter-gatherer or agrarian societies but, rather, expressed differently according to each culture's history, and technological development.

Having outlined the main concepts of this occupational theory of human nature, I turn to considering the last two points of Stevenson's notion - that any such theory has to include a diagnosis of 'what is wrong with humans', and a prescription of how to 'right the wrongs' from it's particular perspective.

As to diagnosis, I maintain that, although the occupational behaviour of early humans was in tune with self-sustaining 'natural' health and ecological balance, the current direction of occupational behaviour is out of step with human's animal heritage, natural behaviours and the ecology. This echoes a sentiment expressed by Alexis Carrel, in 1935, that modern civilisation "does not suit us", being "born from the whims of scientific discoveries, from the appetites of men, their illusions, their theories, and their desires" but "without any knowledge of our real nature". He argued for a science of human individuals which views them as "an indivisible whole of extreme complexity"⁹⁹. It could be suggested that in the present day knowledge of human nature remains rudimentary, and that Carrell's science is still necessary despite an avalanche of research in various disciplines in recent decades. The knowledge is certainly fragmentary and, without a real appreciation of the human need to engage in occupation, it is incomplete.

⁹⁸Hatch E. Culture. In: *The social science encyclopedia...* p 179.

⁹⁹Carrel A. *Man the unknown*. London: Burns and Oates, 1935, p.14.

As for a prescription of how to 'right the wrongs', addressing the lack of awareness of our occupational natures has the potential to influence social, political, economic and health policies so that they are more in tune with our occupational natures, self-sustaining 'natural' health and ecological balance. More concrete solutions do not seem advisable, as theories of human nature which are prescriptive, such as 'Marxist Communism', do not allow sufficient flexibility to allow solutions to be responsive to contextual and evolutionary change.

Gaining an increased understanding of this perspective of human nature is worthy of further extensive inquiry as it appears appropriate to many of the problems the world faces today and in the future, namely how to maintain health and ensure human survival in an economic and self sustaining way, which meets the biological, sociocultural and occupational needs of people as well as redressing ecological degradation. Because of the nature of the approach taken in the thesis, the exploration which follows can only touch on these wide ranging issues, although it is acknowledged that each requires study in their own right.

In summary, the central core of this occupational theory of human nature is the proposal that the superprimate brain of the human species has 'healthy survival' as its primary role. It is a brain which continually activates human's particular mix of characteristics and capacities through engagement in occupation. It is an occupational brain and a healing brain. Our occupational nature is the result of evolution/phylogeny, genetics, ontogeny, ecological and socio-cultural environments, and opportunity all of which are centred or integrated in the brain. Engagement in occupation forms a three way link with health and survival which is illustrated by Figure 2.3.

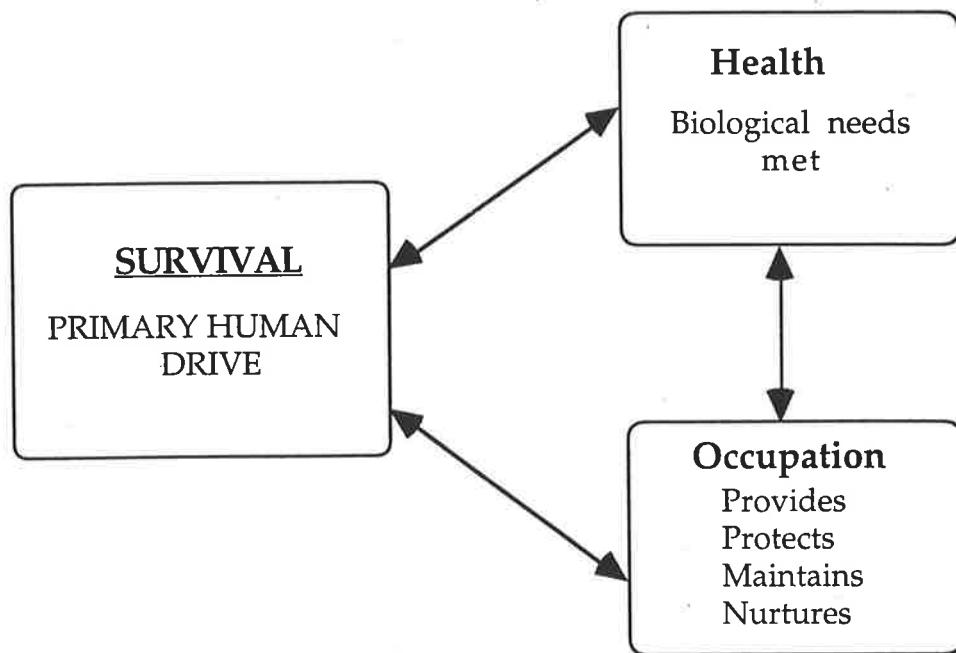


Figure 2.3: Three-way link between occupation, health and survival.

Survival is recognised as the primary drive of humans, as of all other animals. Survival of individuals is the outcome of the use of capacities through occupations which provide for essential needs of the organism, including supportive social, ecological and material environments. The extent and quality of survival for individuals, communities and societies depends on their health and physical, mental and social well-being, and health is the outcome of each organism having all essential sustenance and safety needs met, and of having physical, mental and social capacities maintained, exercised and in balance. This is achieved through occupation. Engagement in occupation depends, in turn, on a level of health, and its specific components, which are able to provide the energy, drive and functional attributes necessary for engagement.

Additionally, the survival of healthy species depends on the human's capacity to live in harmony within an environment which can continue to

provide basic requirements; to ensure the continued acquisition of these requirements; and to provide safety and education for the next generation.

The integrative functions of the central nervous system which process external and internal information, activated by engagement in occupation, are focal to survival, the maintenance of homeostasis, and in facilitating health and well-being. The next four chapters, which consider biological characteristics and capacities, occupational evolution, health and well-being, and the prevention of illness explore the ideas behind this view of human nature.

Chapter 3

Biological characteristics and capacities: The foundation for occupational behaviour

In order to substantiate one aspect of the theory, this chapter explores ideas concerning biological 'characteristics' and 'capacities' which appear to make considerable contributions to occupational behaviour. Some capacities and characteristics which have been identified as important by evolutionary scientists, archaeologists and anthropologists will be discussed, because they are adaptations which set humans apart from other mammals. As these are explored ideas about the potential role of these capacities in survival, health and well-being, and how they can be used in occupation for self maintenance, development and growth, will also be considered.

The chapter focuses mainly on the central nervous system (CNS), because it is the brain which coordinates and controls human's engagement in occupation. However, it is important to recall that, according to this theory, the CNS cannot be studied in isolation because, for example, "the shape of an animal's body is as important to the functioning and evolution of its brain as the shape and functioning of the brain are to the behaviour of that body", and in evolutionary terms "the shape of cells, tissues, organs, and finally the whole animal - is the largest single basis for behaviour"¹. Sources for much of the material comes from the neurosciences, along with that from archaeologists and anthropologists who explore the biological development of humans through brain size and structure, physiological capacities such as

¹ Edelman G. *Bright air, brilliant fire: On the matter of the mind*. London: Penguin, 1992, pp.51, 48.

Gerald Edelman's work, centred on his theory called 'Neural Darwinism,' has been described as 'the first biological theory of individuality and autonomy' by Oliver Sachs in the New York Review of Books, and as such is very relevant to the themes in this thesis.

bipedal locomotion and hand function, and evidence of intellectual function such as language, all of which are prerequisite to complex occupational behaviour such as tool manufacture.

To consider the links between use of capacities, engagement in occupation, health and survival it is necessary to first define what is meant by 'capacity'. Texts and articles reviewed in the course of exploration of 'capacity', use words such as 'genetic potential', 'characteristic', 'trait', 'talents' and 'ability' interchangeably. Both academic and popular dictionaries and thesauruses use words such as faculty, capability and trait to describe capacity. These in turn extend our understanding, with capability defined as "power of undeveloped faculty", and faculty as "aptitude for any special kind of action; power inherent in the body or an organ; (and) mental power"². 'Trait' has synonyms such as 'characteristic quality', 'distinguishing mark', 'attribute', 'feature', 'peculiarity', 'speciality' and 'idiosyncrasy'³, but in most instances implies an observable rather than a potential aptitude. Capacity, then, in this context, is used to mean the innate and perhaps undeveloped potential, aptitude, ability, talent, trait or power with which each individual is endowed.

Species characteristics and range of capacities express the essential difference of one species of animal from another. Complex occupational behaviour differentiates humans from others and allows humans to adapt to, and survive healthily in, many different environments, and it is "expansion of a standard primate brain" which has provided humans with

behavioural possibilities undreamed of in other even closely related, species. This brain...gives us the human potential for

² *The standard English desk dictionary*, 2nd ed. © Oxford University Press, 1975; published for sale in Australia and New Zealand only, Sydney: Bay Books, 1976

³ Roget PM. *Roget's thesaurus of synonyms and antonyms*. London: The Number Nine Publishing Company. 1972; *Word finder ; The Australian Thesaurus*. Sydney: Reader's Digest, 1983.

"making tools, talking, planning, dreaming of the future, and creating an entirely new environment for ourselves"⁴

This point leads us, naturally, to consideration of the evolution, structure and function of the brain.

The "rather haphazard and seemingly disorganised set of structures"⁵ in the brain evolved in 'archaeological' layers as animals adapted to different habitats, climates and subsistence demands. Each layer maintained stability and health of the organism as conditions changed, and each layer added a new dimension to occupational behaviour. Herbert Spencer, an evolutionist social philosopher, (1820-1903), was the first to argue that "the brain evolved in a series of steps, each of which brought animals the capacity to engage in a constellation of new behaviours", and John Hughlings-Jackson(1835-1911), an English neurologist, who based his work on Spencer's theory, recognised that the cortex has a special role in purposeful behaviour which is supported by subcortical areas concerned with more elementary forms of the same behaviour⁶.

Although in the 1990s it is generally accepted that the brain is organised according to 'systems', some neuro-scientists still refer to the human brain's functional hierarchy based on phylogenetic evolution. The brain stem is the oldest part of the brain which developed before the advent of mammals. It controls the simplest life support systems such as breathing, heart rate and general alerting to predators or prey. The limbic system evolved to ensure stability of the organism on 'land', which called for structures to maintain, for example, internal temperatures, fluid levels and emotional reactions such as

⁴ Campbell BG. *Humankind emerging*. 5th ed. New York: Harper Collins Publishers, 1988, pp.364-365.

⁵ Ornstein R, Sobel D. *The healing brain: A radical new approach to health care*. London: Macmillan, 1988, p.36.

⁶ Kolb B, Whishaw IQ. *Fundamentals of human neuropsychology*. 3rd ed. San Francisco: W H Freeman and Company, 1990, p.123.

those concerned with self protection. The cerebellum was probably the first area to specialise in sensory-motor coordination, and is integral to efficiency of skilled movement. The cerebral cortex is the most recent layer. It is here that the processes occur which make humans most different from other animals, such as their capacity to analyse, organise, understand, produce, judge, plan, activate, sense, formulate and execute occupation⁷. Some of these processes, such as "the perceptual systems of seeing, hearing and language comprehension" are more structured than others such as "thinking and imagining, learning and judging" so although "we can perceive the world only in certain modes, we can think about the finished products of perception, embellish them and manipulate them in many different ways". Such cortical functions give humans the "capacity to adapt culturally...enabling (them) to insulate themselves from the environment and to exploit the environment"⁸.

The growing knowledge about the relation of brain structure to behaviour demonstrates "...enormously intricate brain systems at...molecular levels, cellular levels, organismic levels (the whole creature), and transorganismic levels (that is, communication of some sort or other)", all of which interconnect. In the cerebral cortex alone it has been estimated that there are between twenty to a hundred billion neurones, and about one million billion connections all of which are capable of many combinations so that "the sheer number and density of neuronal networks in the brain" reaches "hyperastronomical" figures, and "the brain might be said to be in touch more with itself than with anything else". Indeed "the kinds of unique individuality in our brain networks makes that of fingerprints or facial

⁷ Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology*. Ornstein R, Sobel D. *The healing brain*.

⁸ Campbell BG. *Humankind emerging*. ...pp.55, 374-378.

features appear gross and simple by comparison"⁹. Many neurones, each of which is "unusual in three respects: its varied shape, its electrical and chemical function, and its connectivity", have specific potential¹⁰. In fact "very specific patterns of behaviour are determined by very specific brain areas", with "each behavioural system probably (having) its own underlying neurophysiological mechanisms"¹¹. Different brain areas have different cell formations which have been described in functional and cytoarchitectonic maps¹². "Mapping is an important principle in complex brains" and the fibres that connect maps with each other "are the most numerous of all those in the brain"¹³

Mapped areas of the brain which have been identified with specific functions do relate to occupational behaviour, although the "complexity of the brain's structure makes it incredibly difficult to relate its components to individual capacities"¹⁴. This is also because capacities themselves are incredibly complex systems. In fact the complexity of brain organisation, as it relates to occupation and to capacities, is one factor in the difficulty experienced throughout history in understanding what happens where. For example, Kolb and Whishaw report in a history of neuropsychology that whilst Alcmaeon of Croton (c. 500BC), Hippocrates (430-379BC) and Plato (420-347BC) subscribed to a view that located mental processes in the brain, Empedocles (c. 490-430BC) and Aristotle (384-322BC) believed the heart to be the source of mental functions¹⁵. Galen (129-199AD), refuted Aristotle's view

⁹Sperry R. 1982. *Some effects of disconnecting the cerebral hemispheres*. Les Prix Nobel 1981 pp.209-219.

¹⁰Edelman G. *Bright air, brilliant fire...* pp.7, 16-19.

¹¹Snell GD. *Search for a rational ethic*. New York: Springer Verlag, 1988, pp.147, 165.

¹²Penfield W, Boldrey E. Somatic motor and sensory representation in the cerebral cortex as studied by electrical stimulation. *Brain*, 1958; 60: 389-443; Brodmann K. *Vergleichendes lokalisationslehre der Grosshirnrinde in prinzipien dargestellt auf grund des zellenbaues*. Leipzig: JA Barth, 1909.

¹³Edelman G. *Bright air, brilliant fire ...* p.19.

¹⁴Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology...* p.4.

¹⁵Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology...*

following experiments in which he applied light pressure to heart and brain, and found pressure to the brain stopped voluntary behaviour. Eighteenth century anatomists Franz Joseph Gall and Johann Casper Spurzheim are credited with originating the localisation of function argument. They developed a theory of phrenology, in which specific capacities of the brain were attributed according to the bumps and depressions apparent on the surface of individual skulls. However, in large part, because they assigned capacities derived from a value laden philosophical view, such as 'veneration' and 'secretiveness' rather than from observable behaviours, their contribution was rejected. In recent years localisation theories have been substantiated with the proviso that any area with a specific function does not work in isolation. In fact, the complexities of the interactive nature of specific areas of the brain has been demonstrated by the 'zenon 133' studies of brain activity in which a two dimensional measure of regional blood flow was taken during performance of tasks as compared to a 'resting state'. It was found that the frontal lobes were relatively active bilaterally even at rest, and that just simple movement of the fingers involved activity of many different areas¹⁶. Such complexity has been confirmed by three dimensional 'positron emission topography' which has been used to image the neuronal activity of both hemispheres and deeper brain structures during use¹⁷.

Complex and integrative neuronal activity at many levels and the notion of localisation of function are not incompatible, and if the former is kept very much in mind it is possible to accept that:

¹⁶ Lassen NA, Ingvar DH, Skinhøj E. Brain function and blood flow. *Scientific American* 1978; 239: 62-71; Roland PE. Applications of brain blood flow imaging in behavioral neurophysiology: Cortical field activation hypothesis. In: Sokoloff L, editor. *Brain imaging and brain function*. New York: Raven Press, 1985, pp.87-104.

¹⁷ Kety SS. Disorders of the human brain. *Scientific American* 1979; 241: 202-214; Mazziotta JC, Phelps ME. Human neuropsychological imaging studies of local brain metabolism: Strategies and results. In: *Brain imaging and brain function*; Restak R. *The brain*. New York: Bantam Books, 1984.

"Inside the cortex lie separate centers with specific functions, which we like to call talents. Mathematical ability is a separate talent from the ability to move gracefully; verbal agility is distinct from the previous two. There is a range of different functions, for smelling, for thinking, for moving, for calculating that the brain possesses."¹⁸

However, talents "are not given equally to all of us; people are not as consistent as we might have imagined", and recognising this, Ornstein and Sobel contend that in order to understand the brain's operation, as well as its concern with health, it is necessary to study the 'collage' of "specialised neural systems each of which possesses a rich concentration of certain abilities" which are talents of a specific nature, or of generic organisation or tendency¹⁹. One such study led Gagne to propose a 'differentiated model of giftedness and talent', which identifies giftedness as 'aptitude' and talent as 'fulfilment or activity performance', with aptitude being translated into talent via environmental and intrapersonal catalysts. Gagne groups aptitudes and talents into aptitude domains, such as intellectual, creative, socio-affective and sensorimotor, and fields of talents such as, academic, technical, artistic, interpersonal and athletic²⁰. As well as primary capacities such as seeing, standing, perceiving colour or touching, which are complex physiological processes in their own right, there are other more complex capacities such as problem solving, exploration, consciousness, creativity, and so on. These more complex capacities do not appear to be based on specific maps but are examples of the integrative workings of many independent and interdependent systems.

In order to corroborate the idea that individual variation in capacities is genetically endowed, the next few pages will consider ideas and evidence from studies relating to genetics, including those on twins, race, gender and ontogenesis.

¹⁸ Ornstein R, Sobel D. *The healing brain*...p.39.

¹⁹ Ornstein R, Sobel D. *The healing brain*...pp.39,57.

²⁰ Gagne F. Toward a differentiated model of giftedness and talent. In: Colabango N, Davis G, editors. *Handbook of gifted education*. Massachusetts: Allyn and Bacon, 1991.

Although, in common with other animals, the range of human capacities is, on the whole, common to the species, individual variation is the rule. For example, in an early classic experiment on fowls, JBS Haldane (1892-1964), who is credited with the first case of genetic linkages in mammals, found that when he mated fowls weighing an average 1300 grams, with bantams averaging 750 grams there was a tendency for the weight of their hybrid offspring to split the difference between their parents weight. When hybrid mated hybrid the variations that ensued produced birds with a range of weights from much greater to much smaller than the grandparents. Inheritance is 'cooperative' in that genes as part of a 'gene complex' combine or interact, and it is usually more than one gene that produces a single trait. Haldane estimated, in his experiment, that if ten genes had an effect on weight they could produce 59,049 variations²¹. In the present time, as geneticists and biologists have come closer to understanding the structure and function of genes by using biochemical technology, ranging from electrophoresis of proteins to very sophisticated analysis of DNA structures, "they have uncovered inherited variation, or polymorphism, at almost every level of organisation" to the extent that "it is certain that every human being who has lived or ever will live is genetically unique"²². The biological processes that have increased genetic variability throughout evolution are "mutation, sexual recombination, genetic drift, gene flow, and increase in population size"²³, so that except for identical twins every individual carries different genetic material.

Despite some methodological flaws which discredited early findings in some 'twin studies' which sought to explore the relative roles of nature and

²¹ Haldane JBS. *The causes of evolution*. Longmans, Green 1932. Reprinted Ithaca, New York: Cornell University Press, 1966.

²² Jones S. Genetic diversity in humans. In: Jones S, Martin R, Pilbeam D, editors. *The Cambridge encyclopedia of human evolution*. Cambridge: Cambridge University Press, 1992, pp.264-267.

²³ Campbell BG. *Humankind emerging*...pp.86-87.

nurture in behaviour, there is now abundant evidence from these that capacities are part of our genetic inheritance. In studies of genetically identical twins compared with fraternal or non-identical twins, Plomin, DeFries and McClearn found that the general cognitive ability of identical twins was more alike than those of fraternal twins in 17 of 18 studies, which included over 6,000 identical and non-identical twin pairs.²⁴ Other traits such as schizophrenia, drinking habits, homosexuality, criminal tendencies, prosocial behaviour and personality characteristics have consistently been found more similar in identical twins²⁵. Following study of 850 pairs of twins Loehlin and Nichols concluded that "genes and environment carry roughly equal weight in accounting for individual variation in personality"²⁶, although Vandenberg suggests that the relativity of heredity and environment varies according to specific capacities²⁷.

With regard to variation in neurophysiological processes, not even identical twins have "the exact pattern of nerve cells...at the same time and place"²⁸. Nor have they exactly corresponding numbers of branches of any one neuron because of "the stochastic nature" of the 'topobiological'²⁹ and

²⁴ Plomin R, DeFries JC, McClearn. *Behavior genetics. A primer.* San Francisco: W.H. Freeman, 1980.

²⁵ Snell GD. *Search for a rational ethic....*

²⁶ Loehlin JC, Nichols RC. *Heredity, environment and personality: A study of 850 sets of twins.* Austin: Texas University Printers, 1976.

²⁷ Vandenberg SG. Hereditary factors in psychological variables in man, with special emphasis on cognition. In: Spuhler JN, editor. *Genetic diversity and human behavior.* Chicago: Aldine, 1967, pp.99-133.

²⁸ Edelman G. *Bright air, brilliant fire...*p.64.

²⁹ Topobiology ('topos' meaning place) is a term used by Edelman in his theories about brain evolution because many transactions between cells leading to 'shape' are place dependent. See: Edelman GM. *Topobiology: An introduction to molecular embryology.* New York: Basic Books, 1988.

'epigenetic'³⁰ "developmental driving forces provided by cellular processes such as cell division, movement and death"³¹.

In evolutionary terms factors which increase or decrease individual variability include contentious issues relating to race and gender. These will be briefly considered because central to this thesis is the notion that increased awareness, and encouragement, of the unique potential of individuals is important and, if there are differences according to race or gender, apart from individual genetic inheritance or cultural learning, this should not be overlooked in 'socially just' research or intervention aimed at individual or community health and well-being through engagement in occupation.

The biological processes in question for race are those that decrease variability within particular groups, such as when "natural selection and reduction in population size" results in the 'founder effect' in which different gene frequencies are perpetuated in isolated communities³². Examples of this type lead to speculation that some differences in capacities may well be found in people of different races, who, particularly because of geographical isolation over a long period of time, inherit variations fitted to their environment through the processes of natural selection³³.

Whilst the "overwhelming majority of genes of *homo sapiens* are shared by all mankind, a relatively small percentage is believed to control those

³⁰Epigenesis is the "development of an organism from an undifferentiated cell, consisting in the successive formation and development of organs and parts that do not preexist in the fertilised egg".

In: Dorland's illustrated medical dictionary. 25th edition. Philadelphia: W B Saunders, 1974, p.530.

³¹ Edelman G. Bright air, brilliant fire...p.25.

³² Campbell BG. Humankind emerging...p.86-87.

³³See, for example: Coon CS. *Racial adaptations: A study of the origins, nature and significance of racial variations in humans*. Chicago: Nelson Hall, 1982; Mellars P, Stringer C, editors. *The human revolution: Behavioural and biological perspectives on the origins of modern humans*. Edinburgh: Edinburgh University Press, 1989.

features which differentiate the races from each other"³⁴ Anatomical differences which are adaptations to past or present environments, such as hair, eyelid, breast or lip form, pigmentation, frequencies of balding and body build are easily demonstrated. There are also physiological differences such as in blood groups, basal metabolic rate, bone growth, age and order of tooth eruption, and subtle variations which give rise to diseases like 'sickle cell anaemia', 'phenylketonuria', 'favism' or 'familial Mediterranean fever'³⁵. It is possible, of course, that such differences may, in the future, be found to result from environmental factors, such as nutrition. Anatomical and physiological differences may account for some particular skills more prevalent in one racial group than another, such as in athletics, as evidenced by particular negroid groups. As well, differences in the occupational behaviours characterising some cultures may result, in part, from particular genetic inheritance. Despite suggestions that there may be racial differences in IQ, mechanical and abstract reasoning, form discrimination, colour sense and tonal memory³⁶, some investigators stress that race is based on genetic physical traits rather than mental traits.

Indeed, the race concept itself has been challenged³⁷. Littlefield, Lieberman and Reynolds found that of 58 texts that appeared between 1932 and 1979 only twenty-five accepted the race concept, whilst seventeen did not. The remaining sixteen were non-committal, said there was no consensus or did not mention the subject. There was, in fact, an evident swing away from the concept of race in more recent texts³⁸. Whilst this may reflect data from new studies it may also reflect changes of ideas and values about racial differences

³⁴Tobias PV. Race. In: *The social science encyclopedia...* p.681.

³⁵Campbell BG. *Humankind emerging...*

³⁶Garn SM. *Human races* . 3rd ed. Springfield, Ill.: Thomas, 1971; Garn SM, editor. *Readings on race* . 2nd ed. Springfield, Ill.: Thomas, 1968.

³⁷Lewontin RC. The apportionment of human diversity. *Evolutionary Biology* 1972; 6: 381-398.

³⁸Littlefield A, Lieberman L, Reynolds LT. Redefining race: the potential demise of a concept in physical anthropology. *Current Anthropology* 1982; 23(6): 641-647.

and concerns about discrimination. Many scientists working in this area express concern about differences being viewed as evidence of superiority or inferiority. To counter possible racism some investigators have developed an environmental hypothesis which suggests that differences, particularly concerning IQ scores, are attributable to cultural factors³⁹, and Tobias observes that "at this stage of our ignorance it is unjustified to include intelligence, however tested, among the validly demonstrated, genetically determined differences among the races of mankind"⁴⁰.

As IQ tests measure ideas and intelligence values of the societies who devise them, they are only valid in that environment. What is deemed intelligent and valued by other cultures may not be the same capacities. One capacity is not more valuable than another outside a particular context, they are just 'different', and the notion of difference in capacities due to racial 'fitness' does not imply racial superiority or inferiority but rather a cause for celebration and pride of particular capacities and human adaptability to environmental circumstances. However as world travel, migration, multiculturalism and inter-racial marriage increase, what differences there are between racial groups will decrease, as gene flow decreases variation between populations but increases variation within them⁴¹. Appreciating possible differences in capacities between individuals from different racial backgrounds may be as important to health and well-being as recognising species similarities and cultural diversity, if it assists in recognising and enabling expression of the unique range of capacities of each individual that will enhance individual and community experiences of health and well-being.

³⁹Scarr S. *Race, social class and individual differences*. New Jersey: Hillsdale, 1980; Scarr-Salapatek S. Race, social class and IQ. *Science* 1971; 174:

⁴⁰Tobias PV. Race. In: Kuypers A, Kuypers J, editors, *The social science encyclopedia*. London & New York: Routledge, 1985, p.682.

⁴¹Campbell BG. *Humankind emerging...*

Similarly there may be differences in capacities between genders because of the evolutionary pressures of natural selection and hormonal differences, which are under the control of genetic influences. Not only do levels of testosterone, estrogenic hormone and progesterone account for differences in male and female behaviour, but, in addition, Kolb and Whishaw report, following an examination of behavioural, anatomical and neurological studies, that there are significant gender differences in cerebral organisation including cerebral maturation rates, cerebral laterality, language and spatial capacities⁴². For example it is thought that the gene for spatial ability is recessive on the X (female) chromosome, that males require only one X chromosome but that females require both X chromosomes to carry the gene before spatial ability is demonstrated. With this model it is possible to predict that while fifty percent of males would possess the trait only twenty-five percent of females would, although some females would demonstrate greater ability than average males⁴³. As well it seems that differences in cerebral maturation rate can result in different capacities. It has been proposed that males generally mature physically and mentally more slowly than females, and that maturation rate is a critical determinant of cerebral asymmetry. Although there must be, or have been, some adaptive advantage in laterality, such as more storage space with the subsequent potential for a greater range of skilled capacities, there are no compelling theories as to purpose to this date, and, indeed, theories of laterality, as they were proposed, twenty or so years ago, are being challenged by some neuro-scientists in the 1990s⁴⁴. Waber has demonstrated that regardless of gender, adolescents who mature early

⁴² Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology...*

⁴³ Harris LJ. Sex differences in spatial ability: possible environmental, genetic and neurological factors. In: Kinsbourne M, editor. *Asymmetrical function of the brain*. Cambridge: Cambridge University Press, 1978.

⁴⁴ Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology...*

perform better in verbal tasks and those who mature later perform better on spatial tasks⁴⁵

Waber's material supports the idea that just as capacities can differ between individuals, races and genders so are there differences because of age as discrete neurophysiological mechanisms start functioning at specific times during ontogenesis. This can be observed when infants become responsive, often quite suddenly, to specific external stimuli⁴⁶. In fact because "connections among the cells are...not precisely prespecified in the genes", epigenetic processes start in embryo when "key events occur only if certain previous events have taken place"⁴⁷. After birth, apart from obvious physical capacities, such as crawling, walking and talking, whose appearance are well documented, "at a certain point in ontogenesis, each individual begins to realise his or her own powers to direct attention, to think, to feel, to will, and to remember. At that point a new agency develops within awareness. This is the self"⁴⁸. With knowledge of the self comes an increased need to conform with others of the species, and to demonstrate particular skills and capacities which are socio-culturally valued. Capacities, therefore, also vary between individuals as they

change in various ways as an individual grows up, since every competence need not have appeared fully formed at birth. Some competencies improve with learning and practice during childhood and youth, and all do not improve at the same rate, or necessarily are perfected during a lifetime"⁴⁹.

Capacities are the building blocks of unique occupational natures and personalities, despite the remarkable sameness in the range of capacities

⁴⁵Waber DP. Sex differences in cognition: A function of maturation rate? *Science*, 1976; 192: 572-573

⁴⁶Campbell J. *Winston Churchill's afternoon nap*. London: Palladin Grafton Books, 1986, p.166.

⁴⁷ Edelman G. *Bright air, brilliant fire*...p.23.

⁴⁸Csikszentmihalyi M, Csikszentmihalyi IS, editors. *Optimal experience: Psychological studies of flow in consciousness*. Cambridge:Cambridge University Press, 1988, p.20.

⁴⁹Campbell J. *Winston Churchill's afternoon nap*...p.290.

available to human beings. Subtle variations between humans lead to amazing differences in occupational interest, competence and satisfaction which grow or diminish according to environmental demands, enculturation and individual opportunity. "No two mixes of the inner and outer factors are just alike"⁵⁰. The external variables increase individual differences in capacity, in part, because of structural change which results from the neuronal demands of activity, so it is not surprising that the "brains of individuals vary in features just as the faces of individuals vary"⁵¹.

Purposeful use of time is also part of our biological heritage, as Selye observes: "our brain slips into chaos and confusion unless we constantly use it for work that seems worthwhile to us" however much "the average person thinks he works for economic security or social status"⁵², and the human need to make use of capacities is evident from very early in evolution. (This need will be discussed further in chapter 5). Because the type of purpose and nature of occupation depends upon humans particular capacities, the chapter will now turn to consider some of those capacities which are critical to complex, self-initiated occupational behaviour, and which are also focal points in debates about evolution and about humanness. The human capacities of upright walking, hand dexterity, stereoscopic vision, language and social nature are prime examples. Campbell suggests that these particular capacities have "overwhelming significance" and when "added together separate all humans from all other animals"⁵³. The first four of these will be discussed now, and the social nature of humans in the next chapter.

⁵⁰Snell GD. *Search for a rational ethic*...p. 140.

⁵¹Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology*...p.4.

⁵²Selye H, Monat A, Lazarus RS. *Stress and coping: an anthology*. 2nd ed. New York: Columbia University Press, 1985, p.28.

⁵³Campbell BG. *Humankind emerging*...p.47.

Upright posture seems to be one of the most ancient of the species particular features "associated with the ecological adaptations of early hominids"⁵⁴. Evidence such as fragments of a four million year old thigh bone found in Ethiopia, and the discovery in Laetoli of a trail of footprints left by three hominids in volcanic ash more than 3.5 million years ago, leads to anthropological opinion that hominids stood like humans before they could think like humans. Lewin suggests that the explanation of bipedalism which currently enjoys the most scientific support is that upright walking was a biological adaptive response to accessing traditional foods in a changing environment; that a more energy efficient mode of walking was required because food sources became dispersed with climatic and subsequent environmental changes⁵⁵. Another explanation is based on the fact that human young, who take a long time to mature, are dependent on their parents to carry them, unlike other primate offspring who are able to cling to their parent's long body hair. Erect standing and bipedal locomotion enabled mothers to move about whilst using arms and hands to support their children⁵⁶. However these are only two of several plausible explanations, all of which may have influenced bipedal evolution, and some of which are illustrated in Figure 3.1 and 3.2 on the next page⁵⁷.

Although other animals have the ability to walk upright, humans have developed bipedalism into an adaptation as specialised as flight in a hovering

⁵⁴Fleagle JG. Primate locomotion and posture. In: *The Cambridge encyclopedia of human evolution*...p.79.

⁵⁵Lewin R. *In the Age of Mankind: A Smithsonian Book of Human Evolution*. Washington, D.C.: Smithsonian Books, 1988.

⁵⁶Jelinek J. *Primitive hunters*. London: Hamlyn, 1989.

⁵⁷Figure 3.1 is taken from Fleagle JG. Primate locomotion and posture. In: *The Cambridge encyclopedia of human evolution*...p.79; Figure 3.2 is taken from Campbell BG. *Humankind emerging*...p.259

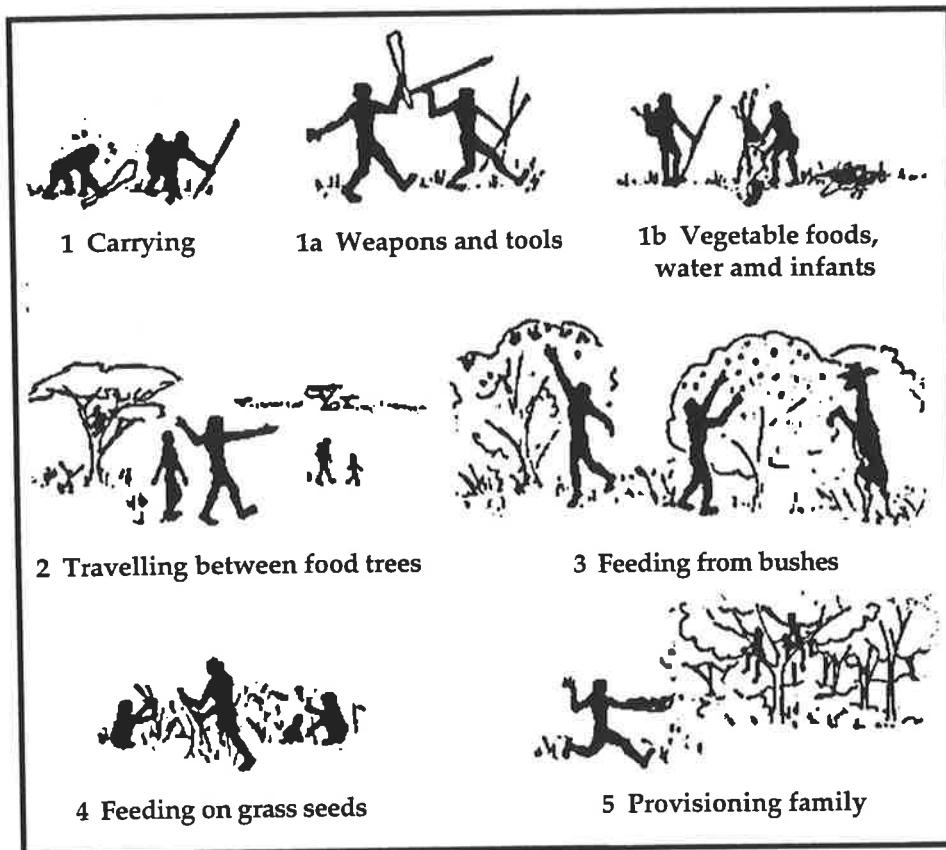


Figure 3.1. Some theories of the origin of bipedal locomotion.

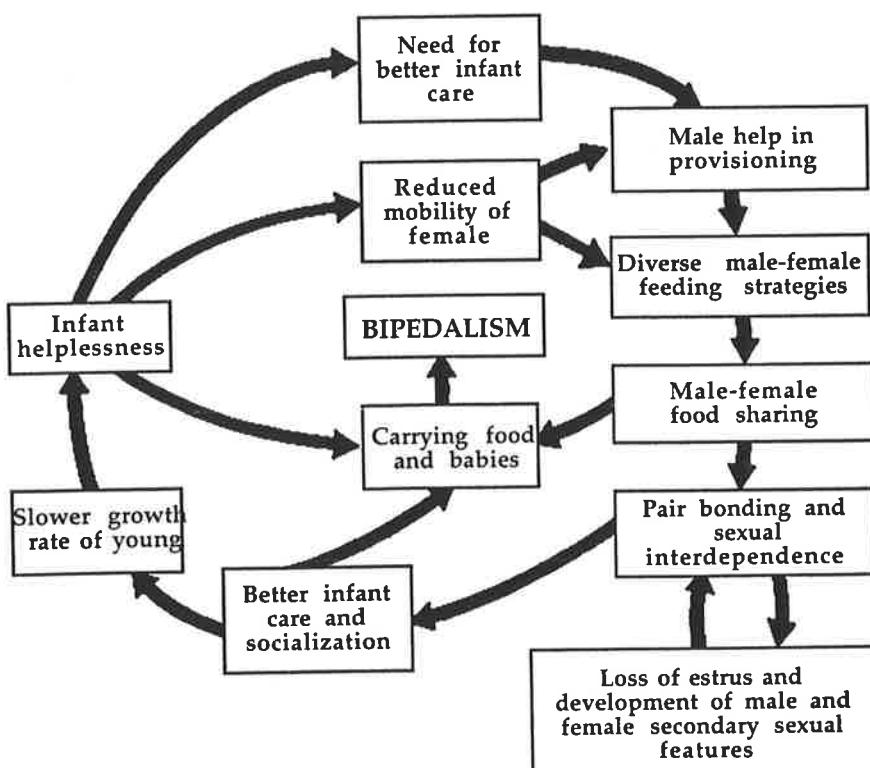


Figure 3.2: Pliocene adaptations of early hominids according to Lovejoy, drawn as a feedback system.

hawk, whilst also developing versatility⁵⁸. Humans can run, jump, dance, climb, swim, and cope with almost any terrain, and the health advantages of bipedal occupations such as running, walking and swimming, particularly with regard to the cardio-vascular system are well researched and applauded, even if not all epidemiologists agree about which form of activity is most valuable. Skilled use of bipedal locomotion varies between all humans, as evidenced by the number of sports and athletic pastimes which are based on different aspects of it. Not everyone can triple jump, dance like Fonteyn, or run a four minute mile, and whilst many climb, only a few pursue this occupation to the ultimate achievement of climbing to the summit of Mount Everest. However, despite the fact that bipedal locomotion is slower than quadrupedal, humans have thrived from the occupational advantages of having the forelimbs free.

Hand dexterity is also so characteristic that Benjamin Franklin is reputed to have observed that 'man is a tool-making animal'. Although other primates are known to use 'tools'⁵⁹, the homo genus is said to have begun with the ancestors who are credited as being the first manufacturers of stone tools. They lived about 2.5 to 1.6 million years ago, and are known as 'homo habilis' ('handy man')⁶⁰, and although it is believed their tools were meagre, "statistical studies of these tools have shown that their makers...had a concept of symmetry...and...a planned technique". Homo habilis is also credited with building the first known stone shelters in Olduvai, and of carrying food to

⁵⁸ For an interesting view of early human locomotion patterns based on analysis of hunter gatherer lifestyles and occupations, see: Watanabe H. Running, creeping and climbing: A new ecological and evolutionary perspective on human locomotion. *Mankind* 1971; 8(1): 1-13. See also: Alexander RMcN. Walking and running. *American scientist* 1984; 72: 348-354; Alexander RMcN. Characteristics and advantages of human bipedalism. pp.255-266. In: Rayner JMV, Woottton R, editors. *Biomechanics in evolution*. Cambridge: Cambridge University Press, 1991.

⁵⁹ Jane Goodall demonstrated with slides how Chimpanzees, in the wild, with great care and skill, use grasses to extract termites from their nest. Seminar: University of Southern California. April 4th, 1995. See also: Goodall J. *The chimpanzees of Gombe*. Cambridge, Ma.: Harvard/Belknap, 1986; Brewer SM, McGrew WC. Chimpanzee use of a tool-set to get honey. *Folia primatologica* 1990; 54: 100-104.

⁶⁰ So named in 1964 by Leakey L, Napier J. and Tobias P.

such camp sites for processing and sharing⁶¹. These occupations were facilitated by a hand structure similar to our own, with a thumb positioned for opposition, essential for tool handling and manufacture, facilitated by a wrist joint which pronated and supinated⁶².

The anatomical advantage of hands capable of many types of prehension enabled them to be used as tools in their own right. This endowed early humans with the capacity for manipulative skill which was facilitated by a refinement of specialised brain centres within the primary sensory and motor areas of the cortex, coordinated with other brain centres such as the basal ganglia and the cerebellum⁶³. As Sir Charles Bell observed, in his 1833 '*Bridgewater Treatise*'⁶⁴ on 'The Hand' which related the hand's structure and function to environment,

*"this difference in the length of the fingers serves a thousand purposes, adapting the hand and fingers, as in holding a rod, a switch, a sword, a hammer, a pen, or pencil, engraving tool &c., in all which a secure hold and freedom of motion are admirably combined"*⁶⁵.

Such a hand structure, along with the capacity to walk upright thus freeing the hands for activity, is one of the special human attributes important to the unique occupational history of the species. Jelinek suggests this attribute was pre-adaptive to tool use, and it is probable that this pre-adaptive period was characterised to some extent by playful occupation⁶⁶. Jerome Bruner, the psychologist, for example, argues that "play...can produce the flexibility that

⁶¹ Jelinek J. *Primitive Hunters*...p 24.

⁶² Almquist EE. Evolution of the distal radioulnar joint. *Clinical orthopedics* 1992; Feb (275): 5-13.

⁶³ Brodmann K. *Vergleichende lokalisations lehre der Grosshirnrinde in prinzipien dargestellt auf grund des zellenbaues*. Liepzig: JA Barth 1909; Penfield W, Boldrey E. Somatic motor and sensory representation in the cerebral cortex as studied by electrical stimulation. *Brain*, 1958; 60: 389-443.

⁶⁴ The Right Honorable Francis Henry, Earl of Bridgewater left £7000 to the Royal Society to sponsor a number of treatises

⁶⁵ Sir Charles Bell. *The hand: Its mechanism and vital endowments as evincing design*. London: William Pickering 1833. Brentwood: The Pilgrims Press, 1979, p.108.

⁶⁶ Jelinek J. *Primitive hunters*...

makes tool using possible", citing the laboratory studies of Birch and of Schiller which indicate that play with materials is necessary prior to using it for "instrumental ends"⁶⁷.

The use of upper limbs and hands have developed into a very specialised adaptation, so that the unique movements, the sense of touch, the balance function, the reaching out, the gesturing and fine manipulative capacities can be used separately or combined in infinitely varied ways to enable culturally derived occupations, unique to humans, to be carried out. Yet all humans are not able to use their upper limbs and hands with the grace of a Balinese dancer, the skill of an artist or the strength of arm wrestler. Although the capacity to use hands is "one of the dominant aspects of our biological and cultural adaptation"⁶⁸, there are differences between individuals which is recognised in commonplace acceptance of particular attributes of individuals, and which needs to be borne in mind when strategies for occupational justice are enacted.

Upright posture and skilled hand use work in cooperation with vision. Because of human's upright posture and height, and eyes positioned at the front rather than the side of the head, they are able to see for relatively long distances. As well as enjoying the benefits of long sight, stereoscopic vision helps people to focus on objects that are close, and to see these in three dimensional form. This capacity has made it possible for humans to manipulate and appreciate the structure of materials, to become tool-makers and, with practice, to produce objects of great variety and complexity which, in turn, have assisted human adaptation to different environments. Coupled

⁶⁷ Bruner J. Nature and uses of immaturity. *American psychologist* August 1972, p.695; Birch HG. The relation of previous experience to insightful problem solving. *Journal of comparative and physiological psychology* 1945; 38: 367-383; Schiller PH. Innate constituents of complex responses in primates. *Psychological review* 1952; 49: 177-191.

⁶⁸ Tinkaus E. Evolution of human manipulation. In: *The Cambridge encyclopedia of human evolution*...p.349.

with visual perception, humans are able to identify objects by colour, hue, brightness and form, in different orientations, and with sufficient clarity to pick out objects from their background whether they are still or moving. This range of visual capacity has been instrumental in the variety of occupations which can be undertaken, and gives humans an evolutionary advantage over other animals despite them, perhaps, having better visual faculties of a particular kind.

Humans know about their world through their senses, and it is "the limitations of (human) senses (which) set the boundaries of...conscious existence"⁶⁹. To many, vision is the most important of our senses and it has been estimated that between seventy-five and ninety percent of the information stored in the brain is derived from visual sources. Ninety-eight people of a group of one hundred and four subjects surveyed by first year occupational therapy students about their perceptions of sensory capacities identified vision as the sense they most used⁷⁰. Despite this, loss of vision does not necessarily impair health or well-being, but the effects differ between people, perhaps according to how and to what extent they use it in valued occupations, and how much they are able to compensate for the loss by using other senses.

"Since the world is constantly changing, the brain is flooded with information", even though "the eye (only) takes in a trillionth of the energy which reaches it"⁷¹. In fact the visual system and the brain selects, simplifies and organises so that what humans see "is not so much a replication of the real world as a calculated and very selective abstraction of it"⁷². This capacity

⁶⁹Coren S, Porac C, Ward LM. *Sensation and perception*. 2nd ed. Orlando: Academic Press, 1984.

⁷⁰Research carried out as part of 'Occupation and health', Wilcock AA, University of South Australia, Adelaide, 1993.

⁷¹Ornstein R, Sobel D. *The healing brain...* pp.105-106.

⁷²Watson L. *Neophilia: The tradition of the new*. Great Britain: Hodder and Stoughton Ltd, 1989, p.67.

prevents people from being overwhelmed by extraneous information, helps them make sense of what they see, and choose what it is necessary to attend to so that appropriate, or even fast, action can occur as necessary for survival and safety. For example, instead of 'seeing' each colour, shape, texture and form of parts of a room as separate, people perceive the room as a whole coherent structure in which they can move and act; or a glimpse of part of an animal, or another human, who may threaten will be perceived and understood as a whole. In order to do this "the brain constantly needs stimulation to develop, grow and maintain its organisation"⁷³, and vision, like all other capacities, is dependent, to a large extent, upon use and upon what we learn through experience. Indeed, sensory systems are often especially tuned in to communication systems of the same species, because the activities of conspecifics often affect survival, health and well-being⁷⁴.

This leads to consideration of language, which, because of the weight given to this capacity, its complexity, and its centrality in occupational evolution, merits an extended discourse⁷⁵. Chomsky, along with many others, argues that complex human language is unique to humans as no other animal learns anything which resembles it⁷⁶. Indeed, it is held by some that human language is so different from communication of other animals that comparison need not be made⁷⁷. However, the more traditional view argues that language has evolved through a series of adaptive changes within

⁷³ Ornstein R, Sobel D. *The healing brain...* p.218.

⁷⁴ Hopkins CD. Sensory mechanisms in animal communication. In: Dewsbury DA, Slater PJB, editors. *Animal behavior. Vol. 2: Communication*. New York: Freeman, 1983; Leger DW. *Biological foundations for behavior: An integrative approach*. New York: Harper Collins Publishers, 1992

⁷⁵ The importance of the topic is characterised by numerous texts. Some in the last decade include: Bickerton D. *Language and species*. Chicago: University of Chicago Press, 1990; Chomsky N. *The origin of language: Its nature origin and use*. New York: Praeger, 1986; Lieberman P. *Uniquely human: The evolution of speech, thought and selfless behavior*. Cambridge, Ma: Harvard University Press, 1991.

⁷⁶ Chomsky N. *Language and Mind*. New York: Harcourt Brace Jovanovich, 1972.

⁷⁷ Lenneberg EH. *Biological foundations of language*. New York: Wiley, 1967; John-Steiner V, Panofsky CP. Human specificity in language: Socio-genetic processes in verbal communication. In: Greenberg G, editor, *Cognition, language and consciousness: Integrative levels*. Hillsdale, NJ: Erlbaum, 1987.

mammalian communication systems⁷⁸, and "may rest on neural mechanisms that are present in reduced form in other living species and that were elaborated quite early during hominid evolution"⁷⁹.

Edelman argues that humans had the capacity to "produce and act on concepts" and to ascribe meaning prior to language acquisition. Then, at about the same time as the speech areas named after Broca and Wernicke emerged in the brain, changes occurred in the base of the skull as a result of bipedalism.

*"This provided a morphological basis for the evolution of...the supralaryngeal tract...As part of this evolutionary development, the vocal cords emerged and the tongue, palate and teeth were selected to allow fuller control of air flow over the vocal cords, which in turn allowed for the production of coarticulated sounds, the phonemes"*⁸⁰.

According to Edelman's theory of neuronal group selection, and following the prior evolution of the specific brain structures mentioned above, the capacity for language was first linked by "learning with concepts and gestures", followed by semantics and then syntax⁸¹,

Although early language was, undoubtedly, based on gesture, body signals, grunts, growls, cries or even perhaps markers on trees for directional information in the hunt for food, speech is thought by some to have developed as people became tool users, because, amongst the more obvious social advantages, speech would have facilitated complex thinking abilities

⁷⁸Lieberman P. *The biology and evolution of language*. Cambridge: Harvard University Press, 1984.

⁷⁹Lieberman P. Human speech and language. In: *The Cambridge encyclopedia of human evolution...* p.137.

⁸⁰Edelman G. *Bright air, brilliant fire...* p.126.

*"The comparative anatomy of living primates and of hominid fossils suggests that the evolution of the human supralaryngeal vocal tract probably...was not completed until the appearance of fully modern humans" "complex patterns of human speech seem to have evolved only in the past 1.6 million years or so" and "there seems to be a link between the neural mechanisms involved in speech motor control and those responsible for syntax". (Lieberman P. Evolution of the speech apparatus. In: *The Cambridge encyclopedia of human evolution...*pp.136 and 137..)*

⁸¹Edelman G. *Bright air, brilliant fire...* p.129.

necessary for the manufacture of tools, and the transfer of tool making skills as they occurred. Such claims are supported by the fact that the brain of homo habilis was larger than other hominid species of the same period, and, a habilis skull, estimated to be two million years old, was found to possess a Broca's speech area, although not as prominent a feature as that of modern humans⁸². Earlier ancestors' remains have not revealed this feature and there is considerable debate from studies of ape brain structure and behaviour as to whether Broca or Wernicke areas, important for human speech, are present⁸³. Even though chimpanzees are excellent communicators, and "appear to have concepts and thought and...simple semantics,...they have no brain bases for the complex sequencing of articulated sounds, (and)...lack an elaborated syntax"⁸⁴. The sounds produced by them mainly originate in the limbic system (as does the human scream) and are not commensurate with human spoken language which originates in the cortex⁸⁵. Their gestures, however, are generated in the cortex, and the greatest success in teaching primates to communicate has not been achieved through speech, but by sign language such as 'Ameslam', symbols, and using a computer keyboard⁸⁶. In infancy children rely on "the workings of the limbic system to call attention to their needs...They find temper tantrums, whimpering, or crying a much easier way...to express (emotions) than to explain" This is despite being able to use simple speech, such as two word sentences, to communicate effectively about less emotional issues. Human speech is thought, by some, to have

⁸²Leakey R. *The Making of mankind*. London: Michael Joseph Ltd., 1981.

⁸³Kolb B, Whishaw I Q. *Fundamentals of human neuropsychology...*

⁸⁴Edelman G. *Bright air, brilliant fire...* p.130. See also: Premack D. *Language and intelligence in ape and man*. Hillsdale, NJ.: Lawrence Erlbaum Associates, 1976; Patterson R, Linden E. *The education of Koko*. New York: Holt, Rinehart and Winston, 1981.

⁸⁵Campbell BG. *Humankind emerging...*

⁸⁶Premack AJ, Premack D. Teaching language to an ape. *Scientific American* 1972; 227: 92-99; Gardner BT, Gardner RA. Two way communication with an infant chimpanzee. In: Schrier AM, Stolnitz F, editors. *Behavior of nonhuman primates*. Vol 4. New York: Academic Press 1971; Rumbaugh DM, Gill TV. Lana's acquisition of language skills. In: Rumbaugh DM, editor. *Language learning by a chimpanzee*. New York: Academic Press 1977; Savage-Rumbaugh ES. Language training of apes. In: *The Cambridge encyclopedia of human evolution*.

evolved in a similar fashion⁸⁷. For an overview of the evolution of language see Fig. 3.3:⁸⁸ on the next page.

Although most pre-historians seem to agree that some form of verbal language arose as long as two and a half million years ago, and that by about 30,000 years ago humans would have developed "modern language capacity, including the ability to articulate complex abstract ideas"⁸⁹, not all agree with the tool technology hypothesis. However a link between language and some type of occupational behaviour is favoured by many. Hewes emphasises the role of gesture in the evolution of language and suggests that as tool usage occupied hands they became less available for communication leading to increased use of facial gesture and sound⁹⁰. Kimura agrees that speech is related to gesturing and tool usage and argues that it follows that evolution of speech occurred later than lateralisation of brain function which was instrumental in control of complex movement⁹¹. This theory is supported by observations that hand gestures still accompany speech, and when there are difficulties in verbal communication, such as people conversing in different languages, hand and facial gestures increase. Theories about lateralisation flourished in the 1960's and 70's, although much of the research was carried out with male subjects, and often those with some 'abnormality' of brain function. More recent evidence points to both hemispheres being involved in most activities (even though they may perform different parts of the task). It is also evident that the "complexity of neural networks involved are all

⁸⁷ Campbell BG. *Humankind emerging...* p.360.

⁸⁸ Fig. 3.3: is taken from Campbell BG. *Humankind emerging...* p.367.

⁸⁹ Leakey R. *The Making of Mankind*. London: Michael Joseph Ltd., 1981, p.139.

⁹⁰ Hewes GW. Language origin theories. In: Rumbaugh DM, editor. *Language learning by a chimpanzee*. New York: Academic Press, 1977.

⁹¹ Kimura D. Neuromotor mechanisms in the evolution of human communications. In: Steklis HD, Raleigh MJ, editors. *Neurobiology of social communication in primates: An evolutionary perspective*. New York: Academic Press, 1979.

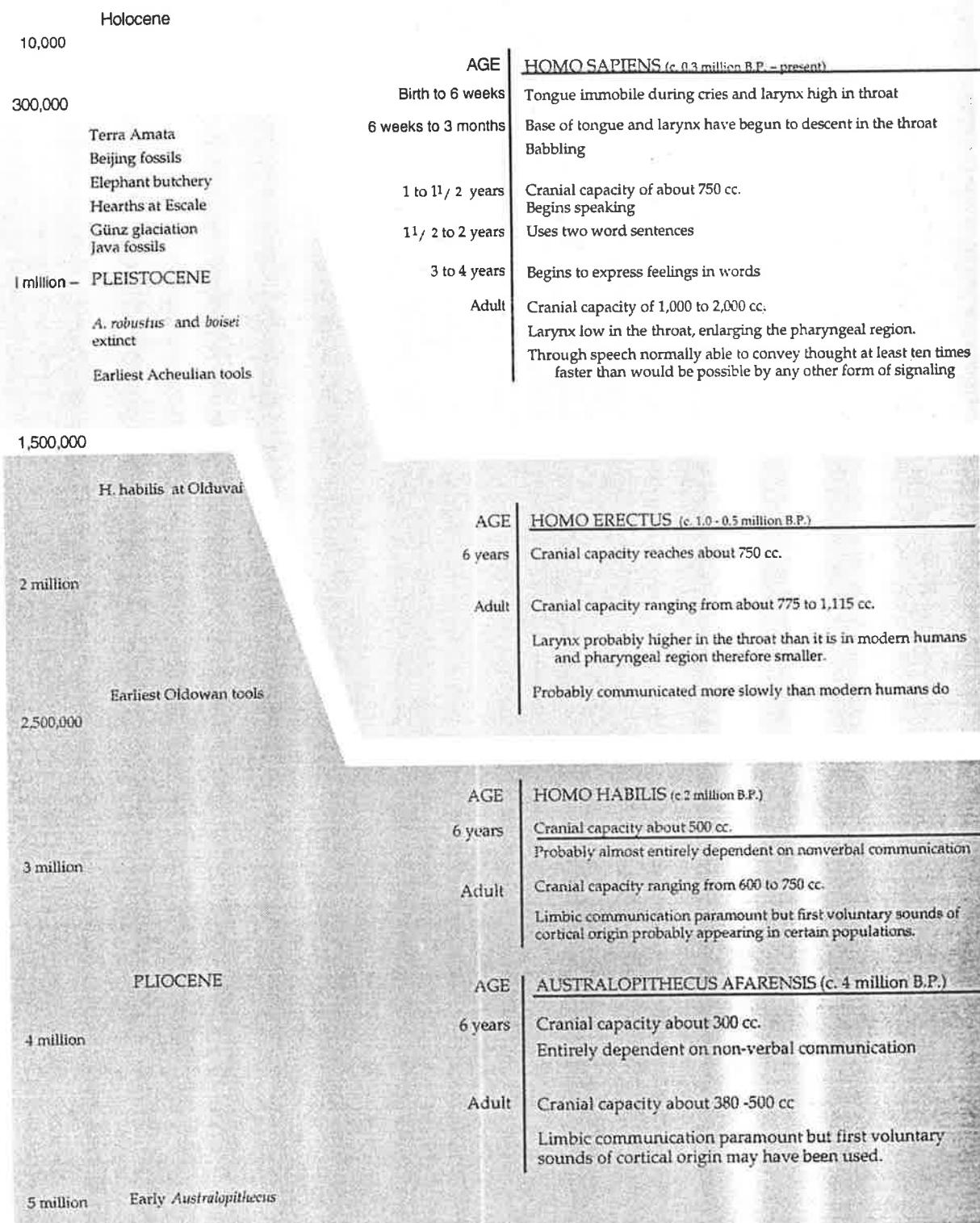


Fig. 3.3: Overview of the evolution of language. (From Campbell, p.360.)

highly dependent upon individual differences, talents and learning, including one's sex and genetic endowment"⁹²

Bruner hypothesises that language is "virtually an outgrowth of the mastery of skilled action and perceptual discrimination" basing this claim on observations of ontogenetic development. From this beginning, he asserts language is progressively freed from its original dependence on action and experience⁹³. Others name hunter-gatherer activities, or complex social relationships as the driving force in the evolution of language, with de Laguna suggesting that the most likely explanation lies in the need for help associated with a socio-technical way of life⁹⁴, It would seem that as all these were occurring at about the same time a combination of causes is probable, and I favour the theory that development of language followed similar stages to those apparent in ontogenesis. This seems to make sense of the evidence from archaeology and other primates. Simple tool usage and communication similar to that of chimpanzees increased in complexity as bipedalism freed the hands and led to structural anatomical and physiological change in the base of the skull and head, all of which facilitated more complex occupational behaviour, social structures, speech and language.

Spoken language is the foundation of culture as, without language, complex technology and social structures would be impossible. Reminiscence, singing and the telling of stories, myths and legends is central in handing down to the next generation occupational 'know how', culturally sanctioned behaviours, taboos and spiritual beliefs, all of which are intimately related to survival, health and well-being⁹⁵. Without language, individuals

⁹²Moore JC. *Sexual dimorphism and brain functions*, Material prepared for a 1996 Conference paper . Personal communication 1996.

⁹³Bruner JS. Nature and uses of immaturity. *American Psychologist*. 1972; August: 687-708 (p 700).

⁹⁴Laguno GA de. *Speech: Its function and development*. (originally published 1927) Bloomington, Indiana: Indiana University Press, 1963.

⁹⁵No material record or proof of these aspects of technical, cultural and spiritual occupations are available as, before the fairly recent advent of writing, human discourse and song simply vanished.

are peripheral to society and devalued, and as a consequence well-being would be hard to experience in cultures, such as our own, which value language related occupations.

The capacity to communicate is not the only benefit of language. As Percy Bysshe Shelley observed in '*Prometheus Unbound*', "He gave man speech, and speech created thought, which is a measure of the universe"⁹⁶. Although Piaget argues that "language is not enough to explain thought, because the structures that characterise thought have their roots in action and in sensorimotor mechanisms that are deeper than linguistics"⁹⁷, language allows individuals to explore ideas, to think in abstract as well as concrete terms, and to bring to their occupational pursuits, concepts based on their unique life experience and ways of thinking. Lewin suggests

*"mankind's exaggerated intellectual power focuses on the need to build a better mental construct of reality....It may have required a complex propositional language, not so much that we could converse with others, but so we could think better"*⁹⁸.

Thinking about, and searching for truths about life and its meaning must have developed along with language. It is probable that intellectual activities of the type now called philosophy first emerged as wonder at the natural world, and that early belief systems were based on animals and environmental forces important in survival terms. This speculation is founded on the types of images humans left behind in cave drawings and in ornamentation, and the fact that the earliest monumental buildings, of for example Uruk and Ur in Mesopotamia, had religious significance, frequently associated with natural phenomenon. Early Greek philosophy which emerged in Miletus, with Thales, (around 600 BC), also reflects this dual interest in matters natural and spiritual. Thales is reported as saying that "all

⁹⁶Percy Bysshe Shelley. '*Prometheus Unbound*', II, IV. London: C. & J. Ollier, 1820.

⁹⁷Piaget J. *Six psychological studies*. (edited by D Elkind) New York: Random House, 1967, p.98.

⁹⁸Lewin R. *In the Age of Mankind...* p.174.

things are full of gods"⁹⁹. It was not until the Sophists came into prominence, shortly before Socrates, that philosophy became interested in Mankind apart from Nature, and in 'reasoning per se'. This interest led to a recurring theme in philosophy and psychology - the debate about the nature of consciousness, which is the next human characteristic to be considered, but from the perspective of its role in the occupational nature of humans rather than in philosophical history.

Consciousness is an example of a 'super-capacity', which is a combination of many other capacities and is integral to the use of other capacities. Capacities seldom work in isolation, but combine with others according to the environment and experience. They are multi-functional and the combining of specific capacities with others increases the potential variability that individuals will demonstrate through their occupations. Capacities can be used in an insular focussed way, or act as an integrated part of several capacities, being utilised in different ways at any one time. They are responsive to inner needs and external variables as well as being capable of rapid reaction to emergency. Each capacity is "relatively independent of the others", but they may "work in concert. This means that the faculty itself, seen as a whole, is bound to vary from one person to another"¹⁰⁰. A similar theme in modern psychology is that a single mental capacity may represent a "family" of competencies". Harvard psychologist, Howard Gardner, calls these 'frames of mind'¹⁰¹.

Consciousness is defined in the 1981 Macquarie dictionary as "the state of being conscious; inward sensibility of something; knowledge of one's own existence, sensations, cognitions etc.; and the thoughts and feelings,

⁹⁹ Hamlyn DW. *A history of western philosophy*. England: Viking, 1987, p.15.

¹⁰⁰ Campbell J. *Winston Churchill's afternoon nap...*

¹⁰¹ Gardner H. *Frames of mind. The theory of multiple intelligences*. New York: Basic Books, 1983, p.290.'

collectively, of an individual, or of an aggregate of people"¹⁰². It has been described as "the tool of the social animal"¹⁰³, and by Watson as "the capacity to see ourselves and to put ourselves in someone else's place. We are not only self aware, but conscious of being so". It is "the key...(and)...the power which motivates and drives all human affairs"¹⁰⁴. Consciousness enables us to know what we know and to experience our own feelings and the outcomes of what we do. It "is a kind of continuous apprehension of an inner reality, the reality of one's mental states and activities"¹⁰⁵, providing us with a model of the world, "based on sense and body information, expectations, fantasy and crazy hopes, and other cognitive processes"¹⁰⁶. Consciousness is deemed by many writers to demonstrate the difference between humans and other species, in that humans alone can "examine all options in advance...look inward upon themselves, and...observe the processes of their own minds"¹⁰⁷. There is, however, evidence that some other primates have some degree of consciousness, and for example "can recognise themselves on television, and even determine whether an image is taped or live"¹⁰⁸.

Edelman has proposed a biological model of the evolution of consciousness according to his theory of neuronal group selection. The processes of natural selection gave rise to form and tissue patterns which are the basis of 'behaviour'. From this developed a "primary repertoire of variant neuronal groups in the brain". which are involved in selection. Selection "assumes that, during behaviour, synaptic connections in the anatomy are selectively strengthened or weakened by specific biochemical processes", 'carving out' a

¹⁰²The Macquarie dictionary. NSW: Macquarie Library Pty., Ltd., 1981.

¹⁰³Lewin R. In the Age of Mankind...pp.179-180.

¹⁰⁴Watson L. Neophilia...p.43.

¹⁰⁵Churchland PM. Matter and consciousness, revised ed. Cambridge, Ma: A Bradford Book, 1988, p.73.

¹⁰⁶Ornstein R. The evolution of consciousness: The origins of the way we think. New York: Touchstone, 1991, p.228.

¹⁰⁷Campbell BG. Humankind emerging... p.52.

¹⁰⁸Premack D, Woodruff G. Does the chimpanzee have a theory of mind? Behavioral and brain sciences 1978; 4: 515; Savage-Rumbaugh ES. Language training of apes. In: The Cambridge encyclopedia of human evolution...p.141.

variety of functioning circuits. "Correlation and coordination of...selection events are achieved by 're-entrant' signalling and by strengthening of interconnections between the maps" in the brain. This selection process linked, during evolution, the older areas of the brain (brain stem and limbic system) which take care of bodily functions, internal states and values, and the thalamo-cortical system which perceives and categorises world events. Together, through 'value-category' memory, they enable perceptual categorisation, and the subsequent development of primary consciousness, which, in conjunction with changes to the structure of the brain, such as Broca and Wernicke areas (mentioned with regard to language) in quite a short time span evolved higher order consciousness¹⁰⁹.

In considering the evolutionary purpose of consciousness it would seem that awareness of the possible consequences of action is necessary for an organism with freewill. Such a capacity can act as a guard to ensure continued well-being and survival. Without it the organism can use its other capacities in ways, and for occupations, which will be detrimental to itself, to the species and the ecologies upon which it is dependent.

One of the reasons I have chosen to discuss the capacity for consciousness, is that complex occupational behaviour would be impossible without consciousness, and apart from it being a prerequisite consciousness plays an important part in choice and execution of occupation. Ornstein hypothesises that, although individuals are generally unaware of it, consciousness vetos or permits every action which is initiated at an unconscious level from the 'many different kinds of minds'(responsible for human responses to the world, talents, capacities and characteristics) within the brain organisation¹¹⁰. Additionally, states of consciousness can be affected by the types of occupations in which individuals choose to engage. Csikszentmihalyi has

¹⁰⁹ Edelman G. *Bright air, brilliant fire...* pp.83-85,117-119,134.

¹¹⁰ Ornstein R. *The evolution of consciousness...*

found that "when challenges are high and personal skills are used to the utmost, we experience a rare state of consciousness" which he calls 'Flow'. 'Flow' is enjoyable, narrows attention to a clearly defined goal, provides a sense of control over actions although awareness of time disappears, and people are absorbed and involved. "The activity can be wildly different, but when people are deeply involved meeting a manageable challenge, the state of mind they report is the same the world over"¹¹¹. Csikszentmihalyi, who embraces a 'personal growth' view of health recognises that 'Flow' experiences resulting from "growth enhancing occupations" are an important aspect of positive health¹¹².

In an argument similar to Edelman's argument that consciousness depends upon perceptual and conceptual categorisation, semantics, syntax and phonology, all of which allow learning to occur, Csikszentmihalyi proposes that consciousness depends particularly on three other capacities. He believes "attention, awareness and memory...act as a buffer between genetic and cultural instructions on the one hand, and behaviour on the other". His view that "consciousness frees the organism from its dependence on the forces that created it, and provides a certain (if precarious) control over our behaviour" is similar to my own view, as stated above. Consciousness, in fact, negates the need for a multitude of separate genetic programs to link stimuli and responses, and "increases the possibilities" between "programmed instructions and adaptive behaviours". The "self system" has a main goal to "ensure its own survival. To this effect, attention, awareness and memory are directed to replicate those states of consciousness that are

¹¹¹Csikszentmihalyi M. Activity and happiness: Toward a science of occupation. *Journal of occupational science*,: Australia 1993; 1(1): 38-42,(p.39); Sato I. Bosozuko: Flow in Japanese motorcycle gangs. In: Csikszentmihalyi M, Csikszentmihalyi IS, eds. *Optimal experience: Psychological studies of flow in consciousness*. Cambridge:Cambridge University Press, 1988; Delle Fave A, Massimini F. Modernization and the changing context of flow in work and leisure. In: Csikszentmihalyi M, Csikszentmihalyi IS, eds. *Optimal experience: Psychological studies of flow in consciousness...*

¹¹²Csikszentmihalyi M. Activity and happiness:Toward a science of occupation. *Journal of occupational science:Australia* 1993; 1(1): 38-42.

congenial to self, and to eliminate those that threaten its existence". On the down side, consciousness has given humans enormous independence and power, with the potential to destroy the environment from which they evolved and on which they depend, and "it is by no means certain that (this) choice and control...will serve us better than the blind instructions of our genes"¹¹³.

Whilst consciousness is an essential capacity for the forward planning and execution of occupational behaviour it has the unenviable role of prompting humans to consider the consequences of their actions. It is central in the balancing act between occupational achievement, health and well-being, in both the short and long term¹¹⁴. Its watch-dog role is made complex by its susceptibility, just as other capacities, to enculturation. For example, raising the consciousness of people about lifestyle issues relating to ill-health, can be viewed as both a cause and effect of 'health education' initiatives, and this important matter is discussed in some detail in the last chapter. It is an integral part of other agendas such as those aimed at cultural awareness, social justice or sustainable ecology. Consciousness raising also emerged in the 1960's as part of the feminist movement to enable women "to express and explore themselves", to understand the effects of patriarchal societies, and to validate "women's knowledge and experience" from a personal and political viewpoint. Similar groups are emerging for men.¹¹⁵ This broader consciousness raising is important as part of an holistic view of health and well being¹¹⁶. For example, advocates of transpersonal psychology recognise

¹¹³ Csikszentmihalyi M, Csikszentmihalyi IS, editors. *Optimal experience: Psychological studies of flow in consciousness...* pp.20-23.

¹¹⁴ See: Dossey L. Consciousness and health: what's it all about. *Topics in clinical nursing* 1982; 3(Jan): 1-6; Newman MA. Newman's theory of health as praxis. *Nursing Science quarterly* 1990; 3(1): 37-41; Burch S. Consciousness: How does it relate to health? *Journal of holistic nursing* 1994; 12(1): 101-116.

¹¹⁵ Grimshaw A. Consciousness raising. In: Bullock A, Stalleybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*. 2nd ed. Great Britain: Fontana Press, 1988, pp.166.

¹¹⁶ See, for example: Thomas B. Challenges for teachers of women's health. *Nurse education* 1992; 17(5): 10-14; Ford-Gilboe MV. A comparison of two nursing models: Allen's

that an 'optimal state of consciousness' is a central process in the achievement of positive health. Optimal states of consciousness, they believe, enable people "to achieve deep states of relaxation,...(to experience)...increased inner awareness,...bodymind self awareness and (make) effective choices...more accessible"¹¹⁷. They link psychological and physiological states, incorporating notions from many Asian religions including the 'Patanjali' concept that "all the body is in the mind, though not all of the mind is in the body"¹¹⁸. In a way similar to Ornstein's and Sobel's pragmatic view that the brain minds the body, the 'psychophysiological principle' claims that every conscious or unconscious change in either physiologic or mental-emotional state is accompanied by an appropriate change in the other, and that health can be facilitated by awareness and self regulation of normally unconscious processes¹¹⁹.

Consciousness is one of the most complex, poorly understood of human's mental capacities. Similarly complex and subject to many different interpretations is the last capacity which will be discussed in this chapter - creativity. This capacity is not a prerequisite of occupational behaviour, but results from the amalgam of the rich variety of capacities available; as such is important to an occupational perspective. It has, in the minds of many, been closely associated with occupational therapy, though often in a limited, craft-oriented way, rather than in the holistic way creativity is used here. Just as occupation is used to refer to all purposeful activity, so is creativity used in

developmental health model and Newman's theory of health as expanding consciousness. *Nursing Science Quarterly* 1994; 7(3): 113-118; Koerner JG, Bunkers SS. The healing web: An expansion of consciousness. *Journal of holistic nursing* 1994; 12 (1): 51-63; Smith-Campbell B. Kansans' perceptions of health care reform: a qualitative study on coming to public judgement. *Public health nursing* 1995; 12 (2): 134-139.

¹¹⁷Dossey BM. The transpersonal self and states of consciousness. In: Dossey BM, Keegan L, Kolkmier LG, Guzzetta CE. *Holistic health promotion. A guide for practice*. Rockville: Aspen publications, 1989, p.32.

¹¹⁸Green E, Green A. Biofeedback and transformation. In: Kunz D, editor. *Spiritual aspects of the healing arts*. Wheaton Ill.: The Theosophical Publishing House, 1985, pp.145-62.

¹¹⁹Green E, Green A. Biofeedback and transformation. In: *Spiritual aspects of the healing arts...*

relationship to all types of activities, products or ideas; and just as consciousness is seen as combining other capacities so does creativity. Creativity is both a capacity in its own right, and a 'super-capacity' integrating or involving almost every other human capacity. Gordon suggests that "to create is one of man's most basic impulses"¹²⁰, Jung classified it as one of five major instinctive forces in humans¹²¹, and Sinnott argues that it is in "inherent creativeness" of the ordinary affairs of people that the "ultimate source" of creativeness is to be found¹²².

Creativity derives from the Greek word 'krainein' meaning to fulfil, and the Latin word 'creare' meaning to make¹²³. Dictionaries describe it as the 'ability to bring into existence or being, to originate, to beget, to shape, to bring about, to invest with new character, and to be inventive'¹²⁴. William Morris suggested that creativity is an integral part of the human contest with nature describing his perception thus:

*"But a man, making something which he feels will exist because he is working at it and wills it, is exercising the energies of his mind and soul as well as of his body. Memory and imagination help him as he works. Not only his own thoughts, but the thoughts of the men of past ages guide his hands; and, as a part of the human race, he creates"*¹²⁵.

Creativity requires the ability to conceptualise outcomes from actions. Some describe such abstract conceptualisation as the ultimate human gift, and Lewin suggests that the creation of paintings, carvings and engravings represents a true abstraction of thought and mind, and traces examples back perhaps 300,000 years.¹²⁶. However, John Halverson of the University of

¹²⁰Gordon R. The creative process. In: Jennings S, editor. *Creative therapy*. London: Pitman Publishing, 1975, p.1.

¹²¹Jung CG. *Collected works*. Princeton, NJ: Princeton University Press, 1959.

¹²²Sinnott EW. The creativeness of life. In: Vernon PE, editor. *Creativity*. London: Penguin Books, 1970, p.115.

¹²³Young JG.What is creativity? *Journal of creative behaviour* 1985; 19(2): 77-87.

¹²⁴The standard English desk dictionary, 2nd ed. *The concise Oxford dictionary of current English*. Oxford: Clarendon Press, 1911.

¹²⁵Morris W. 1884, In: Morton AL, editor. *Political writings of William Morris* . London: Lawrence and Wishart, 1973.

¹²⁶Cited in Lewin R. *In the Age of Mankind...*

California argues that early creative images were "unmediated by cognitive reflection" but rather were clear, representational and repeated for their own sake. The extent of early human's creativity has been hard to assess because although they appeared to possess very little in the form of creative artefacts this may be a consequence of an "inescapable conflict between mobility and material culture"¹²⁷. For example, the !Kung, when they travel, carry only about 12 kilograms each, so most of their culture is carried in their heads. This is also true of the Australian aboriginal following a traditional lifestyle, and reminds us that creativity is much more than the manufacture of material artefacts. It includes those intellectual and abstract reasoning skills so dear to philosophers and academics, and the evidences of culture which are carried in the minds and recreated regularly throughout history. Sinnott suggests that the biological basis for creativity is the "organising, pattern forming, questing quality" of 'life' itself which, when applied to behaviour and the complexity of the human brain, results in an almost infinite number of new mental patterns¹²⁸

Marx, as noted earlier, suggested that labour is the collective creative activity of mankind; certainly it was the creative abstract occupations which, integrated with tool technology, evolved eventually into high technology activities through cultural evolution. High technology is the epitome of human creativity, yet the products of the industrial and technological age have had a serious effect on individual creativity. For example, although not true of all people, many no longer make products that they need, preferring to buy; seldom create their own entertainment, preferring to watch and listen to pre-packaged material. Similarly, the creative behaviour of many children has changed with the advent of television, as, hours are spent in viewing images rather than experimenting, playing, or creating their own.

¹²⁷Cited in Leakey R. *The Making of Mankind*...pp.101-103.

¹²⁸Sinnott EW. The creativeness of life. In: *Creativity*...p.115.

Creativity is a capacity which has excited much interest and discussion, yet sources seldom agree on a definition, with one paper written in 1953 offering no less than twenty five¹²⁹. Many psychologists, from behaviourist to social psychologists, have offered theories about it¹³⁰. For example, it has been suggested that psychoanalytic theorists, such as Freud and Adler, accepted the view of creativity held early this century which limited the concept to 'the arts'¹³¹. 'The arts' were held to be socially acceptable activities which were an outlet for sublimation of libidinal energy and other unconscious conflicts, drives and needs. Creativity was seen as stemming from neurotic tendencies, offering the resolution of guilt feelings, and compensation for feelings of inferiority¹³². Despite this Freud recognised parallels between the creative nature of children's play and the creative artist, and also, along with others of the psychoanalytical school, suggested that creative people were subject to better health as well as more sickness than the average¹³³.

It is not surprising that humanist and gestalt psychologists have linked creativity with the experience of health and with individual potential, as I do. They hold the view that creativity is much more than innate talent or genius exemplified by exceptional individuals in 'the arts' and is evident in all aspects of life as the potential to self actualise is given to all human beings at

¹²⁹Morgan DN. Creativity today. *Journal of aesthetics* 1953; 12: 1-24.

¹³⁰Skinner BF. *The science of behaviour*. New York: MacMillan, 1953; Maslow AH. *Toward a psychology of being*. 2nd ed. New York: D. Van Nostrand Company, 1968; Amabile TM. *The social psychology of creativity*. New York: Springer-Verlag, 1983; Gardner H. *Creating minds: An anatomy of creativity seen through the lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi*. New York: Basic Books, 1993; Bruce MA, Borg B. *Frames of reference in psychosocial occupational therapy*. Thorofare, New Jersey: Slack, 1987; Gordon R. The creative process. In: *Creative therapy...*

¹³¹Bruce MA, Borg B. *Frames of reference in psychosocial occupational therapy...*; Taylor IA, Getzels JW, editors. *Perspectives in creativity*. Chicago: Aldine Publishing Company, 1975.

¹³²See, for example: Freud S. *A general introduction to psychoanalysis*. Boni and Liveright, 1920, pp.326-327; Freud S. *Creativity and the unconscious*. (Nelson B, editor). New York: Harper and Row, 1958; Freud S. Creative writers and daydreaming. In: Strachey J, ed. *The standard edition of the complete psychological works of Sigmund Freud*. Vol 9. London: Hogarth Press, 1959, pp.143-144.

¹³³Barron F. *Creative person and creative process*. New York: Holt, Rinehart and Winston, 1969; Taylor IA, Getzels JW, editors. *Perspectives in creativity...*

birth¹³⁴. Humanists, such as Maslow and Rogers, have proposed that self growth motivates creativity, and that creativity and the achievement of individual potential are synonymous with health. Rogers describes "man's tendency to actualise himself, to become his potentialities" as the mainspring of creativity¹³⁵, and Maslow observes:

*"that the concept of creativeness and the concept of the healthy, self-actualising, fully human person seem to be coming closer and closer together, and may perhaps turn out to be the same thing."*¹³⁶

Maslow reached this conclusion following a study of self fulfilled people, whom he saw as mentally healthy, in order to discover how people are enabled towards growth and self actualisation, and to determine the attributes and components of a basically healthy intrinsic nature. He described the healthiest and most effective people as 'transcenders'. Such people are responsive to beauty, holistic in their perceptions of humanity, motivated by the satisfaction of 'being' and 'service values', able to adjust well to conflict situations and more likely to accept others with an unconditional positive regard. They are less attracted by the rewards of money and objects, and work whole-heartedly towards goals and purposes. They tend to fuse work and play and have more peak or creative experiences.

There are definite similarities between traits of Maslow's 'transcenders' and traits believed to characterise creative people as identified by The Institute of Personality Assessment at the University of California. The latter are described as intuitive, open, spontaneous and expressive, independent, self accepting, flexible not authoritarian, and autonomous, functioning best when working independently on their interests. They are relatively free from fear, are not interested in detail but in meaning and implications, with the ability to synthesise and integrate material and experiences. They have well

¹³⁴ Maslow AH. *Motivation and personality*. New York: Harper & Row, 1954.

¹³⁵ Rogers CR. Towards a theory of creativity. (1954). In: Vernon PE, editor. *Creativity*...p.140.

¹³⁶ Maslow A. *The further reaches of human nature*. New York: Viking Press, 1971.

developed intrinsic values and are goal directed¹³⁷. Indeed, the links between creativity (and by inference, occupation) and mental health appear strong and for example, high creativity has been found to correlate with a high degree of normal mature positive self esteem¹³⁸. This discussion should be held in mind when mental well-being is discussed in chapter 5.

Making the assumption that creativity is closely related to occupation, from low levels observed in solving the problems of daily life to significant levels in terms of contributions to advances in technology, intellectual or socio-cultural activity, there appear to be strong links between individuals and particular forms of creative occupation. This supports the notion of inherent capacities, which emerge or peak at different parts of the life cycle, as discussed earlier in the chapter¹³⁹. It also appears that, for most people, potential requires incubation, education, diligence, nurture and opportunity, despite some evidence of particular individuals having the ability to overcome detrimental circumstances in order to actualise their occupational creativity¹⁴⁰.

These examples from the range of capacities with which humans are endowed demonstrate how anatomical structures and physiology focus on occupational behaviour. The incredible flexibility of specific parts of the body for different functions such as those noted in the hands, bipedalism, and

¹³⁷ Payne WA, Hahn DB. *Understanding Your Health*. 2nd ed. St Louis: Times Mirror/Mosby College Publishing, 1989.

¹³⁸ Solomon R. Creativity and normal narcissism. *Journal of creative behaviour* 1985; 19(1): 47-55.

¹³⁹ Amabile TM. *The social psychology of creativity...*; Feldman D. *Beyond universals in cognitive development*. Norwood, NJ: Ablex, 1980; Dennis W. Creative productivity between the ages of 20 and 80 years. *Journal of gerontology* 1966; 21: 106-114; Lehman H. *Age and achievement*. Princeton, NJ: Princeton University Press, 1953; Simonton DK. Sociocultural context of individual creativity: A transhistorical time-series analysis. *Journal of personality and social psychology* 1975; 32: 1119-1133.

¹⁴⁰ Amabile TM. *The social psychology of creativity...*; Stein MI. *Stimulating creativity* (vols 1 and 2) New York: Academic Press, 1974 and 1975; Feldman D. *Beyond universals in cognitive development...*; Gardner H. *Creating minds...*; Golann SE. Psychological study of creativity. *Psychological bulletin* 1963; 60: 548-565.

vision, coupled with the extensive range of higher cortical capacities which are central to consciousness and creativity, for example, prompts, motivates and enables an infinite variety of occupational exploration, experimentation, interest, choice and skill, as well as imbuing people with the need for purpose and meaning. Additionally, every other physiological characteristic influences, promotes or supports human's occupational behaviour. The next section considers 'sleep' and 'homeostasis' from this perspective.

Most animals appear to need a balance between activity and rest, the two seeming to be opposites of the same system. Kleitman explored and then described the day / night sequence as the 'basic rest activity cycle'¹⁴¹. He saw sleep as complementary to wakefulness in that "the one related to the other as the trough of a wave is to the crest"¹⁴².

Over the last forty years, sleep patterns have been the subject of intense scrutiny, and sleep is recognised as an important aspect of health and well-being, relaxation and sleep providing the natural mechanism to prevent over-use, and a time for repair. Additional understanding is now emerging about the complex relationship between it and occupation carried out during waking states. Theories about this relationship centre around 'recuperation', 'information processing', 'energy conservation', and 'self preservation'¹⁴³. As sleep deprivation results in symptoms such as decreased coordination and reaction times, irritability and blurred vision¹⁴⁴ which affect occupational performance, sleep can be viewed as necessary to engagement in occupation. Together they form part of the complex neural system aimed at maintenance of health.

¹⁴¹Kleitman N. *Sleep and wakefulness*. Chicago: University of Chicago Press, 1963, p.188.

¹⁴²Campbell J. *Winston Churchill's afternoon nap...*

¹⁴³Leger DW. *Biological foundations of behavior: An integrative approach*. New York: Harper Collins Publishers Inc., 1992.

¹⁴⁴Horne JA. A review of the biological effects of total sleep deprivation in man. *Biological Psychology* 1978; (7): 55-102.

Leger suggests that "just as musicians' pauses are a component of the performance, pauses from the stream of behaviour are a component of the repertoire. The organism 'doing nothing' is doing something"¹⁴⁵. All sleep stages have a homeostatic function, although the system does not operate on feedback principles but on intrinsic timing mechanisms¹⁴⁶. These mechanisms differ slightly for each individual and change throughout lifespan. In evolutionary terms the oldest form of sleep known as 'non rapid eye movement' sleep, or slow wave sleep (SWS) shows different patterns of EEGs for several different stages. SWS is responsible for replenishing the body, and maintaining physiological and metabolic fitness. After a day of strenuous physical occupation SWS increases, and it is only during SWS that growth hormone, essential for restoring damaged tissue, is released¹⁴⁷. Following sleep deprivation SWS sleep takes priority in 'catching up'. For example, studies, such as that conducted by Shapiro and others, on ultra-marathon runners demonstrated an increase in SWS sleep as well as total sleeping time over four nights following the run¹⁴⁸. This effect appears most developed amongst people who are physically fit¹⁴⁹, suggesting a close relationship between sleep patterns and regular occupations.

As the association areas of the neocortex expanded during evolution additional 'servicing' was required for the maintenance of structures specialising in mental and social functions. This is provided by rapid eye movement (REM) sleep when circuits are tested and neuro transmitters are replenished by being rested selectively¹⁵⁰. During this stage the brain is very

¹⁴⁵Leger DW. *Biological foundations of behaviour*...p.374.

¹⁴⁶Campbell J. *Winston Churchill's afternoon nap*...

¹⁴⁷Sassin JF, Parker DC, Mace JW, Gotkin RW, Johnson LC, Rossman LG. Human growth hormone release:Relation to slow wave sleep and sleep waking cycles. *Science* 1969; 165: 513-515,

¹⁴⁸Shapiro CM, Bortz R, Mitchell D, Bartel P, Jooste P. Slow wave sleep: A recovery period after exercise. *Science* 1981; 214: 1253-1254 .

¹⁴⁹Foret J. To what extent can sleep be influenced by diurnal activity? *Experientia* 1984; 40: 422-424 .

¹⁵⁰Campbell J. *Winston Churchill's afternoon nap*...

active and "actually consumes more oxygen than it does during intense physical or mental activity when one is awake"¹⁵¹. Speculations about other functions of REM sleep include the integration of knowledge acquired during the day, consolidation of information, assistance in dealing with emotionally charged material, and the laying down of long term memory¹⁵². (However, some claim that SWS sleep also assists memory formation and recall¹⁵³). Experiments, using EEGs, on rats, rabbits and cats have demonstrated that theta rhythms exhibited during important species specific occupations such as exploring, burrowing or pouncing are also present during REM sleep. Fox speculates that "current information, blocked from the hippocampus and the limbic circuit during waking, is allowed in there during sleep to be 'matched' against those wired-in survival behaviours that are the species' ethogram". If the information is deemed relevant it is processed "for at least three years in some form or other" during dreams before being 'stamped in' to long term memory and eventually stored in the neocortex¹⁵⁴. This process enables the neocortex to assess experience towards future goal directed action. Although REM sleep may serve a similar purpose in humans, Fox suggests that dreaming has been freed, to some extent, from phylogenetic ties and species specific experience, allowing the 'matching' to relate to prenatal and childhood experience.

There are 'gating mechanisms' which facilitate passage between sleep and awake states¹⁵⁵. REM sleep, which usually occurs four to five times a night is seen as the easiest exit point from sleep, and possibly evolved in part as a

¹⁵¹Moore JC. *The lifespan in relation to the nervous system*. Melbourne: Australian Association of Occupational Therapists, June 1994 , p.188.

¹⁵²Pearlman CA. R.E.M. sleep and information processing: Evidence from animal studies. *Neuroscience and neurobehavioural reviews*...3, 57-68, 1979; Smith C. Sleep states and learning: A review of the animal literature. *Neuroscience and biobehavioural reviews* . 1985; 9: 157-168; Campbell J. *Winston Churchill's afternoon nap...*

¹⁵³Fowler MJ, SullivanMJ, Ekstrand BR. Sleep and memory. *Science* 1973; 179: 302-304.

¹⁵⁴Fox R. *The search for society*. New Brunswick: Rutgers University Press, 1989, p.179;

¹⁵⁵Winson J. *Brain and psyche: the biology of the unconscious*. Garden City, NY: Anchor Press/Doubleday, 1985, Chapter 8.

"sentinel device, a monitor in case of danger"¹⁵⁶. At rhythmical times during wakefulness there are 'sleepability gates' when it is easier to sleep. The most obvious of these is the biological slump occurring in the afternoon which is taken as 'siesta time' in many traditional cultures¹⁵⁷. Bi-phasic activity peaks are part of our biological heritage; are evident in behaviours of other primates; and are probably an adaptation resulting from the need to reduce occupation during the hottest part of the day. However, whilst duration of sleep, which need differs from person to person, is hard to change, ultradian rhythms of arousal and non-arousal concerned with placement of sleep are easily overruled by socio-cultural demands such as social, and family routines, obligatory and freely chosen occupations¹⁵⁸. For example, in a study of 64 children, 10 and 14 years of age, weekly changes of sleep patterns during the school year disappeared during vacations when sleep increased considerably¹⁵⁹. Studies using EEGs have demonstrated differences in brain waves throughout sleep and awake states. Particularly in the awake states these seem to relate to when the organism is best fitted for different types of occupation or rest, although these are flexible and can be overridden, as happens in 'post-industrial' working days and twenty-four hour working shifts which enable humans to behave as nocturnal rather than diurnal animals. The sleep systems are therefore facilitatory to immense occupational flexibility, as well as servicing all systems so they can be used as required in occupational behaviour.

The last physiological characteristic to be explored is 'homeostasis' which is defined as "a tendency to stability in the normal body states (internal

¹⁵⁶ Campbell J. Winston Churchill's afternoon nap... p.194

¹⁵⁷ Winston Churchill is quoted as saying

"You must sleep sometime between lunch and dinner, and no half measures. Take off your clothes and get into bed. That's what I always do"(Quoted in Graebner W. My dear Mr Churchill. London: Michael Joseph, 1965, p.55).

¹⁵⁸ Campbell SS. Duration and placement of sleep in a 'disentrained environment'. *Psychophysiology* 1984; 21(1): 106-113.

¹⁵⁹ Szymczak JT, Jasinska M, Pawlak E, Zwierzykowska M. Annual and weekly changes in the sleep-wake rhythm of school children. *Sleep* 1993; 16 (5): 433-435.

environment) of the organism.¹⁶⁰ It "is an evolutionary strategy for preserving internal sameness by resisting and smoothing out the changes" and variations from the external environment.

Homeostasis is especially necessary for the proper functioning of the central nervous system of animals on the higher rungs of the evolutionary ladder. Before intelligent life could appear, and well before the culminating event of consciousness, the mechanism to ensure the sameness of the internal milieu had to be in place¹⁶¹.

It was Claude Bernard, a nineteenth century French physiologist, who developed the concept that the internal environment - the 'milieu interieur' - of a living organism must maintain reasonable constancy despite external circumstances. He recognised that humans despite their apparent indifference to the environment are "on the contrary in a close and wise relationship with it, so that its equilibrium results from a continuous and delicate compensation established as if by the most sensitive balances" and that animals able to maintain 'inner sameness' have greater freedom to live in many different environments, and are less vulnerable to ecological change. This perhaps results in their apparent indifference to the environment.¹⁶²

The term homeostasis was suggested by Walter Cannon, an American physiologist in 1926¹⁶³. He recognised that homeostasis is a system working

¹⁶⁰Dorlands medical dictionary, p.720.

¹⁶¹Campbell J. Winston Churchill's afternoon nap...pp.44,54.

¹⁶²Bernard C. Lectures on the phenomena of life common to animals and vegetables. (1878-1879). Second Lecture. In: Langley LL, editor. *Homeostasis, origins of the concept*. Stroudsburg, Pennsylvania: Hutchinson and Ross, Inc., pp.129-147.

Bernard's first recorded use of the term was in the first lecture of a series entitled "Lectures on the Physiological and the Pathological Alterations of the Liquids of the Organism", University of Paris on December 9, 1857. In this lecture Bernard said that in living beings there is a spontaneous organic evolution which although it needs the external environment to manifest itself, is nevertheless independent of that environment in its course because "in the living being, the tissues are, in reality, removed from direct external influences and protected by a true internal environment (*milieu intérieur*), mostly constituted by fluids circulating in the body." In *Homeostasis, Origins of the Concept*. p.85.

For more information about Bernard, see: Robin ED, editor. *Claude Bernard and the internal environment, A memorial symposium*. New York: Marcel Dekker, Inc. 1979; Olmstead JMD, Olmstead EH. *Claude Bernard and the experimental method in medicine*. New York: Collier Books, 1961.

¹⁶³Cannon W. *Physiological regulation of normal states: Some tentative postulations concerning biological homeostatics*. Paris: Charles Richet, 1926, pp.91-93.

cooperatively with brain and body, and found that at "critical times" of environmental stress "economy is secondary to stability" in that important substances such as water, sugar or salt are eliminated in order to maintain constancy¹⁶⁴. Cannon researched and described the way a fluid matrix provides a stable context for highly specialised cells, which, by themselves, can only survive in specific conditions, to enact their part in complex, flexible and versatile activities. He postulated that homeostasis leaves humans free to do new occupations, to be adventurous, and to seek beyond survival to the 'unessentials' which are part and parcel of civilisation¹⁶⁵,

Homeostasis is a successful adaptation which is central to human's occupational nature, because not only is the need for 'sameness' used to maintain constancy in body physiology but in mental processes as well. In order to make sense of the world, psychological mechanisms seek 'sameness' in what is received and perceived. This is facilitated by an "internal milieu (which) seems to be more constant for the cells of the brain than for other parts of the body"¹⁶⁶. In 1890, William James claimed in *The Principles of Psychology* that the capacity to recognise sameness is a prerequisite for the existence of a sense of self, and "the very keel and backbone of our thinking" as it is central to recognition, of giving meaning, and of appreciating contrast and difference¹⁶⁷. This capacity is also central to occupational behaviour. Without it, every time engagement in occupation occurred it would appear as a new experience, take longer, be in the nature of trial and error, and no ongoing learning could occur. The occupational evolution of the species would indeed be different.

¹⁶⁴Cannon W. *The wisdom of the body*. New York: W.W.Norton and Co.,Inc., 1939, p.317.

¹⁶⁵Cannon W. *The wisdom of the body*...p.323.

¹⁶⁶Campbell J. Winston Churchill's afternoon nap...p.54.

¹⁶⁷James W. *The principles of psychology*. Vol. 1. New York: Dover Publications, 1890, p.239.

This chapter has found that biological 'characteristics' and 'capacities' which have been identified as important by evolutionary scientists, archaeologists, anthropologists, neuro-scientists and other disciplines form the basis of the occupational nature of humans. Such characteristics have allowed humans to learn and to adapt culturally to many different natural and social environments. A super primate brain capable of the whole range of sociocultural adaptations which have characterised occupational evolution is common to humankind but is also unique in each individual. During the exploration the role of human capacities in survival, health and well-being began to emerge, setting the scene for later consideration. Occupational behaviour is a result of the processes of natural selection throughout evolution as organisms have adapted to their environment, on genetic inheritance, on individual biological structure and form, on epigenetic processes, on ontogenesis, and on learning. The next chapter will explore the evolution of occupational behaviour which has resulted from this biological inheritance.

Chapter 4

Occupational evolution

The last chapter established that humans have the biological capacity for occupation. This chapter explores the history of human engagement in occupation from the time of the earliest known hominids between two and three million years ago, in order to discover whether this too supports an evolutionary theory of human nature based on occupation. '*Homo sapiens sapiens*' - modern humans - are thought to be little more than 100,000 years old¹, and evidence of complex, cultural and technological occupational behaviour is increasingly apparent from this time on, but this is founded on behaviour of earlier members of the species.

I have used archeological and anthropological texts as the source for much of the material about early humans occupations. Along with *The Cambridge Encyclopedia of Evolution*², several texts have been particularly useful, such as Jacob Bronowski's *The Ascent of Man*³, Bernard Campbell's *Humankind Emerging*⁴, which has also been the source of several explanatory figures throughout the thesis, *The First Humans* edited by Goran Buranhult⁵, and a range of texts by Leakey and Lewin⁶. All take a common evolutionary view of human history in which occupational development is considered in

1 Pilbeam D. What makes us human? In: Jones S, Martin R, Pilbeam D, editors. *The Cambridge encyclopedia of human evolution*. Cambridge: Cambridge University Press, 1992.

2 Jones S, Martin R, Pilbeam D, editors. *The Cambridge encyclopedia of human evolution*...

3 Bronowski J. *The ascent of man*. London: British Broadcasting Corporation, 1973.

4 Campbell BG. *Humankind emerging*. 5th ed. New York: Harper Collins Publishers, 1988.

5 Buranhult G, editor. *The first humans: Human origins and history to 10,000BC*. Australia: University of Queensland Press, 1993.

6 Leakey R, Lewin R. *People of the lake: Man: His origins, nature, and future*. Penguin Books, 1978; Leakey R. *The making of mankind*. London: Michael Joseph Ltd, 1981; Lewin R. *The Age of Mankind*. Washington DC: Smithsonian Books, 1988.

Richard Leakey's interest in pre-history grew from early exposure to archeology via his famous parents', Mary and Louis Leakey, responsible for many important 'finds' in Olduvai, Africa. Later, he became Director of the Kenya National Museum. Roger Lewin, originally a bio-chemist, and currently a writer for 'Science' in Washington DC, was a consultant, with Leakey, to the BBC during the production of the television series 'The making of mankind'.

conjunction with the biological and cultural development of the human species. Most debate similar topics which are apparently important in archeological and anthropological research, yet, apart from detail, there appears to be remarkable agreement between them. The scholarship exhibited within the texts, and others of similar nature used throughout this chapter, rest upon a range of hypotheses founded on the study of archeological finds and their context, the subjecting of these to scientific analysis and archeological reconstruction, and from ethnographic studies of modern people still engaging in early lifestyles.

Throughout this thesis I avoid using terms such as 'developed' or 'undeveloped', or 'first' or 'third world' countries as these suggest superiority of one occupational form over another. To describe the differences these terms seek to define, I have used the occupational form itself, such as hunter-gatherer or post-industrial societies. This follows a trend in archeology and anthropology in which the eras of mankind's history are frequently described in occupational terms, that is, hunter-gatherer, agricultural and industrial eras.

Occupation is so central to the study of the origins and development of humans in society that much of the evolution of the human species, from pre-homo sapiens, is traced by studying occupations such as tool usage, food production, creativity, and domestic and communal activities⁷. In fact, Roland Fletcher uses occupational behaviours to define what is meant by 'human'. Along with bipedalism and toolmaking, he lists "the capacity to control fire, to interact socially with their dead, and to represent the universe in art" as marks of humanness in evolutionary terms⁸. Archaeologists and

⁷See, for example: Foley R, editor. *Hominid evolution and community ecology*. London: Academic Press, 1984; Klein RG. *The human career: Human biological and cultural origins*. Chicago: University of Chicago Press, 1989.

⁸Fletcher R. The evolution of human behaviour. In: Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* p.17.

anthropologists recognise strong links between human occupation and biological evolution. These two avenues of study are interdependent because "the tangled triple influence of bipedalism, brain development, and the manipulation of objects cannot (easily) be separated"⁹. Clearly, this chapter is built upon, and extends, the discussion of those matters in the previous chapter.

The first section explores the probable lifestyles and occupations of early humans until agriculture became the dominant economy. It considers, briefly, ideas held about occupations ranging from the practical matters of tool technology, food acquisition, division of labour and education of the young to social occupations and those of an abstract nature.

Interest in differences between humans and other animals because of the tools they used for their various occupations has been central to the evolutionary debate, with some pre-historians arguing that tool technology was the driving force of the evolution of the human brain¹⁰ and others, such as Blumenburg, opposing the hypothesis that tool technology or any other activities were solely, or in combination, responsible for the advanced hominid brain, despite their importance in survival or social behaviour¹¹. Another, recent, controversial view based on temperature regulation of the brain following ecological change in the African Savannah, and known as the 'radiator theory', points to bipedalism preceding increased brain capacity and complex tool technology following it¹². However, there is general agreement that changes in tools over the millenia reflect changes that affect culture as a

⁹ Campbell BG. *Humankind emerging...* p.230.

¹⁰ Lancaster J. The dynamics of tool using behaviour. *American anthropologist* 1967; 70: 56-66; Tobias PV. The emergence of man in Africa and beyond. *Philosophical transactions of the Royal Society* 1981; 292: 43-56.

¹¹ Blumenberg B. The evolution of the advanced hominid brain. *Current anthropology* 1983; 24 (5): 589-623.

¹² Falk D. *As it happened: Some liked it hot*. Television documentary, UK: SBS(Adelaide) 8.00pm, March 21, 1996. See: Falk D. Cerebral cortices of East African early hominids. *Science* 1983; 221: 1072-1074

whole, and Gowlett suggests that stone tools "provide a framework for . mapping out human activities from the distant past to recent times"¹³, The interactive nature of the evolution of toolmaking is shown in figure 4.1 below. Throughout history, people have sought methods and tools to make tasks less arduous which, in some instances, has made new occupations possible well into the future. Indeed, as Jelinek proposes, adaptation through experimentation is the driving force of technological evolution, just as adaptation *per se* is a central tenet of evolutionary theory, and "a new discovery (does) not have to find it's relevance immediately" but can provide "a new solution" to some future need¹⁴.

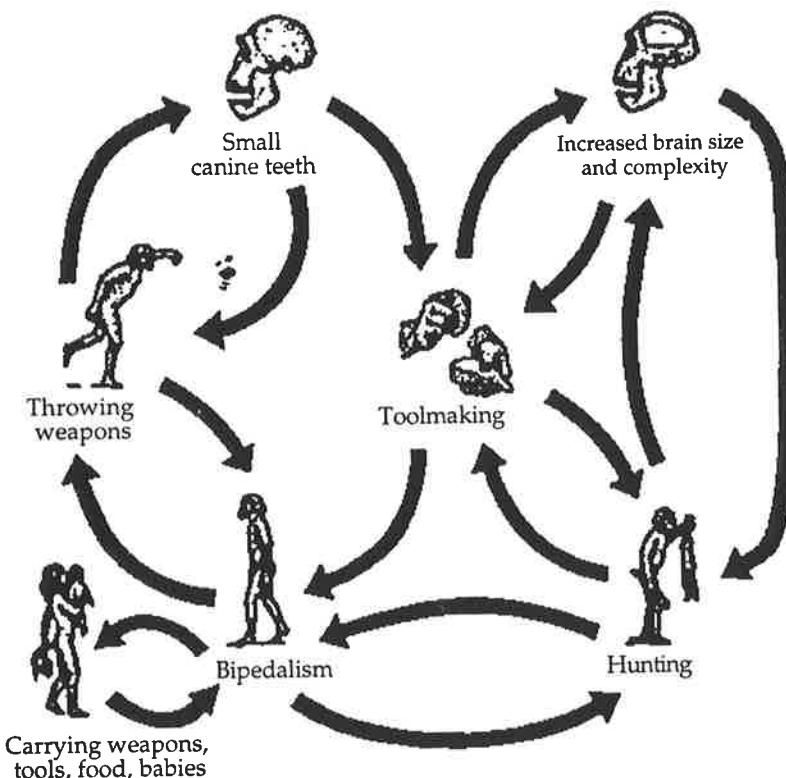


Fig. 4.1: Numerous feedback systems occur in nature and are often interlocking. Negative maintains stability, but positive feedback brings about major adaptive changes that constitute evolution. Shown here in simplified form is a positive feedback system that has been important in human evolution¹⁵.

¹³Gowlett JAJ. Tools - the palaeolithic record. In: *The Cambridge encyclopedia of human evolution...* p.350.

¹⁴Jelinek J. *Primitive hunters*. Hamlyn, London, 1989, p.42.

¹⁵Fig 4.1 is taken from Campbell BG. *Humankind emerging...* p. 231.

Debate about the daily occupations of our early ancestors however, is speculative, based as it is on skeletal remains, the environment in which they were found, and fossils and tools found adjacent. Like all large primates, hominids almost certainly subsisted principally on plant foods, and homo habilis was probably an opportunistic omnivore, occupied by scavenging, rather than hunting, with "...animal products such as birds' eggs, larvae, lizards and small game (playing) a much more important role than big game" in the same way that they constitute "...an important part of the diet of present day hunter-gatherers"¹⁶. "...Scavenging requires no division of labor and does not imply sharing or any other social behaviour approaching our own", although habilines probably lived in small groups with a structure similar to that of chimpanzees¹⁷. This very gradually developed into a systematic food sharing economy based on co-operative foraging of meat and plant foods, and possibly some division of labour¹⁸. This led eventually to "some turning point in our history (when) the primitive homo males began to take a serious interest in hunting as another way of providing meat"¹⁹. It may well have started through self protective behaviours, such as stone throwing, required because of human's physical vulnerability in comparison to many other animals. Barbara Isaac suggests that stone throwing, as observed in the Hottentots in South West Africa, and the Australian Aboriginal in the Musgrave Ranges and the northern Kimberleys, was a possible early method of attacking prey for food²⁰. Recent debate has suggested no clear cut distinctions between hunting and herding²¹, and

¹⁶ Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* p.59.

¹⁷ Rowley-Conway P. Mighty hunter or marginal scavenger? In: *The first humans: Human origins and history to 10,000BC...* p.61-62.

¹⁸ van der Merve NJ. Reconstructing prehistoric diet. In: *The Cambridge encyclopedia of human evolution...* pp. 369-372; Wing ES, Brown AG. *Paleonutrition: Method and theory in prehistoric foodways*. New York: Academic press, 1978; Isaac GLI. The food sharing behaviour of protohuman hominids. *Scientific American* 1978; 238(April): 90-106.

¹⁹ Leakey R, Lewin R. *People of the lake: Man: His origins, nature and future...* p.120.

²⁰ Isaac B. Throwing. In: *The Cambridge encyclopedia of human evolution...* p.358.

²¹ Ingold T. *Hunters, pastoralists and ranchers*. Cambridge: Cambridge University Press, 1980

between hunter gatherers per se and horticulturalists who also hunt and gather²², but rather between 'immediate return economies', characterised as 'hand to mouth' existence, such as that lived by the Hadza, a hunter-gatherer people who live in Tanzania²³, and 'delayed return economies' in which a time investment for the future is part of daily life²⁴. Figure 4.2 provides a sequence for some of these behaviours based on knowledge of living primates and archeological and fossil records.

How occupation was divided according to gender, in the early days of human evolution, has long been a point of debate in archeology and anthropology. The extent of sexual dimorphism, and the maturation rates of early humans set some parameters to the debate²⁶, and others reflect concerns of the modern societies from which the ideas emanate, such as about power relations, monogamy, and the nuclear family²⁷. Most recent opinion seems to favour the idea that as hunting became an important aspect of subsistence, females, along with their child-bearing and care roles, engaged in the fabrication of household implements and clothing and continued with the

Throwing objects Tool use }	Seen in living primates and therefore probably ancient
Bipedalism Reduced canines }	Evident by 3.75 million years B.P.
Toolmaking	Evident by about 2.5 million years B.P.
Scavenging Increasing brain size }	Evident by 1.75 million years B.P.

Fig. 4.2: Possible sequence of significant change affecting human evolution²⁵.

22 Ellen RF. *Environment, subsistence and system.*, Cambridge: Cambridge University Press, 1982

23 Foley R. Studying human evolution by analogy. In: *The Cambridge encyclopedia of human evolution...* p.336.

24 Woodburn J. Hunters and gatherers today and reconstruction of the past. In: Gellner E, editor. *Soviet and western anthropology*. London: Duckworth, 1980.

25 Campbell BG. *Humankind emerging...* p.234.

26 Potts R. The hominid way of life. In: *The Cambridge encyclopedia of human evolution...*

27 Lampl M. Sex roles in prehistory. In: Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* pp.30-31.

foraging-gathering role, sharing their finds, as the hunters shared their meat²⁸. In fact it has been estimated that women contributed more than half the required subsistence calories²⁹. The necessity for women to assume responsibility for tasks in a sequential order of those closer to home to those farthest afield was due to the need for women to undertake occupations close to camp because of child-rearing restraints³⁰. For men the opposite is true³¹. Although, by about 100,000 years ago dimorphism was similar to that found in modern humans³², evidence from primate ethology and ethnology of foragers demonstrates that male specialisation in hunting and defence gives a "selective advantage to larger males" with resultant sexual dimorphism³³. There may well have been a selective advantage for females who demonstrated child-rearing, food gathering and preparing, and fine manipulative skills.

Herskovits observes there would be no exemptions from some kind of labour except for the very young, and that everyone would be primarily a hunter or gatherer and tool/household-implement-maker, even those with extra-curricula activity as shamans, chiefs or warriors³⁴. In similar vein, Coon, the Harvard anthropologist, infers from his study of modern hunter-gatherer societies that most individuals would be 'jacks of all trades', living

²⁸A recurring motif in rock paintings and engraving shows women with digging sticks weighted with perforated round stones.

van der Merve NJ. Reconstructing prehistoric diet. In: *The Cambridge encyclopedia of human evolution...* p.369

²⁹Lee RB, DeVore I. *Man the hunter*. Chicago: Aldine Publishing Co., 1968; Dalberg F, editor. *Woman the gatherer*. New Haven, CT: Yale University Press, 1981.

Diets were very diverse which increased the likelihood of balanced nutrition.

³⁰Brown JK. A note on the division of labor by sex. *American anthropologist*. 1970; 72(5): 1073-1078.

³¹Burton ML, Brudner LA, White DR. A model of the sexual division of labor. *American ethnologist*, 1977; 4(2): 227-251.

³²Lampl M. Sex roles in prehistory. In: Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* pp30-31.

³³Burton ML, White DR. Division of labour by sex. In: Kuper A, Kuper J, editors. *The social science encyclopedia*. London & New York: Routledge, 1985, p.206.

³⁴Herskovits MJ. *Economic anthropology*. New York: Knopf, 1952.

and working mostly out of doors, their senses acute and, like their bodies, well exercised. Their schedules and routines would be seldom monotonous, and often adventurous³⁵. Many anthropologists argue that this simple, but obviously effective economy provided a very successful and persistent quality of life, with Marshall Sahlins of the University of Chicago naming it 'the original affluent society...in which all the peoples wants are easily satisfied"³⁶. Coon suggests there is a closeness of fit between hunter-gathering people and their environments. "Such people" he writes

*"have had the energy, hardihood, and ingenuity to live and live well in every climatic region of the world not covered by icecaps. They have done so with stone tools and no firearms. In every well-documented instance, cases of hardship may be traced to the intervention of modern intruders"*³⁷.

Hunter-gatherers, like most primates, and modern humans, lived in social groups. In Ethiopia, Johanson found numerous bones ascertained to be over three million years old, and to have come from at least thirteen individuals, perhaps killed together in some kind of natural catastrophe³⁸. Social psychologists and sociobiologists offer various reasons for humans having lived in social groups throughout their evolution, including the need to meet biological 'drives' through group activity, dependency, affiliation, dominance, sex, self esteem³⁹, nepotism⁴⁰, coercion⁴¹, and reciprocity⁴². Jerome Bruner observes "there is no known human culture that is not marked by reciprocal

³⁵ Coon CS. *The hunting peoples*. London: Jonathan Cape Ltd, 1972.

³⁶ Cited in: Lewin R. *In the age of mankind: A Smithsonian book of human evolution*. Washington DC.: Smithsonian Books, 1988, p.190.

³⁷ Coon CS. *The Hunting Peoples...* pp.388-389.

³⁸ Johanson D, Edey M. *Lucy: The beginnings of humankind*. New York: Simon & Schuster, 1981.

³⁹ Argyle M. *The psychology of interpersonal behaviour*. Harmondsworth: Penguin Books, 1967.

⁴⁰ Alexander RD. *Darwinism and human affairs*. Seattle: University of Washington Press, 1979; Chagnon N, Irons W, editors. *Evolutionary biology and human social behaviour*. North Scituate, Massachusetts: Duxbury Press, 1979; Symons D. *The evolution of human sexuality*. New York: Oxford University Press, 1979.

⁴¹ van den Berghe PL. *Sociobiology*. In: *The social science encyclopedia...*

⁴² Trivers RL. *The evolution of reciprocal altruism*. *Quarterly review of biology* 1971; 46(1): 35-57.

help in times of danger and trouble, by food sharing, by communal nurturance for the young or disabled, and by the sharing of knowledge and implements for expressing skill"⁴³. This, as well as other theories, such as "the hunting band was an effective, adaptive solution to the survival and development of a partly carnivorous species"⁴⁴, and that social groups offered some protection against predators, imply occupational behaviour of a social nature.

Because of the way evolution and natural selection work, it is argued by anthropologists that social structures are not only determined by what is best for individuals in terms of sexual success⁴⁵, but that the kinds of social groups found in higher primates are facilitatory to 'kin selection'. As was noted in chapter 2, this extends the Darwinian notion of individual 'fitness' to include 'social fitness', thereby increasing the survival, well-being and reproductive success of all individuals in a social group who carry an individual's genes⁴⁶. Within modern hunter-gatherer societies, such as those of Australian aborigines, Kalahari Bushmen and the Birhor of northern India, survival needs and peaceful coexistence are major determinants of group size which ethnographic studies demonstrate are usually made up of between 20 to 70 people⁴⁷. "A lone individual rarely survives for more than a year, whereas a group of five can continue for up to a generation (about 30 years). A group of about 25 has a good chance of surviving for perhaps 500 years" and appears to be compatible with minimal conflict. To avoid inbreeding, these groups usually form part of larger 'tribes' of about five hundred to eight hundred

⁴³ Bruner JS. Nature and uses of immaturity. *American Psychologist*. 1972; August: 687-708, p.690.

⁴⁴ Morris D, Marsh P. *Tribes*. London: Pyramid Books, 1988, p.9.

⁴⁵ Leakey R, Lewin R. *People of the lake...* pp.32-33.

⁴⁶ Campbell BG. *Humankind emerging...*

⁴⁷ Liljegren R. Animals of ice age Europe. In: *The first humans: Human origins and history to 10,000BC...*

people⁴⁸. It is possible to argue from these studies of modern traditional societies that from early in human evolution there appears to have been a preference for small groups in everyday life, and for the larger social get-togethers to be occasional, and for social gatherings to be purposive rather than accidental. Humans group together for the purposes of achieving large scale occupations, and for the enjoyment that can be experienced from being with and doing things with others. People with like occupational interests find pleasure and challenge in discussing and sharing their enthusiasm. Stimulation from social and group occupational interests will often lead to profound personal exploration of ideas and to individual occupations which lead towards self growth and actualisation.

The evolution of the role of societies in education of the young of the species is an important aspect in understanding how the occupational nature of humans can be developed or inhibited: after all learning, which occurs in the first formative years of life, has significant lifelong effects. In fact, because what is best for the safety and development of offspring is of vital importance to the species, education of the young is one of the strongest arguments given for people living in social groups: it provides children with role models for their own future survival, as well as the protection and guidance of adults before being burdened with their responsibilities. Primate young have a lot to learn and compared with other animals, a long childhood. Learning by observation and imitation combined with the imaginative creativity of play, provides education for human young to learn about self care, safety and survival occupations. It also provides the experience of fun and the development of skills and self worth, which are potential motivators for continued engagement in occupation. As humans evolved into more complex animals, the years of childhood, play and education extended and

⁴⁸ Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* p.93.

changed. For example, until recent times play and education was an integral part of the day to day occupations of adults and children, taking place in an environment relevant to the families' work and leisure activities. Today, in post industrial societies, children, and often young infants, are separated from their family for much of their 'waking' day, and education is provided according to social and politically devised criteria. The effects of this change have not been assessed in terms of adult engagement in, or value given to, occupation.

There are some who challenge the present segregation of education from parents. Coon, for example, compares unfavourably the contact and guidance "through the puberty ordeals" of the young provided by parents in urban societies with that possible in hunting societies. He suggests that "the secrecy that once formed a part of puberty rites is transferred to the parents, to whom they (the adolescents) will not reveal what they are doing"⁴⁹. In contrast, Lorenz in *On Aggression* discusses ethological causes of what he describes as "war between the generations" which he asserts is part of a "species-preserving function to eliminate obsolete elements hindering new developments"⁵⁰. In puberty young people go through a stage of "physiological neophilia" in which everything new is attractive. When somewhat older they experience a revival of love of tradition or "late obedience". In occupational terms, Lorenz's explanation has some merit, in that physiological neophilia at an age when physical and mental capacities are acute, will facilitate experimentation and exploration across a wide spectrum of activities which may well provide survival and health advantages. Additionally later development, growth and adaptation may be based on successful experiences and individual interest so enhancing personal capacities, health and well-being.

⁴⁹ Coon CS. *The hunting peoples...* p.392.

⁵⁰ Lorenz K. *On aggression*. London: Methuen, 1966, p.52.

Some authorities suggest that the demands of survival in harsh environments made the occupations of traditional societies necessarily very arduous and virtually continuous despite time spent in social activity⁵¹. Waechter and others argue that "the struggle for existence over nearly four million years by a creature with few weapons other than his developing brain allowed little time for activities not immediately concerned with survival"⁵². However others, basing their argument on evaluation of modern hunter-gatherer lifestyles, have posited that the mixed economy of hunting and gathering brought with it time for leisure in the sense of occupation apart from labour concerned with survival⁵³. Indeed, Marshall Sahlins in *Stone Age Economics* argued that more time is available for leisure in hunter-gatherer societies than in agrarian or industrial societies⁵⁴. Providing evidence of this are the findings of Richard Lee and Patricia Draper⁵⁵ who, as part of a group of investigators, mainly based at Harvard University, studied the hunter-gatherer lifestyle of the !Kung San who live on the northern fringe of the Kalahari Desert⁵⁶. Daily, adults, from 15 to 60 years of age, only spend about two and a half hours in providing their necessities of life. These measurements were taken at a time of drought, and it may well be that in more plentiful times the !Kung would have had even more time available for leisure⁵⁷. The !Kung are not unique amongst hunter-gatherer societies in having time for leisure. In the 1840's Edward John Eyre remarked on the few hours it took, "without fatigue or labour" for Australian Aborigines to procure sufficient food to last the day⁵⁸

⁵¹ Waechter J. *Man before history*. Oxford: Elsevier-Phaidon, 1976; Neff WS. *Work and human behaviour*. 3rd edition. New York: Aldine Publishing Company, 1985.

⁵² Waechter J. *Man before history*. Oxford: Elsevier-Phaidon, 1976 (Introduction).

⁵³ Sahlins M. *Stone age economics*. Chicago: Aldine-Atherton, 1972; Leakey R, Lewin R. *People of the Lake: Man: His Origins, Nature, and Future...*; Leakey R. *The Making of Mankind...*; van der Merwe NJ. Reconstructing prehistoric diet. In: *The Cambridge encyclopedia of human evolution...* p.369.

⁵⁴ Sahlins M. *Stone age economics...*

⁵⁵ Leakey R. *The Making of Mankind...*

⁵⁶This lifestyle has been eroded, and, now, only a few continue in traditional ways.

Labour, in the sense of procuring the physical needs of survival, is only one aspect of the occupational behaviour necessary for the well-being of the organism, and other forms of occupation serve an inbuilt need to exercise, maintain and develop the capacities inherent to each individual. In fact, as long as the second need is met by goal directed, meaningful occupation, and it is possible for material needs to be provided by other means, then the occupational nature of humans can be satisfied. Leisure, for example, frequently serves as a mechanism for children and adults to exercise their bodies, to be social, to develop their creativity, to fulfil "wishes at the fantasy level", and to sort out problems as well as having a crucial role in teaching and maintaining "fluency with roles and conventions"⁵⁹. Its difference from work in meeting basic human needs is related directly to how it is valued by societies.

Hunter-gatherer societies left a legacy of more than stone tools to demonstrate the range of occupations valued by them. Deep in caves they drew and coloured images, usually depicting creatures and humans who were a part of their world. They carved throwing sticks and other implements, along with creating "new and stylistically more complex tools" and there is archeological evidence of "a rich ceremonial life based on complex concepts and rituals"⁶⁰. However it is difficult to determine if there existed any formal differentiation and value loading between labour, self care and leisure in the lives of early hominids. From study of hunter-gatherer people of recent times it is possible to suggest that early in human history no distinction did exist between labour and leisure occupations. Wax observes "I do not believe that any Bushman could tell us - or would be interested in telling us - which part of

⁵⁷ Leakey R, Lewin R. *People of the Lake: Man: His Origins, Nature, and Future...* p.88.

⁵⁸ Eyre JE. *Journals of expeditions of discovery into Central Australia and overland*. London: T& W Boone, 1845.

⁵⁹ Bruner JS. Nature and uses of immaturity. *American psychologist* 1972; August: 687-708, pp.698-699.

⁶⁰ Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* pp.98-99.

(his) activity was work and which was play"⁶¹. The separation of leisure from work appears to have occurred fairly recently, early societies seeming to have operated in such a way that a natural balance between work, leisure, self care and rest was an accepted part of their occupational lives. Their 'economic' activities had inbuilt leisure components such as "singing and telling stories at work"⁶². Indeed in hunter-gatherer societies such as that of the eskimos⁶³ or Australian aborigines⁶⁴, there is no generic word for 'work' or 'doing' but many for specific occupations such as 'hunting'. Such a lack of distinction is advantageous to health and well-being, in that individuals would be able to develop their own traits and capacities according to need and opportunity, without subjugating their choice of activity to economic efficiencies or without regard to the kinds of socio-cultural values imbued in work, self care or leisure that have made occupational choice so complex in present times.

This does not imply that socio-cultural values did not exist or were not important to early humans. In fact the simplistic notions held until recently that the hunter-gatherer lifestyle was essentially nomadic, and that small bands of families would be unencumbered by material goods or social hierarchy, are changing. Many of the complex features of our own way of life, such as social inequality, occupational specialisation, long-distance exchange, and technological innovation originated with hunter gatherers⁶⁵. These suggestions are supported by finds such as "the remains of magnificently adorned children...buried with high honors before they are old enough to do anything outstanding raises the possibility of status by heredity rather than achievement"⁶⁶; and Mediterranean shells used as paleolithic decoration, as

⁶¹ Wax RH. Free time in other cultures. In Donahue W, et al., editors. *Free time: Challenge to later maturity*. Ann Arbor, Michigan: University of Michigan Press, 1958, pp.3-16.

⁶² Parker S. *Leisure and work*. London: George Allen and Unwin, 1983, p.19.

⁶³ Boas F. *The mind of primitive man*. New York: Macmillan, 1911.

⁶⁴ Neff WS. *Work and human behaviour...*

⁶⁵ Brown and Price, cited in Lewin R. *In the age of mankind: A Smithsonian book of human evolution...* p.195.

⁶⁶ Buranhult G, editor. *The first humans: Human origins and history to 10,000BC...* p.95.

far inland as the Ukraine giving reason to suppose that trade was an occupation long before the establishment of agriculture or towns. King, anthropologist of the Historic Preservation Advisory Council, when discussing early Californian societies, observed they had "economic systems utilising shell-bead currencies and validated by ritual exchange obligations" which "facilitated sharing of subsistence resources over broad areas"⁶⁷. The possibility of complex lifestyles is also supported by evidence in the Central Russian Plains of semi-permanent dwellings with vaults, arches and buttresses, constructed of mammoth bones from about 30,000 years ago. Such constructions can be said to "represent the foundations of architecture"⁶⁸.

Such dwellings also indicate that fixed habitation and some domestication of crops probably occurred in some regions for thousands of years before the rapid spread of agriculture through most of the world from about 10,000 years ago and, indeed, "many archeological sequences also show that knowledge of agriculture and domesticated plants existed long before there was a real shift from hunting and gathering"⁶⁹. For an overview of how hunting is believed to have contributed to the evolution of society see figure 4.3 on the next page⁷⁰.

The impact of the agrarian revolution on human occupation merits discussion, as it was the first major, rapid occupational change that we know of, is one which set the scene for increasing occupational complexity, and still impacts upon the daily life of many people.

Why agriculture occurred at all has been a topic of debate over decades, although it is generally accepted that the advent of permanent settlements

⁶⁷ Lewin R. *In the age of mankind: A Smithsonian book of human evolution...* p.204.

⁶⁸ Jelinek J. *Primitive hunters...* p.66.

⁶⁹ Binford LR. Subsistence - a key to the past. 365-368 In: *The Cambridge encyclopedia of human evolution...* p.368.

⁷⁰ Fig. 4.3 is taken from Campbell BG, p.342.

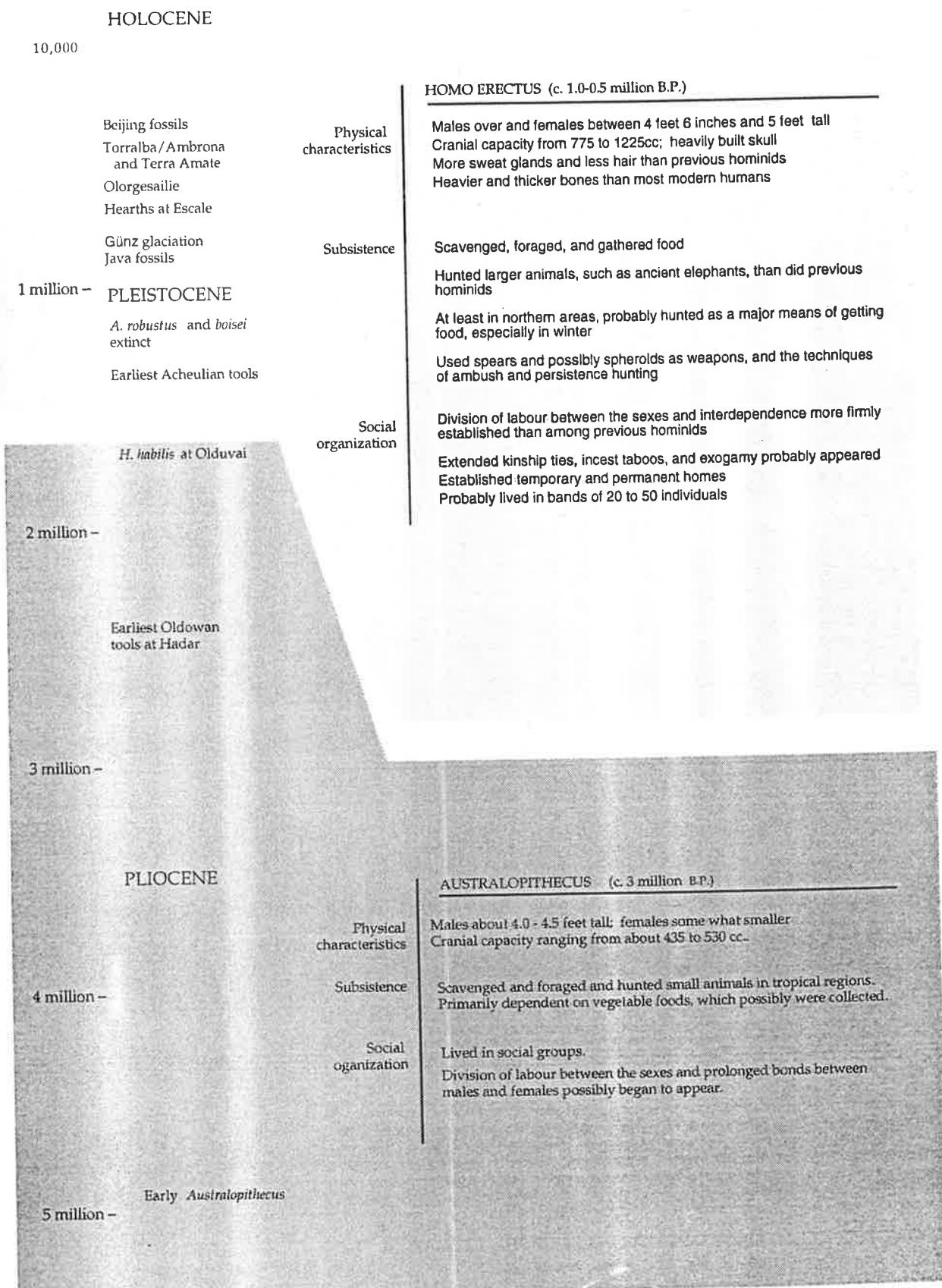


Fig. 4.3: Hunting and the evolution of society

The evolution of human society resulted to a great extent from development of gathering and hunting to increase food resources, the division of labour, and the expansion into the north temperate zones.

was closely associated with environmental and climatic conditions which prevailed in different locations. Those which provided adequate food and shelter all year round probably supported resident populations, reducing to a great extent nomadic ways of life. Major theories about the rapid increase of permanent settlement range through ideas that hunter-gathering is not well adapted to support large numbers of people, and a rise in populations forced more intensive means of food production; that when the pleistocene ice age ended a major climate change occurred which produced environments conducive to agriculture; and that increasing social complexity resulted in a need for more formalised food production because the food procuring system of small nomadic communities became inadequate. It is also possible that the developing occupational capacity of humans was instrumental in the change. That is, as humans experimented with material resources as their skills expanded, they began to challenge the environment and adapt it to meet their own needs and comfort, and they changed their social structures and behaviours to accommodate such change. This theory is supported by the fact that as agriculture developed so did the diversity of occupations in which humans engaged along with an expansion of goods and services regarded as necessary⁷¹.

When agriculture became the dominant economy it was the men who changed their occupation from hunting to that previously done by women. However, the shift to male farming heralded a change in role for many women, who increasingly became engaged in household occupations⁷². For women, as for men, the roles they undertook differed according to the societies and cultures in which they lived. Ester Boserup found sexual division of labour in all the traditional societies she studied, but no common

⁷¹ Parker S. *Leisure and work...*

⁷² Ember CR. The relative decline in women's contribution to agriculture with intensification. *American anthropologist*, 1983; 85(2): 285-304.; Burton ML, White DR. Sexual division of work in agriculture. *American anthropologist*, 1984; 86(3): 568-583.

pattern; what was considered 'natural' occupation for women was seemingly determined by the fact that they had "undergone little or no change for generations"⁷³. Variability was particularly evident with regard to food production and care of domesticated animals⁷⁴.

Agriculture did not necessarily mean the cessation of communal life. In many instances it gave a focus for some combined activity for both individual and communal good, as well as time for celebration and fun. For example Ashton reports that among the Basuto, working parties, which "are gay, sociable affairs comprising about 10-50 participants of both sexes", are a part of all aspects of agricultural activities⁷⁵. Work structures which mix labour and leisure lessen drudgery and enable workers to meet their social and psychological needs, although, from a capitalist view in which labour is seen as separable from other types of occupation, and as merely one aspect of the production process, in most instances, combining work and leisure is considered inefficient and uneconomical. In Western agricultural societies also, leisure, as well as work, was long associated with seasonal tasks which included communal participation. When Christianity became the dominant religion, seasonal celebrations of an occupational and social nature were adapted to its religious observances.

Some peoples did not adopt an agrarian lifestyle. Coon argues that surviving hunters do not lack the intellectual capacity to progress, pointing, as evidence, to their ingenious methods of obtaining foodstuffs, and to their complex social organisations⁷⁶. The successful survival of Australian aborigines in a relatively inhospitable environment and their unusually

⁷³ Boserup E. *Women's role in economic development*. New York: St. Martin's Press, 1970, p15.

⁷⁴ Burton ML, White DR. Division of labour by sex . In: *The social science encyclopedia...* p.206.

⁷⁵ Ashton H. The Basuto. 1967. In: Parker S. *Leisure and work...*p.131.

⁷⁶Coon CS. *The hunting peoples...*

complex structure of kinship relationships is a case in point⁷⁷. Three possible reasons for the retention of a hunter-gathering way of life are; firstly, isolation; secondly, climatic conditions not conducive to profitable agriculture; and thirdly, that they did not want to change⁷⁸. Coon suggests that they had an eminently satisfactory way of living together in small groups, free from tedious routine, and all the food they needed, and he argues that adopting agriculture would have imposed a "whole new system of human relationships that offer no easily understood advantages, and disturbs an age old balance between man and nature and among the people who live together"⁷⁹.

Coon's argument is supported by observations made of hunter-gatherer communities currently in the process of adopting a sedentary, agrarian lifestyle. For example, some of the !Kung are undergoing transition from a hunter gatherer lifestyle to agriculture, under pressure from the government. A major source of apparent conflict and difficulty arises from differences between community life based on 'sharing', central to hunter-gatherers, and 'saving', that is, the husbandry of resources, central to agriculture. Another consequence for the !Kung is an apparent decrease in both social and sexual egalitarianism, and a more rigid defining of male and female roles, obvious also in changed play behaviours of the children. There has been a tendency for individuals to accumulate material goods, as well as a marked rise in birth rate. The dispersion of shelters from villages clustered around a central, and publicly shared, space to more isolated shelters 'owning' the land around them has changed the complex support mechanism of the older type of communities⁸⁰. All of these changes are manifest in occupational behaviour.

⁷⁷ Jelinek J. *Primitive hunters...*

⁷⁸ Coon CS. *The hunting peoples...*

⁷⁹ Coon CS. *The hunting peoples...* p.3.

⁸⁰ Leakey R. *The making of mankind...* pp.226-229.

With the advent of agriculture a more stable provision of food, for those who adopted agrarian practices, led to greater population density, an apparent need for territorial defence, and the ever recurring occupation of war⁸¹. Leakey suggests that "man is not programmed to kill and make war, nor even to hunt: his ability to do so is learned from his elders and his peers when society demands it"⁸². His argument is based on no evidence of inflicted death and warfare being found before the advent of temple towns making "this...too recent an event to have had any influence on the evolution of human nature". This cultural view of human aggression is one aspect of the ongoing debate about whether or not humans are innately aggressive and wars inevitable. In contrast Lorenz argues that, in common with other animals, humans are innately aggressive in order to maintain sufficient space for existence, to ensure the strongest males father offspring, and to establish a 'pecking order'⁸³. Others propose that an inevitable consequence of tribal bonding is hostility to other tribes⁸⁴. It is true that people have expended vast amounts of mental and physical effort as well as resources on the development and accumulation of weapons. These may be seen as an expression of a human need to feel safe, of innate aggression or, as a consequence of either, an occupational need to develop tool technology without adequate consideration of the possible consequences of the technology so produced. The weapons of war are only one aspect of tool technology developing beyond and perhaps to the detriment of human well-being. This may be a reflection of the planlessness of evolution, that adaptation to one set of environmental conditions millions of years ago may prove to be a handicap in another type of environment⁸⁵. In particular, the expression of capacities through ongoing experimentation and technological

⁸¹ Lewin R. *In the age of mankind: A Smithsonian book of human evolution...*

⁸² Leakey R. *The making of mankind...* p.242.

⁸³ Lorenz K. *On aggression*. London: Methuen, 1966.

⁸⁴ Morris D, Marsh P. *Tribes*, London: Pyramid Books, 1988

⁸⁵ Lorenz K. *The waning of humanness*. London: Unwin Paperbacks, 1983.

development is a strong force, especially when valued highly by society. The brain's ability to override biological needs with a highly developed cognitive capacity responsive to socio-cultural influences, has disadvantages as well as advantages.

Another disadvantage of the human capacity for occupational experimentation is that agriculture changed the earth as a result of deforestation, land clearing and ploughing, and irrigation schemes, such as blocking or moving river beds⁸⁶. As part of the agricultural process, domestication of animals "involved an accelerating process of elimination of the great diversity of wild animals and plants to replace them with a few species that could be easily managed and manipulated". It has also resulted in the proliferation of some, such as the rabbit⁸⁷. "Erosion and the alteration of the balance of species became inevitable"⁸⁸.

With the fairly recent formation of cities, at least 6,000 years ago, more elements of modern occupational behaviour began. Lewin considers that it is possible from this time to trace occupational developments in architecture, art, writing, commerce, religion, increased technological innovation and social administration. Administrative functions, organisation and control of cities in those early days, often combined with religious activity and monumental architecture, developed to help communities cope with socio-environmental stress, uncertainty and unpredictability⁸⁹. The stressors arose from within communities living in much larger, specialised populations than they had been used to, and also in response to possible dangers to the community from outside. Neff observes that during this period occupation

⁸⁶ Hole F. Origins of agriculture. In: *The Cambridge encyclopedia of human evolution...* pp.373-379

⁸⁷ Clutton-Brock J. Domestication of animals. pp.380-385. In: *The Cambridge encyclopedia of human evolution...* p.385.

⁸⁸ Hole F. Origins of agriculture... p.379.

⁸⁹ Lewin R. *In the age of mankind: A Smithsonian book of human evolution...* p.224.

began to acquire distinctions and qualifications, and an increasingly complicated infrastructure of evaluative meanings, including a distinction between labour and leisure⁹⁰.

It is, perhaps, in early Greek culture that the greatest distinction between labour and leisure is made. The Greek city states were established by conquest during the third and second millenia BC, when the Greek citizen "managed to divest himself of all need to labour" leaving this to slaves, free peasants, artisans and craftsmen who were usually the indigenous people of conquered domains⁹¹. Labour and work were regarded as "brutalising the mind, making man unfit for thinking of truth or for practising virtue; it was a necessary evil which the visionary elite should avoid"⁹². In contrast, leisure, which was the domain of the elite, was concerned with occupations worthy of free men, such as those of an intellectual, political and social nature, and warlike pursuits, along with "a conscious abstention from all activities connected with merely being alive"⁹³. Aristotle argued, in concurrence with the cultural norms of his day, that without labour it is not possible to provide all the necessities of life, but that to master slaves is the human way to master necessity and thus is not against nature⁹⁴. He supposed that the supreme end for human endeavour is happiness, that the function of 'man' is reasoning, and that happiness for 'man' is the good performance of reasoning⁹⁵. Hannah Arendt (1906-1975), who is considered an authority on concepts of work and labour in the Greco-Roman world came to agree, in large part, with the classical views of which she wrote, regarding labour and work as degrading and less than human, and that the leisure pursuits of Athenian gentlemen demonstrated

⁹⁰Neff WS. *Work and human behaviour...*

⁹¹ Neff WS. *Work and human behaviour...* p.33.

⁹² Parker S. *Leisure and work...* p.14.

⁹³ Parker S. *Leisure and work...* p.17.

⁹⁴ Aristotle. *Politics*. In: Barnes J, editor. *The complete works of Aristotle*. Revised Oxford translation. UK.: Princeton University Press, 1984.

⁹⁵ Aristotle. *Nicomachean Ethics*. In: *The complete works of Aristotle...*

the true human condition⁹⁶. This view is challenged by Neff who argues that although Arendt's views probably correctly reflect ideas held about occupation in Classical Greece and Rome "it is not work itself that is degrading but the power relationships and social structure which surround it"; that it takes on a 'servile' nature when subjugation of one people to another is part of the equation; and that to the dominant group it may appear "degrading to perform certain kinds of work, since to do so is to be akin to a slave or an alien"⁹⁷. Similarly, this occupational theory holds that no occupation of itself is degrading; that socio-cultural structures and values which force people into restricted occupational choice is counter to our occupational nature and to 'occupational justice'; that humans need to recognise and accept, as part of the human condition, their similarities with as well as their differences to other animals; and that if, in the future, other means are found to provide humans with the necessities of life without work or labour humans will not suffer deleterious affects to their health and well-being so long as the whole range of each individuals physical, mental and social capacities have the opportunity for exercise and growth in a socio-cultural environment which values such activity (occupational justice).

The notion of the elite having a choice of occupational pursuits, to the extent that choice is equated to this day with leisure, continued in feudal and agricultural societies. However, the idea that leisure is superior to work was challenged in Christian societies partly by a reformed monastic rule which saw occupation as one honourable way of serving God, as well as being necessary for the material well-being of monastic communities. For example rule XLVIII of the Benedictine order ordained that "idleness is the enemy of the soul and therefore, at fixed times, the brothers ought to be occupied in

⁹⁶ Arendt H. *The human condition*. Chicago, Ill.: University of Chicago Press, 1958.

Arendt recognised the lack of modern day theory about *animal laborans* (the labour of the body) and *homo faber* (the work of our hands) which she found surprising because of the present day glorification of labour and work as "*the source of all values*"(pp.83-85).

⁹⁷ Neff WS. *Work and human behaviour...* p.35.

manual labour, and again at fixed times, in sacred reading⁹⁸. Such views were based, in part, on the Hebrew notion of God as one who works, and the commandment of six days labour followed by a day of rest on the Sabbath⁹⁹. Although much earlier than the Reformation, some argue that such ideas can be considered pre-cursors of what is usually called the 'Protestant work ethic'. The 'work ethic', a concept originating with Max Weber, who sought to understand the religious and idealistic roots of modern capitalism¹⁰⁰, is usually reserved for reference to the Reformers' doctrine of salvation, and is particularly relevant to Calvinism. Salvation was God's gift in response to faith, and work was a 'fruit' of faith. A life of obedience which included hard work and thrift were deemed necessary for those 'elected' to serve God' and to be 'saved' by God, and which He could 'favour' with prosperity. Perhaps because the notion of predestination, central to Calvinist doctrine, was difficult to accept, worldly success following methodical labour gradually came to be equated with being of the 'chosen few'¹⁰¹. Such Reformation ideas appealed to the masses who, by necessity, laboured, and benefited growing numbers of merchants and artisans, living in cities, who were able to mix their opportunities for prosperity on earth with hope for preferment in heaven, although Protestant creed did stress that it was the work rather than its fruits which were important.

The ennobling of one aspect of occupation over others may have done disservice to the occupational nature of humans. It has the potential to deprive individuals of a balanced use of their innate capacities, of using some and not others to the detriment of overall well-being. Closer to the view held in my occupational theory is the more holistic notion of occupation followed

⁹⁸Bettenson HS, editor. *Documents of the Christian Church*. New York: Springer, 1963.

⁹⁹ Exodus 20: verses 9-11. *The Holy Bible*. Authorised King James version. London: Oxford University Press, 1972.

¹⁰⁰Weber M. *The Protestant ethic and the spirit of capitalism*. (1922). Translated by Parsons T. London: G. Allen & Unwin Ltd., 1930. (Original German edition 1922)

¹⁰¹Kalberg S. Weber, Max. In: *The social science encyclopedia*... pp 892-896.

by the pre-industrial society of the Baluchi of Western Pakistan, that occupation can be divided into the sphere of obligatory duty and the sphere of one's own will, with the latter being the valued domain in which individuals choose to spend energy and creativity¹⁰². However it was the work ethic rather than freely chosen occupation which continued in ascendance as agriculture gave way to industrialisation, and discussion of ideas which grew from this time on will be the focus of the last part of the chapter.

From the turn of the eighteenth century in the occident, the occupational nature of humans was subjected to perhaps its greatest challenge. With remarkable speed occupation as a valued part of life became focussed on paid employment, increasingly within capitalist forms of industry. Indeed, in England, which led the change to industry, there was a "steady assimilation of small professional and business families", "diverse in point of both wealth and activity" on whom "primarily, depended the viability and growth of the national economy...social flexibility and stability..."¹⁰³. This new 'middle class', "frequently self-made and always dependent on aggressive use of their talents,...were genuine 'capitalists' in terms of the investment of their labour and their profits in entrepreneurial activity, whether commercial or professional", dominated work, education, play and diversion¹⁰⁴. Their fascination with pragmatics and applied technology lingers today, along with one of the most influential forces on occupation in our own times, economics, which also developed at this time.

¹⁰²Wax RH. Free time in other cultures...

¹⁰³ Langford P, Harvie C. The eighteenth century and the age of industry. In: Morgan KO, editor. *The Oxford history of Britain. Volume IV*. Oxford: Oxford University Press, 1992, p.42.

¹⁰⁴Langford P, Harvie C. In: *The Oxford history of Britain. Volume V...* pp.44-45.

Adam Smith (1723-1790), whose *An inquiry into the nature and causes of the wealth of nations*¹⁰⁵ is considered the foundation of classical economics, proposed that the key to increasing a nation's wealth was by the accumulation of capital and the division of labour, both of which would increase with the freeing of trade. He held that the division of labour would enhance workers' specialist skills because "the difference of natural talents...is not...so much the cause, as the effect of labour. The difference...seems to arise not so much from nature, as from habit, custom, and education". However he also recognised that the division of labour could decrease the quality of work¹⁰⁶. In the broad sense, division of labour has led to modern exchange economy, that is, specialisation followed by exchange between specialists, which is a fundamental aspect of all modern economies¹⁰⁷. Whilst it appears that the vast majority of the population have accepted that material wealth provided by occupational specialisation is logical and acceptable, one could raise the basic question of whether division of labour and specialisation is conducive to well-being, notwithstanding material wealth. This is not a straight-forward question as there are many dimensions to specialisation, from that resulting from the development of personal and professional skills, to specialisation which is imposed by a system. In the former strengths and capacities can be developed but in the latter there may be a minimalising of individual development except for minute and meaningless actions, as in some industrial processes and for the majority of workers little opportunity to explore a wide range of occupations and discover their individual potential.

There has been a persistent stream of questioning of the ill-effects that accompany the goods proclaimed by classical economics. Professor of

¹⁰⁵ Smith A. *An inquiry into the nature and causes of the wealth of nations*. 1776. (Campbell RH, Skinner AS, Todd WB, editors), Chicago: University of Chicago Press, 1976.

¹⁰⁶ Raphael DD. *Adam Smith*. Oxford: Oxford University Press, 1985, Vol.1; p.17.

¹⁰⁷ Bannock G, Baxter RE, Rees R. *The Penguin dictionary of economics*, 2nd ed, Penguin Books, 1978.

Economics at Chicago University, Frank Knight, for example, argued that "the values of life are not, in the main, reducible to satisfactions obtained from the consumption of exchangeable goods and services"¹⁰⁸; John Kenneth Galbraith argued in *The Affluent Society*¹⁰⁹ that classical economics developed at a time when 'wants' were chasing 'goods' and is inappropriate when the opposite is true as in modern industrial nations where the "production machine has become an end in itself"¹¹⁰; and even Lionel Robbins, an economist of the English neo-Classical School suggested that economists "have nothing to say on the true ends of life: and that their propositions concerning what is or what can be involve in themselves no propositions concerning what ought to be"¹¹¹. Post-Ricardian economics have also been criticised for defending and rationalising the interests of capitalism at the cost of impartiality¹¹², with Marxist writers describing as 'vulgar economics' that which concentrates on "surface phenomena" such as "demand and supply to the neglect of structural value relationships" and the "class relationships underlying commodity transactions"¹¹³.

The extreme dichotomy, at the time of the industrial revolution, of economic, social conditions and the nature of occupations versus the values of employers and their employees, led intellectuals as various as Karl Marx, John Ruskin and William Morris to consider the effects of the industrial era on the occupational nature of mankind. Some of their ideas were similar to those expressed by Renaissance Utopians, that what people do can be a source

¹⁰⁸ Knight FH. Some fallacies in the interpretation of social cost. 1924. Reprinted in Arrow KJ, Scitovsky T. *Readings in Welfare Economics*. London: Allen and Unwin, 1969, pp.226-227.

¹⁰⁹ Galbraith JK. *The affluent society*. London: Hamish, 1958.

¹¹⁰ Roll E. *A history of economic thought*. 4th ed. London: Faber and Faber, 1973, p.600.

¹¹¹ Robbins L. *Politics and economics, papers in political economy*. London: MacMillan, 1963, p.7.

¹¹² David Ricardo was an English political economist (1772-1823) In his work such as *Principles of political economy and taxation*, (1817), the antagonism of class interests remains central.

¹¹³ Desai M. *Vulgar economics*. In; Bottomore T. *A Dictionary of Marxist thought*. 2nd ed. Oxford: Blackwell Ltd., 1991, p.574.

of joy if it is creative and provides pleasure in the exercise of a range of skills¹¹⁴. A brief account of the views of Marx, Ruskin and Morris follows.

Karl Marx, in his early works, such as *Economic and Philosophical Manuscripts*, *The Holy Family* and *The German Ideology* formulated a 'materialistic theory of history' arguing that it is social and economic conditions, rather than metaphysical or religious ideas, which drives human history and determines how people live¹¹⁵. Influenced by Hegel who saw "labour as man's act of self creation"¹¹⁶, he founded much of his philosophy on the idea that "free conscious activity constitutes the species character of man"¹¹⁷. Particularly in *Economic and philosophical manuscripts* he discusses 'praxis' as the free, universal, creative and self creative activity which differentiates humans from other animals and by which they make and change themselves and their world¹¹⁸. This implies that it is natural for all people to be involved in productive activity to provide for their subsistence but that such occupation should also enable them to achieve fulfillment, dignity and well-being. Marx argued that when labour is not a creative activity by which humans make and mould themselves, but is simply a process to earn a wage for subsistence, it is a contradiction of the

¹¹⁴ More T. *Utopia*. (1516) Translated with an introduction by Turner P. Harmondsworth: Penguin, 1965; Campanella T. *City of the sun*. (1623) Translated by Donno DJ. Berkeley: University of California Press, 1981.

¹¹⁵ Marx K. *Economic and philosophical manuscripts*. 1844. In: *Early writings*. Penguin Classics 1992.

Marx had not intended these papers for publication , but from 1932(Soviet translation)onwards the work created enormous interest as it provided new insights on Marx's concepts of alienation and the self creation of humanity through material labour.

See also: Bottomore T. A *Dictionary of Marxist thought...*; Marx K, Engels F. *The German ideology*. 1845-46. London: Lawrence and Wishart, 1964. Marx described this manuscript as a work of self clarification of their idea about a materialist conception of history, including the division of labour.-

Marx K. *The holy family*. 1844. London: Lawrence and Wishart, 1957.

These early works did not become generally available in English until the 1950's.

¹¹⁶ Fischer E. *Marx in his own words*. London: Allen Lane The Penguin Press, 1970, p.31.

¹¹⁷ Marx K. In: *Early writings*...p.328.

¹¹⁸ Marx K. In: *Early writings*...p.328. Petrovic argues in *A Dictionary of Marxist thought...* that Praxis is the central concept of Marxism (p.434) .

nature of mankind, economic conditions having become more powerful than individuals. Fischer, in his comments on Marx's work, adds "the reduction of labour to empty wage earning is now accepted without question"¹¹⁹. Additionally Marx recognised that when work is destructive to people's physical and intellectual potential "the worker feels himself only when he is not working"¹²⁰. Marx criticised the capitalist industrial society of the time because it prevented individuals from being able to cultivate their unique talents and alienated them from their species need to be an active, productive being, and in fact, led to misery, exhaustion and mental debasement. This idea of alienation, which will be considered in greater depth later, was a major theme of Marx's theories. These early humanist ideas of Marx are remarkably similar to the central focus of this thesis, that humans are occupational beings and that compulsion and subservience can act against the biological function of this species characteristic.

Ruskin and Morris differed from Marx in that they came to social criticism from the viewpoint of creative artists. Ruskin (1819 - 1900) as a well known art critic challenged the traditional view between manual labour and intellect¹²¹, and in 1860 turned to political economy, writing four essays which appeared in *Cornhill Magazine* and were published as *Unto this Last* in 1862¹²². From this time he added considerably to the challenge offered by Coleridge in *The Friend*¹²³ and Carlyle in *Sartor Resartus*¹²⁴, to classical political economists whom they characterised as ignoring the human factor in economics.

¹¹⁹ Fischer E. Marx in his own words...p.49.

¹²⁰ Marx K. In: Early writings...p.326.

¹²¹ "We want one man to be always thinking, and another to be always working, and we call one a gentleman, and the other an operative; whereas the workman ought often to be thinking, and the thinker often to be working, and both should be gentlemen, in the best sense." Ruskin J. *The stones of Venice*. Vol 2, London: Smith, Elder and Co., 1853.

¹²² Ruskin J. 1862, Preface. In: Yarker PM, editor. *Ruskin: Unto this last*. London: Collins Publishers, 1970.

¹²³ Coleridge ST. *The friend*. 1809. New York: Freeport, 1971.

¹²⁴ Carlyle T. *Sartor Resartus* 1833-4. In: *Sartor Resartus, and on heroes and hero worship*. Introd. by Hudson WH. London: Dent, 1908, reprinted New York: Dutton, 1973.

Ruskin's central theme was that the quality of life citizens enjoy is the true measure of a nation's prosperity, rather than the accumulation of wealth for its own sake. He attacked the boredom and monotony of the Victorian industrial system, the disconnection between leisure and work, and advocated that training schools should be established at government expense for all children¹²⁵. These schools should teach the laws of health, habits of gentleness and justice, and the 'calling' by which each would live. In conjunction with these he proposed that the government should establish factories and workshops, producing high standard goods, to run in competition with private business. Any person out of employment should be admitted immediately to a government school, trained and given work for wages. For those unable to work he proposed special training schemes, or 'tending' in the case of sickness. For those who objected to work he suggested they be compelled to work in less desirable jobs, their wages retained until each learned to respect the laws of employment.

William Morris, who was a member of the small Marxist Social Democratic Federation organised by Henry M. Hyndman, founded the Socialist League in England in 1884. He was the most notable of Ruskin's followers and, although abandoning Ruskin's elitism, amongst his many endeavours attempted to establish a working community on Ruskin's principles. Morris (1834-1896) was a poet, architect, painter, printer, craftsman and social reformer (known to some today for a revival in the popularity of his decorative fabrics and wallpapers)¹²⁶. As a craftsman he too deplored the machine age and the fact that commerce had become a 'sacred religion', turning work from a solace into a burden, and for the majority a mere drudgery:

¹²⁵MacCarthy F. *William Morris: A life for our time*. London: Faber & Faber, 1994, pp.70-71.

¹²⁶Biographical detail from Cole GDH. In : Selgman ERA, editor, *Encyclopaedia of social science*. New York: Macmillan, 1933.

*The wonderful machines...have driven all men into mere frantic haste and hurry, thereby destroying pleasure...they have instead of lightening the labour of the workmen, intensified it, and thereby added more weariness yet to the burden which the poor have to carry*¹²⁷.

He supported the destruction of social and economic inequalities, hoping that the manual arts could be restored as an integral part of peoples lives. He accepted that "the race of man must either labour or perish (because) 'Nature' does not give us our livelihood gratis; we must win it by toil of some sort or degree" but he also believed that, under socialist conditions, the necessary work of society could be accomplished without overstrain or difficulty. Morris argued against the "stifling overorganisation common to both capitalist and socialist versions of modern industrial society"¹²⁸. Additionally he suggested that most work could be done with actual pleasure in the doing "since certainly in other matters ('Nature') takes care to make the acts necessary for the continuance of life in the individual and race not only endurable but even pleasurable"¹²⁹. In *News from Nowhere* he described a fictional communist utopia based on his ideas about the pleasures inherent in work when people are free and independent, and where poverty, exploitation, competition and money all disappear¹³⁰.

Marx, Ruskin, and Morris believed that purposeful, creative labour, which is close to what this thesis is calling occupation, is basic to human nature, but they saw that the industrial and commercial use of this innate characteristic was destructive both to individuals, and to mankind, in the long term. The challenges aimed at changing the values of industry and commerce led by

¹²⁷ Morris W. Art and socialism. 1884. In: Morton AL, editor. *Political writings of William Morris*. London: Lawrence & Wishart, 1973, pp.110-111.

¹²⁸ Jackson Lears TJ. *No place of grace: Antimodernism and the transformation of American culture 1880-1920*. New York: Pantheon Books, 1981, p.63.

¹²⁹ Morris W. Useful work versus useless toil. 1884. In: *Political writings of William Morris*...

¹³⁰ Morris W. *News from nowhere*. 1890. In: Morton AL, editor. *Three works by William Morris: News from nowhere, The pilgrims of hope, A dream of John Ball*. London: Lawrence & Wishart, 1968(1974).

such socialist comment and mounted by the organised labour movement achieved some success but social inequities and conditions of work have remained the major focus of debate and action. In contention over the exploitation of the workforce, the basic ideological arguments about the nature of occupation and the human need for purposeful creative activity were, on the whole, overlooked. Mainstream socialism "became enmeshed in the 'quasi-socialist machinery' of party politics", and followed the Fabian vision of a technocratic society with enlightened leadership, in preference to the anti-modern revolutionary stance of Ruskin and Morris¹³¹. Workers continued, in better conditions, to be servants of machines and, for many people, there was little opportunity for creativity or even the chance to be involved in a total process of production.

In early industrial society even social and celebratory customs, as an integral part of work, diminished and the division between work and leisure became clearer. This division was not absolute or the same for each individual¹³², and in many traditional workshops ritual patterns of fellowship and celebration continued¹³³. However the change was so evident that it encouraged entrepreneurs to recognise the commercial potential of separated entertainment, which has led to one of the most powerful industries of the present day¹³⁴. The separation of work from leisure is also demonstrated in the way leisure was deplored by Victorian explorers, who perceived, in their encounters with hunter-gatherer peoples, that their 'non-work ethic' was a major reason for 'lack of progress'. This prejudice or bias remains today, with post-industrial nations encouraging more traditional peoples to change to an occupational way of life similar to their own without reference to the

¹³¹Jackson Lears TJ. *No place of grace: Antimodernism and the transformation of American culture 1880-1920...* p.64; Mackenzie N, Mackenzie J. *The Fabians*. New York: Weidenfeld and Nicolson, 1977.

¹³²Lowerson J, Myerscough J. *Time to spare in Victorian England*. Hassocks: Harvester Press, 1977.

¹³³Bailey P. *Leisure and class in Victorian England*. London: Routledge & Kegan Paul, 1978.

¹³⁴Cunningham H. *Leisure in the industrial revolution*. London: Croom Helm, 1980.

personal satisfaction, community well-being or ecological sustainability of traditional occupational behaviour.

Jenkins and Sherman argue, in *The Leisure Shock*, that because modern society is "work-oriented in a systematic, non-seasonal way, as it has been since the industrial revolution", it does not consider leisure seriously¹³⁵. Leisure, they say is often confused with pleasure, making it sound "vaguely sinful and hedonistic and frivolous enough to be frowned upon". Despite this they observe that modern technology creates a situation in which all goods and services can be produced by fewer people leading to a reduction in the availability of paid employment. This leaves many people with up to 100% leisure time, in a society that values technological 'progress' and the material rewards of paid employment above all other forms of occupation including those that are people or skills centred. Eventually, Jenkins and Sherman argue, societies are going to have to come to terms with the idea that the 'work ethic' is fast becoming redundant and that the boundaries between work and leisure must be blurred. This need to blur work and leisure is a constant theme of writers concerned with their study¹³⁶.

Throughout this century the need for people to be seen to pass time usefully, to provide by ones own efforts for the necessities of life, sometimes despite unfulfilling, unsatisfying employment has been a strongly held social value. Jahoda found, from study of the unemployed in the 1930s, that employment offered more than financial reward. It allowed purpose, a sense of achievement, a daily time structure, social contact outside the family, and

135 Jenkins C, Sherman B. *The leisure shock*. London: Eyre Methuen Ltd., 1981, p.1.

136 Keniston K. Social change and youth in America. *Daedalus* 1962; Winter: 145-171; Friedlander F. Importance of work versus non-work among socially and occupationally stratified groups. *Journal of applied psychology* 1966; December: 437-441; Hollander P. Leisure as an American and Soviet value. *Social problems* 1966; 3: 179-188; Parker S. *Leisure and work...*; Robertson J. *Future work*. England: Gower Publishing Co, 1985; Pettifer S. Leisure as compensation for unemployment and unfulfilling work. Reality or pipe dream? *Journal of occupational science: Australia* 1993; 1(2): 20-26.

social status, and its lack caused boredom, mental despair, apathy and deterioration¹³⁷. In the late 1980's she remained convinced about these negative effects¹³⁸. Similarly, Warr found that employment offers scope for developing new skills and decision making, but that on the down side, the value given to employment causes the unemployed to suffer frequent humiliations and loss of social status¹³⁹. Smith goes so far as to suggest that paid employment has become the central institution mattering more to individuals than "government, education, religion, defence, or health". He believes being unemployed may be worse than "being excommunicated, disenfranchised, illiterate, conquered, and diseased", with many people without paid employment feeling unwanted, as if they no longer belong to society, their impoverished days having neither structure nor purpose¹⁴⁰.

In the late twentieth century, in post-industrial cultures, employment for remuneration still enjoys the greatest status amongst occupations for both men and women. People in the nineties, though, have shifted their ideas from expecting to work to provide for their own needs towards an expectation that they have a right to work to provide themselves with status and material comforts. However for many people paid employment is not intrinsically satisfying¹⁴¹. For example, Winefield and his colleagues, in a prospective longitudinal study of over three thousand young Australians, found that people dissatisfied with their employment were no better off in terms of self esteem, levels of depression or lack of psychological well-being than the unemployed who were, as could be expected, significantly worse off than

¹³⁷ Jahoda M. *Employment and unemployment*. Cambridge: Cambridge University Press, 1982.

¹³⁸ Jahoda M. Economic recession and mental health: some conceptual issues. *Journal of social issues*, 1988; 44 (4): 13-23.

¹³⁹ Warr P. Twelve questions about unemployment and health. In: Roberts R, Finnegan R, Gallie D, editors. *New approaches to economic life*. Manchester: Manchester University Press, 1985.

¹⁴⁰ Smith R. *Unemployment and health; A disaster and a challenge*. Oxford: Oxford University Press, 1987.

¹⁴¹ Aungles SB, Parker SR. *Work, organisations and change: Themes and perspectives in Australia*. Sydney: Allen and Unwin, 1988.

those satisfied with their employment¹⁴². The theme of the last two paragraphs, which begins to relate unemployment or unsatisfactory employment with illhealth, will be developed in chapter 6.

Because paid employment has assumed such high status, unless other forms of occupation assume a market status on a par with it, they have become devalued. This has resulted in leisure activities becoming subject to high technological development and over regulation. An example is the preoccupation with product development rather than sailing skill in the much publicised Americas Cup. In this we see the value once given solely to human occupational achievement taken over by the achievement of occupational technology. Effectively, this values material goods at the expense of people and process, and devalues skills as well as the goods people can produce by their own efforts.

Although not always linked with capitalist gain, technological experimentation and development have been strong characteristics of the occupational nature of humans throughout history because our 'genetic constitution' is organised in such a way that all people experience the need to engage in exploratory, adaptive and productive occupational behaviour seemingly for the purpose of reducing time spent on necessary occupations in favour of time for self chosen occupations. The effort to save time in order to use it in some other way demonstrates how individuals unconsciously seek to use the range of their capacities. For some people the range of obligatory activities concerned with their work may meet their biological needs for physical, mental and social stimulation and exercise; for others this may be far from the truth. Industrial processes and capitalist structures narrowed the

¹⁴² Winefield AH, Tiggeman M, Goldney RD. Psychological concomitants of satisfactory employment and unemployment in young people. *Social psychiatry and psychiatric epidemiology*. 1988; 23: 149-57.

range of activity of many individuals to those which were economically efficient and viable, reducing many of the peripheral occupations, often of a social or problem solving nature, which in earlier economies had given exercise to a wide range of capacities.

Industrialisation certainly signalled an enormous change from a long period of human occupation based, in the main, on natural processes through either hunting and gathering or agriculture to occupations which were man-made, and in some cases many steps removed from Nature and natural needs or processes. As early as 1935, Carrel, a Nobel prize winning medical scientist, in a call for the scientific study of man, suggested that

*"it is difficult...to know exactly how the substitution of an artificial mode of existence for the natural one and a complete modification of their environment have acted upon civilised human beings"*¹⁴³

This question remains as people seem to accept that technological change is necessarily an improvement, and that the development of machines to reduce occupational effort is inevitable and desirable. Just as from the 1920's on, most people continue to joyfully welcome "modern civilisation" adopting new modes of life and "ways of acting and thinking", laying aside "old habits", because these "demand a greater effort"¹⁴⁴. In this way new technology leads to new cultural adaptations, which, in turn, lead to further technological change, and so on. This can be constructive or destructive, and depending on the viewpoint taken can be either or both.

In technically advanced societies the industrial era has evolved rapidly into a new electronic era. Arthur Penty, a follower of Morris, is credited with coining the phrase 'post-industrial society' at the turn of the century¹⁴⁵, but

¹⁴³ Carrel A. *Man the unknown*. London: Burns and Oates, 1935, pp.24-25.

¹⁴⁴ Carrel A. *Man the unknown...* p.25.

¹⁴⁵ Bullock ALC. Post industrial society. In: Bullock A, Stalleybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*. 2nd. ed. London: Fontana Press, 1988, p.670.

social commentator's as diverse as Daniel Bell, Alain Touraine and Barry Jones give us contemporary descriptions¹⁴⁶. To them post-industrial society is characterised by a change from production to service industries, from manual to professional and technical workers, and to decision making based on information technology. Toffler observes that these economic changes are part of "a crisis that is simultaneously tearing up our energy base, our value systems, our sense of space and time, our epistemology as well as our economy" and will result in a "wholly new and drastically different social order"¹⁴⁷. In fact, the social forms and values which developed and prevailed during industrial domination of human choice in labour and leisure occupation remain. The tension between traditional social forms and modern industrial arrangements has been responsible for a period of unprecedented uncertainty and loss of direction for many people. Jones suggests that, despite 'universal literacy, an omnipresent media and a vast information industry', post-industrial society is threatened by it's "preoccupation with materialism, a conviction that national and international salvation is to be found in economic growth alone, and emphasis on externalised (consumption based) value systems"¹⁴⁸. Similarly, the American futurologist, Richard Louv, in *Working in America 11*, commenting on the speed of change in the 'information age', observes that:

*Even the Post-industrials have a gnawing feeling that the transforming economy is like a blizzard or tornado: unpredictable, beyond control, or, more precisely controlling us.*¹⁴⁹.

Both Jones's and Louv's concerns can be seen as a criticism of the complacent, confident predictions of the futurologists of the fifties and sixties

¹⁴⁶ Bell D. *The coming of post industrial society. A venture in social forecasting*. New York: Basic Books, 1973; Touraine A. *Post Industrial Society*. London: Wildwood House, 1974; Jones B. *Sleepers, wake! Technology and the future of work*. Melbourne: Oxford University Press, 1982.

¹⁴⁷ Toffler A. *The eco-spasm report*. New York : Bantam Book Inc., 1975. p.3.

¹⁴⁸ Jones B. *Sleepers, wake! Technology and the future of work*...p.45.

¹⁴⁹ Louv R. *Working in America II*. New York: Penguin, 1983.

in which "the fruits of applied science...were seen able to produce...an era of leisure and abundance"¹⁵⁰. Following the economic recessions of the late seventies and eighties a more cautionary note has appeared in futurological speculation often in reference to social limits of growth¹⁵¹, and frequently allied with ecological theory. However many people do appear to experience the difficulties alluded to by Louv, such as feeling loss of control, or that the world is changing too rapidly for comfort, despite these feelings, in some measure, being countered by excitement as technological development sweeps all before it.

The value given to technology has also caused a devaluation of older members of society. Many are confused by the rapid social and technical changes occurring around them; whereas in agricultural societies they were often viewed as wise counsellors and spiritual leaders, in post-industrial societies they have been effectively displaced because their early life experiences are no longer seen as relevant, but are viewed as being part of a "stagnant, marginal social category"¹⁵². The same attitude is evident in dealings with non-modern technology based societies. In large part, the lack of understanding and recognition of the human need for occupation has contributed to humans allowing technological development to drive them rather than the other way around, and in accepting that the driving force of such development, at present, is based on economic theory rather than on human nature and needs.

Countering this could be possible if all people had a better understanding of the purpose and meaning of 'occupation' in a generic sense. Such understanding demands 'a sociological imagination that reminds us of the

¹⁵⁰ Jungk R, Galtung J. editors. *Mankind* 2000. London: Allen and Unwin, 1969. Jantsch E. *Technological forecasting in perspective*. Paris OECD, 1967; International Future Research Conference, Oslo. In: Bell D, editor. 'Towards the year 2000' : London: Allen & Unwin, 1968; Kumar K. *Futurology*. In: *The social science encyclopedia*... p.325.

¹⁵¹ Hirsch F. *Social limits to growth*. London: Routledge & Kegan Paul, 1977.

¹⁵² Hazan H. *Gerontology*, social. In: *The social science encyclopedia*... p.337.

real range of social behaviour...necessary so that we can collectively decide which kinds of work and which kinds of leisure are appropriate to a good life and create the opportunities for these to be realised"¹⁵³. In fact, from the industrial era on, occupation for its own sake seems to have lost its efficacy and value, perhaps because it is no longer obviously associated with 'Nature'. The major changes in ways in which people have met the physiological requirements of food, shelter and safety, whilst nurturing their social and mental needs, have evolved from being an integral part of a self sustaining ecological lifestyle to one which is superimposed on and destructive to natural resources. This can be seen to have obscured some biological needs which are germane to species survival. Meeting the needs of long term species survival is not, for most people in post-industrial societies, a day to day concern, and, in fact, human occupation, its technology, and the social structure and values that surround it, are now so complex that they are almost unrecognisable as developing from the simple survival occupations of our ancestors. The need to use human capacities in a creative, problem solving, inventive or adaptive way has led to the domination of occupational technology over the ecology, survival of the species in the long term, and ironically to the detriment of present and future use of personal skills. This thesis agrees with Lorenz's viewpoint that such domination can be considered a "disorder(s) of certain special behaviour mechanisms originally possessing survival value"¹⁵⁴.

Some commentators argue that when the humans become sufficiently focussed on these culturally created problems the same drive which created them will be able to counteract the ill effects. This could already be in train. Indeed, Toynbee suggested in the 1960's that even though "in making...tools

¹⁵³ Parker S. *Leisure and work...* p.119.

¹⁵⁴ Lorenz K. *Civilized man's eight deadly sins*. Translated by Latzke M. London: Methuen & Co Ltd, 1974, p.2.

progressively more effective" and the "misuse of them progressively more dangerous" the "World's most powerful nations and governments have shown an uncustomary self restraint on some critical occasions" demonstrating an "advance in social justice" and an increase in humanitarianism¹⁵⁵. In present times, there is widespread questioning of the wisdom of continuing with economic policies which place technological development and the expansion of trade before human well-being and diminishing natural resources. Robertson, for example, in 'Future work', calls for people to reject a future of technological determinism in which technology rather than value systems dictate choice; and Jones suggests that "the most appropriate analogies for economic processes are to be found in biology -with growth, maturation, nourishment, excretion and decline - rather than physics"¹⁵⁶. Despite this, at the recent United Nations Conference on Environment and Development the government delegates appeared to support maintaining the status quo and trans-national corporations by arguing for "promoting sustainable development through trade liberalisation"¹⁵⁷. A reluctance by industrialists and world leaders to pay more than lip service to ecological or pre-industrial society's issues points to a bias towards maintaining the first, or possibly the second of three possible scenarios for the future -'business as usual', in which development continues similar to the present; 'hyper-expansionism' based on super-industrial development of science and technology; or a 'sane, humane, ecological' vision which focuses on human development and ecological sustainability¹⁵⁸. Future health and well-being depends on the latter vision, with all human beings utilising their occupational nature through activities

¹⁵⁵ Toynbee AJ. A study of history, vol XII. Reconsiderations. Oxford: Oxford University Press, 1961. In: Kohn H, editor. *The Modern World*. New York: MacMillan, 1963, pp.303-304.

¹⁵⁶ Robertson J. *Future work....*; Jones B. *Sleepers, wake! Technology and the future of work...* p.44.

¹⁵⁷ Korten D, editor. *Economy, ecology and spirituality*. The Asian NGO Coalition, Manila, IRED Asia, Columbo, The People-Centred Development Forum, New York, 1993. p.2.

¹⁵⁸ Robertson J. *Future work...*

which sustain the ecological balance and which enable personal growth and potential. This issue will be picked up in the final chapter.

The exploration of biological and cultural occupational evolution in chapters three and four, has established the force of the idea that the biological need to engage in occupation is a major characteristic of humans aimed at enabling species survival and individual health. Four major functions of occupation have been identified. They are; to provide for immediate bodily needs of sustenance, self care and shelter; to develop skills, social structures and technology aimed at safety and superiority over predators and the environment; to maintain health by balanced exercise of personal capacities; and to enable individual development so that each person and the species will flourish. However, because of the strength of the occupational needs which are prerequisite to meeting those four functions, imbalance is possible, and the needs may be counter to survival, particularly if they are not recognised for what they are.

Whilst it is relatively easy to see that there is a correlation between obvious survival occupations and health, because what people do has direct bearing on their type of shelter, their access to food, clean air and water, which have been well researched, the correlation between health and the innate need of humans to engage in other types of occupations is obscure, complex and poorly researched. Because of the complexity of occupation, teasing out its positive or negative attributes is difficult. Engagement in occupation cannot easily be separated from the other basic requirements of life, and the complexities of these interactions need much more inquiry. The interaction of mind, body and spirit, obligatory and choice issues, differences in genetic capacities, the nature of and need for occupational mastery, risk taking and challenge, optimum levels of personal satisfaction, or the relationship to

sociocultural values of any occupation are just a few of the variables which may make a difference to how occupation affects health.

In conclusion, it may seem that, in comparing early and present forms of occupations which have continued throughout evolution, this chapter has condemned current practices. To some extent the comment may be justified as, in exploring the differences between natural and culturally acquired occupational behaviours, it would seem that people living in post-industrial countries do not appear happy or satisfied. Despite many apparent material and social welfare advantages people cannot be described as experiencing well-being, but rather a "drifting dissatisfaction" which, according to anthropological studies, does not occur in the "more primitive social groupings nor, indeed, in the less developed countries"¹⁵⁹. Some of the probable causes alluded to in the chapter include - the division of occupation for gender, economic and age reasons; limitations, restrictions and impositions due to dominant philosophies and policies of societies; conflict between technological development, individual need and the ecology; and the problem of achieving balance between occupations of choice and necessity. The literature reviewed in this chapter also suggests that the basic occupational needs of people have been obscured by the current complexity of occupational technology and economy, and the socio-political structures, divisions, and values which have been established progressively. This leads to the notion that cultural views of occupation dominate biological needs for occupation and that this may be a cause for less than healthy survival. Because the origins and nature of occupations have become obscure we have failed to recognise them as a basic need, accepting instead the materialistic, value loaded results of occupation as the central focus of modern life and occupations purpose. This poses many questions for the future, not least,

¹⁵⁹ Jenkins C, Sherman B. *The Leisure Shock...* p.5.

from the perspective of this thesis, is the question of what these changes mean to the occupational nature of people, and to their health. The next chapter will explore ideas about health and well-being from this occupational view of human nature.

Chapter 5

Health: An Occupational Perspective

Ideas about what is health differ according to cultural and spiritual philosophies, socially dominant and individual views, the type of economy and the health technology available. This chapter discusses a particular view of health from the perspective of humans as occupational beings, focussing on what makes and keeps people well, rather than what causes or prevents them from being ill. It starts by exploring definitions and concepts held about health, well-being, holism and W.H.O. directives to promote health. From this exploration, and building upon the ideas about occupation which have emerged in earlier chapters, the view of health held in this thesis is described. This relates to survival of the species, to how individuals and communities flourish and to ecological sustainability. In order to support the central notion that engagement in occupation is a biological mechanism for health, the chapter goes on to explore how the 'natural' occupational behaviours of early hunter-gatherers related to their health status.

There are many definitions of health, but the World Health Organization definition of health as "a state of complete physical, mental and social well-being not merely the absence of disease or infirmity" has survived fifty years of rapid social change, and is one which a significant body of health writers have kept in mind¹, despite some criticism about the definition from medical scientists that it is 'idealistic', 'unattainable', 'largely irrelevant', and difficult to measure². The focus of western medical efforts on illness rather than

¹ World Health Organization. *Constitution of the World Health Organisation*. International Health Conference, New York, 1946.

² See for example: Nutbeam D. Health promotion glossary. *Health promotion* 1986; 1 (1): 113; Caplan A. et al. *Concepts of health and disease*. Reading, Mass: Addison-Wesley, 1981 parts 1 & 5.

health might also appear to gainsay the broader intent of the definition. This focus is not surprising as, on the whole, in countries with advanced medical technology, people have been socialised to think about health and illness in terms of medical and physical sciences and their commodities, to the extent that Newman, a nursing theorist, observes that the view of health as the absence of disease has pervaded most of our thinking from very early in life³.

Health as 'more than the absence of illness' is particularly difficult to explicate, although there have been many attempts. For example, Blaxter discusses, in *Health and Lifestyles*, some of the many ways health may be conceptualised⁴. Her monograph, based on a survey undertaken in the United Kingdom with a sample of 9000 adults, found that, as well as the absence of disease and illness, people described health as: having a reserve to combat problems; behaviour aimed at healthy lifestyle; physical fitness; energy and vitality; social relationships; being able to function; and psycho-social wellbeing. The survey outcomes support the belief that views of health differ over the life course, have clear gender differences, and are, for most, a multidimensional concept. The view of health presented in this chapter accepts these conclusions, and I use some of Blaxter's results to illustrate particular points. Blaxter's findings also appear to link health and well-being in accord with the W.H.O. definition. Understanding what is meant by well-being appears to be a key issue, so this will be explored in some depth in the next pages.

As early as 490-429 BC Pericles made the connection between health and a feeling of well-being. More recently well-being has been defined within the health promotion fraternity as:-

³ Newman MA. *Health as expanding consciousness*. St Louis: The C.V. Mosby Company, 1986.

⁴ Blaxter M. *Health and lifestyles*. London and New York: Tavistock/Routledge, 1990.

a subjective assessment of health which is less concerned with biological function than with feelings such as self esteem and a sense of belonging through social integration⁵.

In the Thesaurus, 'well-being' stands with words like happiness and prosperity, as well as health⁶. Whilst happiness and health have an intuitive fit, prosperity may be linked with well-being, in so far as people with no monetary concerns are able to make most use of health promoting opportunities. They are more easily able to meet the basic requirements for health than poorer people, as well as having none of the stress or worries attributed to poverty. In addition, the high social value accorded to money in the present day increases its potential effect on health status. Standardised mortality and morbidity statistics support the association of people with limited resources experiencing poorer health (and, it can be argued, less well-being)⁷. For example, it has been found that children of unskilled workers in Britain are twice as likely to die in their first year of life as are those of professional people⁸, and numerous other studies support the notion that well being is related to income, financial status, and employment⁹.

Despite these acknowledged 'material' associations the feeling of well-being is as intangible and amorphous a concept as 'charm' or 'style'. Subjectively,

5 Nutbeam D. Health promotion glossary... p.126.

6 American Heritage Dictionary, editors. *Roget's new thesaurus*. Boston: Houghton Mifflin Company, 1980.

7 *Enough to make you sick: How income and environment affect health*. Australian National Health Strategy Research Paper, No 1, Sept 1992, offers a detailed summary.

8 Whitehead M. *The health divide*. Penguin, 1988, p.229.

9 Cohen P, Struening EL, Genevie LE, Kaplan SR, Muhlin GL, Peck HB. Community stressors, mediating conditions and wellbeing in urban neighborhoods. *Journal of community psychology* 1982; 10: 377-390; Argyle M. *The psychology of happiness*. New York: Methuen & Co., 1987; Koenig H, Kvale J, Ferrel C. Religion and well-being in later life. *The gerontologist* 1988; 28 (1): 19-27; Burckhardt C, Woods S, Schultz A, Ziebarth D. Quality of life of adults with chronic illness: A psychometric study. *Research in nursing and health* 1989; 12: 347-354; Ullah P. The association between income, financial strain and psychological well-being among unemployed youths. *The British psychological society* 1990; 63: 319-330; Isaksson K. A longitudinal study of the relationship between frequent job change and psychological well-being, *Journal of occupational psychology* 1990; 63: 297-308; Warr P. The Measurement of well-being and other aspects of mental health, *Journal of occupational psychology* 1990; 63 (4): 193-210.

well-being can be described as a pleasant and desirable physiological sensation which can differ from person to person. Some people describe well-being as 'being on top of the world', or in conjunction with 'being in love', others when they indulge in a favourite hobby or relax in a special place, and some even experience it in pursuit of their paid occupation or vocation. John Hersey, for example, admitted to "feeling nourished and transformed" as a result of his literary work¹⁰. Other feelings include happiness, contentment, peace, joy in simple aspects of the environment or being with others, energy and anticipation, confidence and concentration, satisfaction with ongoing achievement, or a sense of timelessness and 'flow'¹¹. Csikszentmihalyi found that "the typical working adult in the United States" experiences 'flow' at work "three times (54%) as often as in free time (17%)", and during the experience of flow feels "very significantly more happy, strong, satisfied, creative, and concentrated"¹². Blaxter's study found that for women who defined health in terms of energy they described it in a similar way as "'feeling like conquering the world', 'being keen and interested', 'lots of get up and go'" and "'properly alive'"¹³. At times of absorbing interest, when physical, social and mental capacities are able to meet the challenge, people are said to be able to resist disease and seem impervious to many problems and difficulties that beset them.

Fragments of other empirical research point in the same direction. When Pybus and Thomson asked 444 New Zealanders in 1979 what, in their experience, was being well the answers included replies like being 'able to do

¹⁰ Hersey J. Time's winged chariot. In: Fadiman C, editor. *Living philosophies: The reflections of some eminent men and women of our time*. New York: Doubleday, 1990.

¹¹ Csikszentmihalyi M. *Flow: The psychology of optimal experience*. New York: Harper and Row, 1990.

¹² Csikszentmihalyi M. Activity and happiness: Towards a science of occupation. *Journal of occupational science: Australia*. 1993; 1(1): 38-42.

See also: Csikszentmihalyi M, LeFevre J. Optimal experience in work and leisure. *Journal of personality and social psychology*. 1989; 56 (58): 5-22.

¹³ Blaxter M. *Health and lifestyles*...p.26.

what I want to and enjoy it' and 'energy and interest', as well as 'being full of life' and 'feeling alive' and 'vital', with 'energy for things extra'¹⁴. An Adelaide survey of seven convenience cluster samples selected from high school students, an elderly citizens village, family units, a suburban neighbourhood, the city shopping centre, churchgoers, and fourth year occupational therapy students, which asked subjects to define their concept of well-being, how it felt to them and how often they experienced the feeling, discovered that the three most common responses related to having a sound mind, a healthy body and being happy. Ninety-five percent of 138 respondents agreed they had experienced a feeling they would describe as well-being, with fifty percent admitting they experienced this feeling frequently. Fifty-two percent described the feeling associated with well-being as happiness, thirty-five percent with peace, and twenty-two percent with confidence. Subjects were asked with what situation or environment they associated a feeling of well-being, and of the two most common responses, fifty-six percent concerned relationships, and thirty-seven percent surroundings. The majority of subjects were female, single, fit and young which may well have given a particular cast to the responses. Details of the study will be found in appendix I. In other studies well-being has been related to social supports, community cohesion, marital state, education and religious attitudes, beliefs and activities¹⁵.

In order to explore positive health and well-being in more depth physical, mental and social well-being need to be considered separately, and linked to

¹⁴ Pybus MW, Thomson MC. Health awareness and health actions of parents. ANZERCH/APHA Conference, 1979. In: Boddy J, editor. *Health : Perspectives and practices*. New Zealand: The Dunmore Press, 1985.

¹⁵ Cohen P, et al. Community stressors, mediating conditions and wellbeing in urban neighborhoods... ; McConatha JT. McConatha D. An instrument to measure self-responsibility for wellness in older adults. *Educational gerontology* 1985; 11: 295-308; Argyle M. *The psychology of happiness...*; Koenig H, et al. Religion and well-being in later life...; Burckhardt C, et al. Quality of life of adults with chronic illness: A psychometric study...; Homel R, Burns A. Environmental quality and the well-being of children. *Social indicators research* 1989; 21: 133-158.

engagement in occupation. Physical well-being is, perhaps, the aspect of health which has received most attention, and is the easiest to understand. The experience of physical well-being is often recognised when body function is challenged beyond the norm, and the challenge is met, such as the relaxing after-effects of exercise. Indeed, Maslow suggests that muscular people have to use their muscles to "feel good" and to achieve the subjective feeling of harmonious, successful, uninhibited functioning¹⁶. According to Blaxter, young people, and men in particular, associate health with physical fitness, with strength, energy and athletic prowess and, in line with this, identify sportsmen as their idea of health in others. Women tend to relate physical fitness and energy in terms of outward appearance and work related activity rather than sports or particular leisure pursuits¹⁷. Small scale studies carried out with students in Adelaide tend to confirm that young people view physical fitness and well-being as synonymous but that there are differences in how men or women perceive physical fitness, often in accord with how health and well-being are reported in the media¹⁸.

Popular media regularly encourage people to experience well-being and health by physical means such as exercise and diet. The results of medical research, aimed mainly at physical well-being, are reported in Australia in abbreviated form in popular magazines such as 'Well-being' and 'Women's Weekly', in medical columns of newspapers, on radio and television, and form much of the foundation for the current interest in the pursuit of health. The number of joggers or aerobic devotees are testament to the effectiveness of this type of promotion to the extent that 'Health', in this popularized sense, has become a marketable product over recent years, with health farms, foods,

¹⁶ Maslow AH. *Toward a psychology of being*. 2nd ed. New York: D Van Nostrand Company, 1968, pp. 201.

¹⁷ Blaxter M. *Health and lifestyles*...pp.24-26.

¹⁸ Wilcock AA. Research carried out as part of student learning about the relationship between occupation and health. University of South Australia, 1991-1995.

centres and shops springing up throughout metropolitan areas. For example, listings of health and fitness centres in the Adelaide *Yellow Pages* increased by 50% in a decade, from 81 in 1983 to 120 in the 1993 directory. In 1983 there were only 103 health food manufacturers / wholesalers / retailers listings, compared with 189 in 1993. The apparent rise of interest in feeling well along with defeating disease has also been associated with a growth of alternative health services for those unhappy with the solutions provided by conventional medicine. No 'alternative health services' (so described) were listed in the 1983 directory compared with 59 in 1993, and the listings of a group of different services including acupuncture, herbalism, homeopathy, naturopathy, massage, and relaxation therapy grew in the 10 years from 379 to 600.

In some ways, such interest could be seen as resurgent rather than novel as earlier societies have also perceived benefits of physical fitness. For example, in the first half of the 20th Century initiatives were taken in several countries to encourage and almost glorify health and fitness. These initiatives in the most part had patriotic national flavours and are most typified by the Nazi youth movement in Germany. In Australia less fervent programs towards a healthy and strong white race were advocated by progressives such as Cumpston, Elkington, and Cilento¹⁹. Powles describes those early decades of this century as the 'national' period in the public hygiene movement in Australia when physical fitness, eugenics, efficiency, vitality and race purity were focal values²⁰.

¹⁹Roe M. *Nine Australian progressives: Vitalism in bourgeois social thought 1890 - 1960*. University of Queensland Press, 1984; Cilento R. *Blueprint for the health of a Nation*. Sydney: Scotow Press, 1944.

²⁰Powles J. Professional hygienists and the health of the nation. Chapter 13. In: Macleod J, editor. *The commonwealth of science*. Melbourne: Oxford University Press, 1988.

In contrast to those 'national' and 'physical' themes, present views are based to some extent on more holistic notions influenced by traditional Asian philosophies, and associated with increasing acknowledgement that physical well being is related to spiritual, social and behavioural factors, such as where and how people live and what they believe, their self care practices, the amounts and types of activity they pursue, and a balance between rest and work, 'being' and 'doing'²¹. Subsequently, it is being recognised that physical well-being, achieved through use of physical capacities, has an effect on general-well-being, for example, mental functioning benefits through increased blood supply to the brain and aerobic power and social interactions benefit through shared activity²². Examples of such recognition are provided by a review of the relationship between physical training and mental health in which Folkins and Syme found evidence of a positive relationship between exercise, well-being, self concept and work ability²³, by Chamove's study, which found that moderate physical exercise by people with psychiatric disorders decreased their depression, anxiety, disruptive and psychotic behaviour, increased self-concept and social well-being, and aided sleep and relaxation²⁴, by Morgan's suggestion that non-specific aspects of exercise such as social contact may be instrumental in improved mental health and well-being²⁵ and by Oliver's report that improved play and social interaction are benefits of physical education activity along with growth, fitness, agility and coordination²⁶.

²¹ Hetzel BS, Mc Michael T. *L S factor: Lifestyle and health*. Ringwood, Victoria: Penguin, 1987.

²² Sydney KH, Shephard RJ. Activity patterns of elderly men and women. *Journal of gerontology* 1977; 32 (1): 25-32; Also see: Kirchman MM. The preventive role of activity: Myth or reality - A review of the literature. *Physical and occupational therapy in geriatrics* 1983; 2(4): 39-47.

²³ Folkins CH, Syme WE. Physical fitness training and mental health. *American psychologist* 1981; 36: 373-389.

²⁴ Chamove A. Exercise improves behaviour: A rationale for occupational therapy. *British journal of occupational therapy*. 1986; 49: 83-86.

²⁵ Morgan WP. Psychological effects of exercise. *Behavioral medicine update* 1982; 4: 25-30.

²⁶ Oliver J. Physical activity and the psychological development of the handicapped. In: Kane J, editor. *Psychological aspects of physical education and sport*. London: Routledge & Kegan Paul, 1972, pp.187-204.

The theory of human nature which I am developing in this thesis leads me to propose that people need to make use of their physical capacities to enjoy physical well-being; that this can be through engagement in individually motivating and ongoing occupations. If they are able, or encouraged, to pursue self chosen occupations, as well as those that are obligatory, to enhance their physical capabilities, they will enhance their health, apart from supplying sustenance for survival and safety: "the best sort of exercise in terms of retaining one's powers is the kind you don't call 'exercise'...the best exercise is work"²⁷. Indeed, studies have demonstrated that older people who lead active lives following a wide range of occupations tend to feel better and to require less medical attention than isolated and sedentary elderly people²⁸. The total range of an individual's purposeful and fulfilling occupations can provide sufficient exercise to maintain homeostasis, and to keep body parts functioning at peak efficiency. For example, occupations can maintain and enhance joint stability and range, muscle tone, cardiovascular fitness and respiratory capacity. A range of occupations can provide balance between physical challenges and relaxation which prevent over-use, and allow time for repair. When people are able to experience occupational well-being, in a physical sense, they will be able to carry out activities they need or wish to do without undue consideration of body functioning, and their physical status will enable effective utilisation of mental and social capacities.

This leads to consideration of mental well-being which, in this theory, alludes to spiritual as well as cognitive and affective factors. Blaxter found that psychological 'fitness' (well-being) was a popular concept of health across all the age groups, and for both men and women when they described health for themselves rather than for others. Whilst it tended to be used more by

²⁷ Comfort A. *A good age*. Melbourne: MacMillan Co Pty Ltd, 1977, p.82.

²⁸ Corbin HD. Brighter vistas for senior citizens: Salient thoughts. *Journal of physical education and recreation* 1977; October: 52-53.

women and those with 'better' education, "'health is a state of mind' or 'health is a mental thing more than physical' were common statements"²⁹. For a comparison between responses of subjects from her study, concerning physical fitness and psychological fitness see table 5.1.

	Males			Females		
	18-39	40-59	60+	18-39	40-59	60+
Age						
Physical fitness,energy	39%	27%	12%	41%	32%	16%
Psychological fitness	31%	40%	36%	48%	52%	44%

Table 5.1: Comparison of concepts of 'physical fitness' and 'psychological fitness' for describing what it is to be healthy oneself . N= 9,000 = 100%.³⁰

The National Mental Health Association of America describes mentally healthy people as those who:

"Feel comfortable about themselves...are not overwhelmed by their own emotions...can accept many of life's disappointments in their stride...experience all of the human emotions (eg. fear, anger, love, jealousy, guilt, joy) but are not incapacitated by them. Feel right about other people...are comfortable with others...are able to give and receive love...are concerned about the interests of other people and have relationships that are satisfying and lasting. Are able to meet the demands of life...respond to their problems, accept responsibility, plan ahead without fear of the future, and are able to establish realistic goals"³¹

Mental health is described in these or similar terms in many popular texts addressing healthy living, including, *The Good Health Guide*³², *Health through Discovery*³³ and *Understanding Your Health*³⁴. The popular texts

²⁹ Blaxter M. *Health and lifestyles*...p.29.

³⁰ Table 5.1 compiled from data contained in Table 3.2 Blaxter M. *Health and lifestyles*...p.18.

³¹ Payne WA, Hahn DB. *Understanding your health*. 4th ed. St Louis: Mosby , 1995, p.26.

³² The Open University in association with the Health Education Council and the Scottish Health Education Unit. *The good health guide*. London: Pan Books, 1980.

³³ Dintiman GB, Greenberg JS. *Health through discovery*. 3rd ed. New York: Random House, 1986.

³⁴ Payne WA, Hahn DB. *Understanding Your Health...*

usually refer to the well-working and coping ability of both emotional and intellectual capacities, and sometimes include spiritual capacities, all of which, in combination, enable individuals to find meaning in their lives, interact effectively with others, be reflective, process and act on information, solve problems, develop skills for making decisions, clarify values and beliefs, cope with stress, and be flexible and adaptable to changes in life circumstances and demands. According to this conception, whilst these varied capacities may not amount to 'well-being' in themselves, and the need to use them differs between people and at different life stages, they are seen as prerequisites to the experience of well-being³⁵. They are also capacities, integral to engagement in occupation. If individuals are under or over stressed in the use of emotional, intellectual or spiritual capacities because of physiological, environmental or social factors, or because of occupational deprivation, alienation or imbalance, health and well-being may be undermined³⁶. From Antonovsky's theory linking health with a 'sense of coherence' comes the idea that one difference between who stay well and who do not is an individual's level of coping within their 'own boundaries'. These boundaries, which enclose what is most important to each individual, may be narrow for some and broad for others. That is, "one need not necessarily feel that all of life is highly comprehensible, manageable, and meaningful in order to have a strong 'sense of coherence'", but those with this sense will be better able to cope and to experience 'behavioral immunology', and to experience mental well-being³⁷.

³⁵ Kanner AD, Coyne JC, Schaefer C, Lazarus RS. Comparison of two modes of stress management: Daily hassles and uplifts versus life events. *Journal of behavioral medicine* 1981; 4: 1-39.

³⁶ See for example: Holmes T, Rahe R. Schedule of recent events and social readjustment rating scales; Lazarus RS, Launier R. Stress related transactions between person and environment. Chapters in: Pervin LA, Lewis M, editors. *Perspectives in interactional psychology*. New York: Plenum 1978.

³⁷ Antonovsky defines a 'sense of coherence' as:
"a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicit; (2) the resources

Some psychologists have pursued the study of mental well-being particularly, focussing on specific attributes, and measuring satisfaction in various aspects of life³⁸. Social psychologists - Strack, Argyle and Schartz, for example - equate the concept of mental well-being with happiness³⁹. Maslow, whose work based on the study of people he considered mentally healthy has already been noted, is discussed in most books addressing the subject of mental well-being. He regards it as 'full humanness', which he describes as the highest level of personal development enabling individuals to recognise their potentials and life-roles, and to fully utilise their personal strengths, without selfishness⁴⁰. Maslow stands in a tradition of humanist psychology, based on existentialism⁴¹, which extends from Burnham's 'wholesome personality'⁴², through Fromm's 'productive character'⁴³, to Rogers descriptions of the 'fully functioning person'⁴⁴. This humanist tradition can be said to stem from the 'mental hygiene movement', founded in America in 1909, which was influential in the growth and development of mental health services of the first half of the century, including the birth of occupational therapy. The rhetoric of this approach became "equated with productiveness,

are available to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement".

Antonovsky A. The sense of coherence as a determinant of health. In: Matarazzo JD, Weiss SM, Herd JA, Miller NE, Weiss SM, editors. *Behavioral health. A handbook of health enhancement and disease prevention*. New York: John Wiley and Sons, 1990, pp.117, 119. See also: White RW. Sense of interpersonal competence: Two case studies and some reflections on origins. In White RW, editor. *The study of lives*. Chicago: Aldine, 1963; Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological review* 1977; 84: 191-215; Kobasa SC, Maddi SR, Courington S. Personality and constitution as mediators in the stress-illness relationship. *Journal of health and social behavior* 1981; 22: 368-378.

³⁸See for example: Bradburn NM. *The structure of psychological well-being*. Chicago: Aldine, 1969; Andrews FM, Withey SB. *Social indicators of well-being*. New York: Plenum Press, 1976; Diener E. Subjective well-being. *Psychological bulletin* 1984; 95: 542-575.

³⁹Strack F, Argyle M, Schartz N, editors. *Subjective well-being: an interdisciplinary perspective*. Oxford: Pergamon Press, 1991.

⁴⁰Maslow A. *The farther reaches of human nature*. Viking Press, 1971.

⁴¹Bullock A. *The humanist tradition in the West*. London and New York: Norton, 1985.

⁴²Burnham WH. *The wholesome personality*. New York: Appleton-Century, 1932.

⁴³Fromm E. *Man for himself*. New York: Holt, Rinehart & Winston, 1947.

⁴⁴Rogers C. *On becoming a person*. Boston: Houghton Mifflin, 1961.

social adjustment, and contentment - 'the good life' itself⁴⁵. In turn the 'mental hygiene movement' can be seen to uphold the Renaissance tradition of human achievement, and the ideals of the 'age of enlightenment'. However, humanist approaches have not, in a real sense, sought to integrate their perspective of mental well-being with physical and social well-being. Taken to extremes, that is, considering "achievement of one's goals" as the criterion for health is as focussed and narrow as a bio-mechanical approach to health which only considers physical factors. Despite this criticism Boddy, a nurse educator, commends the approach as being "one of the few models which acknowledges the individuality of people and their creativity in defining their goals"⁴⁶. The central concept of these approaches, that well-being depends upon the meeting of individual potential is also central to the theory of humans as occupational beings.

Occupationally, mental well-being embraces the belief that the potential range of individuals' occupations will allow each of them to be creative and adventurous as they experience all human emotions, explore and adapt appropriately, and without undue disruption meet their life needs. If mental well-being is to be attained, occupations need to provide self esteem, motivation, socialisation, meaning and purpose as well as sufficient intellectual challenge to stimulate neuronal physiology, and encourage efficient or enhanced problem solving, sensory integration, perception, attention, concentration, reflection, language and memory⁴⁷. Additionally, a balance of occupations between intellectual challenges, spiritual experiences, emotional highs and lows, and relaxation is required. This does not imply

⁴⁵ Ingleby D. Mental health. In: Kuper A, Kuper J, editors. *The social science encyclopedia*. London & New York: Routledge, 1985.

⁴⁶ Boddy J, editor. *Health : Perspectives and practices*...p.48.

⁴⁷ See, for example: Lilley J, Jackson L. The value of activities: Establishing a foundation for cost effectiveness. A review of the literature. *Activities, adaptation and ageing* 1990; 14 (4): 12-13; Foster P. Activities: A necessity for total health care of the long term care resident. *Activities, adaptation and ageing* 1983; 3(3): 17-23.

constant high powered mental 'doing' or 'feeling', rather than this should be interwoven with time for simply 'being' or 'becoming'⁴⁸. Mental well-being will be enhanced if people choose their occupations so that they are able to develop spiritual, cognitive and emotive capacities, to experience timelessness and 'higher-order meaning'⁴⁹, and to adjust their activities to achieve a balanced combination of mental, physical and social use.

Many of the characteristics of mental well-being include aspects of social interactions and relationships which leads naturally to the consideration of social well-being. Nutbeam suggests that well-being in its entirety belongs within the broad context of the social model of health as he considers its focus is on "social integration", "social support" and "social coherence for belonging"⁵⁰. This suggests that physical and mental well-being are dependent on the co-existence of social well-being⁵¹. Social well-being is usually described as resulting from satisfying interpersonal relationships, which depend on the ability to interact happily and effectively with people, within cultural and social parameters, without fear to challenge or develop ideas deemed of benefit to society. Social ease is acquired, and often associated with, socially sanctioned (moral) and respected occupational behaviour.

The previous chapter showed that throughout time, people have displayed a need to be part of a co-operative social group. Some theorists even argue that there is a correlation between the size of the neocortex and the size of social groups amongst primates, humans having the largest brain relative to size, and the largest and most complex societies⁵². It is, therefore, hardly

⁴⁸ do Rozario L. Ritual, meaning and transcendence: The role of occupation in modern life. *Journal of occupational science: Australia* 1994; 1(3): 46-53.

⁴⁹ Rappaport R. *Ecology, meaning, and religion*. Richmond: North Atlantic Books, 1979.

⁵⁰ Nutbeam D. *Health promotion*...p.126.

⁵¹ See, for example: Kirkpatrick R, Trew K. Lifestyle and psychological well-being among unemployed men in Northern Ireland. *Journal of occupational psychology* 1985; 58: 207-216.

⁵² Dunbar R. Why gossip is good for you. *New Scientist*, 21st November, 1992; Vol.136, No. 1848: 28-31.

surprising that reports of well-being are often associated with social interactions. Some empirical research supports this association. For example, Argyle's study of the psychology of happiness reports several social factors which have been linked with health. He found that relationships, such as marriage and other close, confiding and supportive relationships enhance health by both preserving the immune system and encouraging good health habits⁵³. He also reports that socially valued activities, including paid employment (if it is satisfying) and 'religion' appear to have a positive correlation with both health and happiness. Blaxter's findings also support this view, in that "not only socio-economic circumstances and the external environment, but also the individual's psycho-social environment - carry rather more weight, as determinants of health, than healthy or unhealthy behaviours"⁵⁴

From the occupational perspective held here, social well-being occurs when the range of each individual's occupations and roles enables maintenance and development of satisfying and stimulating social relationships between family members, with associates and within the community in which they live, and when engagement in occupation is balanced between social situations and time for quiet and reflection. Occupations which will have most obvious effects on health are those which are socially sanctioned, approved and valued, even if only by a sub-culture with which people choose to associate, and which endows individuals with social status enabling them freedom to effectively utilise physical and mental capacities in combination with social activity⁵⁵. Doyal and Gough go so far as to suggest that "to be denied the capacity for potentially successful social participation is to be

53 Argyle M. *The psychology of happiness...*

54 Blaxter M. *Health and lifestyles...* p.233.

55 See for example; Maguire G. An exploratory study of the relationship of valued activities to the life satisfaction of elderly persons. *Occupational therapy journal of research* 1983; 3: 164-171.

denied one's humanity"⁵⁶. Social well-being will be enhanced if people are able to develop their potential through practice in a range of socially valued occupations and to balance their social health needs because of increased awareness of the relationship of social activity and health.

With these ideas in mind it becomes necessary to ask if health and well-being is possible despite some incapacity. One obvious answer is that, because no two individuals will possess the same range of capacities, nor have the same experiences which impact upon their growth, in a sense, anyone can be seen as incapacitated to some extent. Some people can sing, others are tone deaf; some are athletic, others are clumsy. Such capacities endowed from birth, or the lack of them, are generally accepted as within the normal range of human differences, yet when these relate to a fundamental capacity, such as bipedalism, vision, intellect, or fluid movement, or when such capacity is lost in later life, individuals so afflicted are described by others as incapacitated or disabled and are frequently classified as unhealthy.

This thesis argues that people can experience health and well-being without use of all possible capacities, and that this is the norm. The arguments already cited concerning individual differences provide empirical evidence of the truth of this claim. At a 1991 seminar on stroke, held in New Zealand, opinions about the potential for people to experience health and well-being following stroke were canvassed. Most of those who had had a stroke, and their relatives and carers, agreed it is possible for people following stroke, with subsequent loss of capacity, to experience health and well-being, but not all health workers agreed. In fact during the seminar one physician expressed very vehemently his opinion that any person with hemiplegia could not be considered healthy⁵⁷.

⁵⁶Doyal L, Gough I. *A theory of human need*. Hounds Mills, Hampshire: MacMillan, 1991, p.184.

⁵⁷Wilcock AA. Workshop: *Holistic Health Care, Occupational Therapy and Stroke*. Seminar on Stroke, National Heart Foundation, Auckland, New Zealand: November 1991.

Physical, mental and social well-being, cannot easily be separated. They are part of an integrated system which warns, maintains and rewards through people's awareness of how they feel. This will be discussed in greater detail later in the chapter. Yet much of our health care system focusses on one or other aspect of these, usually according to which one is seen as dysfunctional; which one is diseased. This has led to recent health and wellness initiatives concentrating on particular aspects of fitness for their own sake, and failing to make use of the potential health-giving properties to be found in every day engagement in life's occupations. Contrasting markedly with initiatives of that type, occupational therapists have focussed to a great extent on the integration of physiological, psychological and social well-being, 'doing' and brain/body functioning⁵⁸. Similar integrative notions of health have been the subject of study from a variety of perspectives, but despite popular and scientific interest, neither these nor occupational therapists' concepts have been well integrated into mainstream health care practices⁵⁹.

One of the similar concepts, proposed by Ornstein and Sobel, that the principle function of the human brain is to maintain health, was introduced in chapter two. They claim that their view, which appears more logical than some of the lofty purposes attributed to the brain by those seeking to differentiate humans from their animal heritage, has largely "escaped the attention of the mainstream of medical practice and psychological thought". Medicine, they suggest, has largely regarded "the body as a mindless machine" and psychology has been restricted by "a view that the main purpose of the

⁵⁸ A survey of 15 South Australian occupational therapists, regarding the relationship between occupation and health, illustrates this integrative focus (see appendix II).

⁵⁹ See, for example: Rosi EL. *The psychobiology of mind-body healing*. New York: W.W. Norton & Company, Inc., 1986; Pert C. The wisdom of receptors: Neuropeptides, the emotions, and bodymind. *Advances* 1986; 3(3): 8-16; Dossey B. The psychophysiology of bodymind healing. In: Dossey B. et al. *Holistic health promotion: A guide for practice*. Rockville: Aspen publishers, 1989; Emeth EV, Greenhut JH. *The wholeness handbook: Care of body, mind and spirit for optimal health*. New York: The Continuum Publishing company, 1991; Pelletier KR. *Sound mind, sound body*. New York: Simon and Schuster, 1994.

human brain was to produce rational thought. Never mind that the...neuron [does] not for the most part, serve thought or reason" ⁶⁰. This idea is a recent contribution to the study of the mind which has occupied the attention of philosophers, psychologists, medical scientists and many others, probably for as long as humans have had the capacity for abstract thought. A brief diversion to review the changing concepts held about the mind is warranted to illustrate how concepts of health and well-being can change according to dominant views of societies, and how occupational development influences concept formation.

Mind is derived from the old German word "gamundi' meaning to think, remember, intend", but in Classical Greece the concept of mind was interwoven with concepts about the soul and spirit⁶¹ with Plato, for example proposing that the "mind is the attribute of the gods and of very few men", and that it is "separate and independent of the body"⁶². Aristotle, however, viewed the soul as inseparable from the body, and "the mind...(the thinking soul)...an independent substance implanted within the soul...incapable of being destroyed"⁶³. The evolution of the ideas about the relationship between body, brain, soul and mind tends to reflect the occupational contexts of the age in which they were made. It is possible to speculate that an holistic view of the relationship was held by early humans who, because of their close relationship with the land and other living things, did not seek to distinguish special characteristics of the species. Rose argues that in medieval times in a world in which it was believed "the stars and planets were fixed to revolving glass spheres drawn by angel power, the body was the natural home of the

⁶⁰ Ornstein R, Sobel D. *The healing brain: a radical new approach to health care*. London: MacMillan, 1988, p.11.

⁶¹ Valentine ER. Mind. In: *The social science encyclopedia*.

⁶² Plato. 'Timaeus'(51d) and 'Phaedrus' (67a) In: Hamilton E, Cairns H, editors. *The collected dialogues of Plato*. New York: Pantheon Books, 1961.

⁶³ Aristotle (413 a 4) and (408 b 18). In: Barnes J, editor. *The complete works of Aristotle*. Revised Oxford translation. UK.: Princeton University Press, 1984, pp.651, 658.

soul and there was no incompatibility between them". Following discoveries which demystified the universe, such as those of Copernicus, Galileo and Newton, Descartes reconciled his own mechanistic view with Catholic rhetoric. He separated the soul or mind (which he placed in the pineal gland) from the body and brain (which he viewed as operating as a "sort of hydraulic system") proposing that, theoretically, minds and souls can exist apart from the body, and can withstand its corruption and death⁶⁴. This Cartesian dualism has dominated ideas throughout the recent evolution of explanations of the relationships between body, brain, soul and mind⁶⁵. These explanations have been progressively expressed in terms of clockwork models, electrical and magnetic models, phrenology, telephone and factory management models to cybernetic and computer based models⁶⁶. Although integrated systems theories predominate today the effects of dualism remain with disorders of mind and body being treated by different medical specialists in different locations, and the alleviation of social and ecological disorders being the province of totally separate agencies. Dualism is contrary to the holistic notion of health and occupation resulting from all parts of brain and body working in harmony with the environment.

From the holistic point of view of my theory the previous division of physical, mental and social well-being was for the purpose of discussion only. So too is the fact that well-being was considered only from an individualistic perspective. Within capitalist societies it is easy to disregard broader concepts of health which relate to families, communities, and to the ecology. Some other societies, such as the Australian aborigines, place more value on kin and community than individuality. This value is reflected in the way in

⁶⁴ Rose S. *The conscious brain*. revised ed. Harmondsworth: Penguin Books, 1976.p.39.

⁶⁵ Descartes R. *Discourse on the method of rightly conducting the reason*, IV., 1637.Translated with Introduction by Lafleur LJ. New York: The Liberal Arts Press, 1954.

⁶⁶ Rose S. *The conscious brain*...

which the Australian Aboriginal Health Organisation defines health as referring to:

*the social, emotional, spiritual and cultural well being of the whole community. Health services should strive to achieve that state where every individual can achieve their full potential as human beings (aboriginals) and thus bring about total well being of their community as a whole*⁶⁷.

This might remind people from cultures dominated by individualistic values that such values are closely associated with materialism and are fairly recent⁶⁸. Communities were originally a source of protection and succour to individuals, and were small enough to reflect their basic needs but, because of their protective function, the good of 'tribe' was seen as of more importance than individual survival. In societies in which individual goals and needs have assumed dominance over communal need people commonly talk, with some degree of regret, about loss of community spirit, yet still seek to influence the way of life of other existing cultures who hold to community and extended family values much more in tune with the ecology. Indeed, people from post-industrial societies are so imbued with the values of material and technological, economic growth, and have given such "prominence to our separate nature that we have become alienated from the most fundamental truth of our nature, our spiritual oneness with the living universe", and our dependence on maintaining it's physical health⁶⁹

My occupational view of health encompasses the relationship between all life from cellular to global factors, from biological to socio-cultural, and microscopic to macroscopic levels. For example, human occupational

⁶⁷ Agius T. Aboriginal health in Aboriginal hands. In: Fuller J, Barclay J, Zollo J, editors. *Multicultural health care in South Australia*. Conference proceedings Adelaide: Painters Prints, 1993, p.23.

⁶⁸ Lukes S. *Individualism*. Oxford: Basil Blackwell, 1973.

⁶⁹ The Asian NGO Coalition, IRED Asia, The people centred development forum. *Economy, ecology and spirituality: Toward a theory and practice of sustainability*. 1993; Potter VR. Bioethics, the science of survival. *Biology and medicine* 1970; 14: 127-153.

behavior affects health and well-being on an individual basis through the integrative systems of the organism; on a social level through shared activity, the continuous growth of occupational technology and socio-political activity; and on a global level through occupational development affecting the natural resources and eco systems. Any or all of these can have negative or positive effects on health, and all are inextricably linked. This implies that practitioners focussing on promoting the health giving relationship of occupation cannot do so only at an individual level. All levels have to be considered or explored by focussing on education, behavioural, social and environmental issues.

Widening the idea of health to include individual, community and ecological well-being brings theories such as 'holism' and 'general systems theory' into consideration. 'Holism', from the greek 'holos' meaning whole, was first used by Smuts in 1928 to describe philosophies which considered whole systems rather than parts of systems (reductionism)⁷⁰. He observed "a basic tendency of nature and evolution to produce novel, irreducible wholes", and that living systems are more than the sum of their parts⁷¹. Also subscribing to this view, Bertalanffy, who sought to discover general patterns, trends and structures in natural, social and technological systems, developed 'general systems theory'⁷² which proved to be "a major source of impetus towards a more holistic approach" in the biological sciences and health care, including occupational therapy⁷³. The view that people are more than a

⁷⁰ Jan Christiaan Smuts (1870-1950) was a South African politician and military leader with anti-republican, anti-racist ideals, who helped found the United Nations. Between 1924 and 1933 when he was out of office he elaborated on his philosophy of holism and published *Holism and evolution* in 1928. (Smuts JC. *Holism and evolution*. London: MacMillan & Co. Ltd., 1926.) For Smut's place in the history of holistic thinking about ecology see Golley FB. *A history of the eco system concept in ecology: More than the sum of the parts*. New Haven: Yale University Press, 1993, chapter 2.

⁷¹ Kopelman L, Moskop J. The holistic health movement: A survey and critique. *Journal of medicine and philosophy*. 1981; 6(2): 209-35, p 221.

⁷² Bertalanffy L von. *Problems of life*. New York: Wiley, 1952.

⁷³ Wilkinson P. General systems theory. In: Bullock A, Stalleybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*. 2nd ed. London: Fontana Press, 1988.

collection of cells, tissues and organ systems encourages the study of health based on the integrated nature of human beings as part of their socio-cultural and natural environment and draws on systems theory for its explanations⁷⁴. In some ways this may be considered a return to older values when it is appreciated that the word 'health' is derived from the old English 'haelth' from 'hal' meaning whole⁷⁵. Current dictionaries give 'wholeness' as one of the synonyms of health⁷⁶, so that the need to talk about holistic health is perhaps evidence of the term 'health' having come to mean "something less than wholeness"⁷⁷. The concentration on reductionist research in the twentieth century has, however, provided evidence which has enabled people to recognise the holistic nature of living systems.

Although holism was first mooted, in this century, in the nineteen twenties, it did not gain prominence in the health debate until interest in alternative lifestyles and approaches to improve health and quality of life escalated from the early 1960's in many parts of the world. Many of those adopting alternative lifestyles rejected, to some extent, western cultures in favour of eastern philosophies and religions, particularly those such as Hinduism which embodies 'oneness with the universe'⁷⁸. However, holistic health labels have been applied to many approaches and disciplines, from which Kopelman and Moskop, have identified five major common characteristics⁷⁹. They are: health being viewed from a positive perspective; the use of natural rather than invasive or high technology solutions in the management of ill-health; self responsibility for health, rather than professional responsibility which should focus on health education; and

⁷⁴ Pietroni PC. Holistic medicine. In: *The Fontana dictionary of modern thought...*

⁷⁵ Funk & Wagnall's Standard Desk Dictionary. Harper and Row Publishers Inc. 1984, Volume 1: p.296.

⁷⁶ The Australian Concise Oxford Dictionary of Current English, 1987

⁷⁷ Boddy J, editor. *Health: Perspectives and practices...* p.113.

⁷⁸ Boddy J, editor. *Health: Perspectives and practices...*

⁷⁹ Kopelman L, Moskop J. The holistic health movement: A survey and critique. *Journal of medicine and philosophy*, 1981; 6(2): 209-35.

change of emphasis within health services towards behavioural, social and environmental issues. These characteristics, which are also central to my occupational view of health, do not appear to differ in any great degree to ideas central in the Ottawa Charter for Health Promotion. This states that "health is a positive concept", that "health promotion supports personal and social development through providing information, education for health and enhancing life skills" to enable people to "keep themselves, their families and friends healthy", and that health services should be reoriented "towards the promotion of health"⁸⁰. Perhaps the similarities are merely figures of speech, as it can be argued that few health services or resource allocations for health purposes have been shifted in an holistic direction. The rhetoric may, in fact, be being used by health authorities to counter the criticisms leveled at the pragmatic technological approach of medical scientists. Lack of action in reorienting services towards holistic approaches may be due, in part, to the lack of empirical research supporting their benefits, or because of the impossibility of comprehending the whole of the biological mechanism, even if all its elements were known⁸¹. Boddy suggests that exponents of holism have failed to justify much of its logic, and need to take a more critical approach, similar to that expected of western medical science. Within the 'holistic health' movement there is a common, unwritten assumption that health defined in holistic terms is good per se. She argues that if health is regarded as a "sufficient goal in its own right, (and as) the highest good rather than a means to achievement of some other higher good", then the active pursuit of health should be the primary goal of us all. Such a direction could be as limiting as a 'bio-mechanical', or an 'achievement of goals' model of health⁸².

⁸⁰ World Health Organization, Health and Welfare Canada, Canadian Public Health Association. *Ottawa Charter for Health Promotion*. Ottawa, Canada, 1986.

⁸¹ Potter VR. Bioethics, the science of survival...

⁸² Boddy J, editor. *Health: Perspectives and Practices*...p.116.

It is important to consider further the Ottawa Charter for Health Promotion because this document is a primary source of contemporary health promotion directions. The Charter was developed and adopted by delegates from, mainly, post-industrial societies, representing 38 countries at the first international conference on health promotion jointly organised by Canadian and World Health Organisations. It proposes that action is required in five major directions - building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services beyond the provision of clinical and curative services towards the pursuit of health.

The Charter, which can be seen as developing the World Health Organisation definition and the ideas embodied in the Declaration of Alma Ata⁸³, has been influenced by the concepts and views propounded by social health activists of the last twenty years. The Charter is holistic in its intent as it recognises "the inextricable links between people and their environment [which] constitute the basis for a socio-ecological approach to health." It argues for "the conservation of natural resources throughout the world...the need to encourage reciprocal maintenance, to take care of each other, our communities and our natural environment...[so] that the society one lives in creates conditions that allow the attainment of health by all its members." It also calls for a commitment to "address the overall ecological issue of our way of living" and to "counteract the pressures towards harmful products, resource depletion, unhealthy living conditions and environments." In acknowledging that urgent consideration needs to be given to factors detrimental to the natural and social environment, the Charter can be seen to recognise the adverse results of many current occupational structures and technology. However, it also recognises the benefits of occupation. Although

⁸³ World Health Organisation. *Primary Health Care*. Report of the International Conference on Primary Health Care, Alma-Ata, USSR., 1978.

not formally acknowledged within the document, its 'occupational' emphasis recognises that what people do affects their health. Health, it is stated, "cannot be separated from other goals" because it "is created and lived by people within the settings of their everyday life; where they learn, work, play and love". The Charter encourages communities and individuals to participate actively in life by the prescription that:

*to reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment*⁸⁴

This encapsulates, in large measure, a theme central to the argument of this chapter, that there are primary links between health and occupation; that occupation is the fundamental mechanism by which people realise aspirations, satisfy needs and cope with the environment; and that engagement in occupation to meet needs and aspirations provides the mechanism for the maintenance and growth of physical, mental and social capacities. These are central to health. To utilise this mechanism effectively humans need to develop or maintain natural and social environments in which the species will be able to sustain life and which provide sufficient challenge to exercise individual's capacities and community potential. By this means individuals and the species will flourish as an integrated part of the ecology.

Following this review of ideas about health and well-being, holism, and W.H.O. directives towards health promotion from an occupational point of view, it is possible to summarize what is meant by 'health' in this thesis as:

- the absence of illness, but not necessarily disability
- a balance of physical, mental and social well-being attained through socially valued and individually meaningful occupation

⁸⁴Ottawa Charter for Health Promotion.

- enhancement of capacities and opportunity to strive for individual potential
- community cohesion and opportunity
- social integration, support and justice "
- all within, and as part of, a sustainable ecology

Having established what I mean by health, the next section of this chapter explores, from this conception, the occupational behaviours of hunter-gatherers and views about the health enhancing consequences of natural lifestyles. It does so in the belief that the basic biological health mechanisms of early humans will have been largely unaffected by culturally acquired knowledge, values and behaviour, and that examination of their health will sustain the view that engagement in 'naturally' driven occupation can be health promoting. This will be considered along with early hunter-gatherer's likely experience of morbidity and mortality

In previous chapters it has been argued that within hunter-gatherer cultures provision to meet the needs of sustenance, self care, shelter, safety, self esteem and life satisfaction was similar for the total population. All able-bodied people were involved first hand in occupations concerned with the getting and preparing of food and water, with finding or devising adequate shelter for safety and temperature control, and with the care and education of off-spring. Few would have suffered the fate, or enjoyed the privilege, of not being able or eligible (for whatever reason) to participate in providing for themselves and others. Occupations were communal with on the job training, and only limited division of labour. Such simple occupational structures did not obscure innate physiological needs, but catered for them.

Unlike many other animals, humans "exploit almost every link in the food chain", a characteristic which supported flexibility of habitat, and provided

motivation for hunter-gatherer peoples to move from "one resource to another"⁸⁵. Such a nomadic lifestyle assisted physical fitness, reduced the probability of illness due to unhygienic waste disposal, provided adventure, prevented boredom, and promoted bonding of fellow nomads. In common with other nomadic peoples, the Australian aboriginal "practice of moving camp as they journeyed throughout the tribal land ensured that many of the health problems associated with permanent settlement sites could not develop", is a case in point⁸⁶. Indeed, the daily occupations of hunter-gatherers provided them with the type of exercise now being re-discovered as advantageous to cardiovascular fitness, and 'tacked on' to today's occupations, as well as providing opportunity to think ahead, plan and use ingenuity and creativity to furnish their personal, kin and community requirements. Communities were small enough not to require restrictive rules and regulations and probably, more so than in later occupational eras, the groups who lived together on a regular basis were stable and supportive. Survival would often have depended on the strength created by a cohesive group in combined activity. In fact, because of the constraints imposed by a nomadic way of life, the people making up each social 'band' constituted the moveable assets of the group, that is, the people rather than material assets were valued as central to survival. This would have influenced the development of a communal rather than an individual view of the world and of health.

Obligatory occupations, and many others of a creative, spiritual or playful kind, were carried out as an integral part of the day-by-day business of wresting a living from nature. Hunter-gatherers were constrained to balance physical exertion with sedentary and rest occupations as, at least until they learnt to create and control fire to their advantage, they would have been

⁸⁵ Stephenson W. *The ecological development of man*. Sydney: Angus and Robertson, 1972, p.26.

⁸⁶ King-Boyes MJE. *Patterns of aboriginal culture: then and now*. Sydney: McGraw-Hill Book Company, 1977, pp.154-155.

diurnal, so following basic circadian patterns of sleeping and waking. Additionally, and as noted in an earlier chapter, contrary to popular belief the obligatory occupations of providing for immediate needs was not as time consuming as the 'modern eight-hour day'.

The development of individual potential by participation in occupations, many of which were directly related to maintenance of the organism and survival of individuals, their communities and the species, was ensured by the development of a technology which was in tune with the natural world. Many consider that the occupational pursuits of the hunter-gatherer era would, generally, not have disturbed the environmental balance. At least, as Lorenz suggests, human hunter-gatherer cultures "influence their biotope in a way no different from that of animal populations"⁸⁷. Further, despite his suspicion that pre-historic people had the same characteristic need as modern humans to "over exploit every resource they can lay their hands on", Stephenson observes that the Australian aboriginal does not appear to have done so, perhaps because their long, isolated, occupancy of Australia produced "a stable relationship between man and his resources"⁸⁸. King-Boyes agrees that "in full tribal life the Aborigines presented an excellent example of a society working in rhythm with its environment". This type of lifestyle which was followed for probably at least two million years provided a real test of the effectiveness of engagement in occupations to sustain health and well-being of people and the ecology.

There have been many speculations and comments about the health status of early humans from a rich variety of sources. Professor of Zoology at Queensland University, Bill Stephenson, in *The Ecological Development of Man* observes "we know that people living a culturally primitive life (with

⁸⁷ Lorenz K. *Civilized man's eight deadly sins*. Translated by M. Latzke. London: Methuen & Co Ltd., 1974, pp.12-13.

⁸⁸ Stephenson W. *The ecological development of man*...p.94.

less medical care) are generally more physically perfect than those from affluent societies⁸⁹, and McNeill in *Plagues and People* supposes that "ancient hunters of the temperate zone were most probably healthy folk" despite short lifespans compared with modern humans⁹⁰. Such views are supported by reports from explorers in their initial contacts with people of primitive cultures which suggest that they appeared both happy and healthy. For example, Nicholas Tunnes observed in 1656 that Eskimos in West Greenland who directed "all their efforts...toward acquiring, without too much trouble, what is absolutely necessary in the way of clothing and food" believed themselves 'happy' and 'favoured'⁹¹. and Captain James Cook recorded in his Journal, 1768-1771, that he found the natives of the Pacific Islands he visited, happy, healthy and full of vigour. Of the Australian aborigines he wrote "they are far happier than we Europeans,...they live in tranquility" and "they think themselves provided with all the necessarys of Life, and that they have no Superfluities"⁹². It was of course, a popular opinion at the time of Cook's voyages, that, 'a state of nature' was the ideal state to create health and happiness, based on Rousseau's 1755 theories of man as a 'noble savage' corrupted by civilisation⁹³. These theories were so popular, Dubos observes, that they "fostered an intellectual climate" which influenced philosophers of the 'age of reason' and 'practical sanitarians', contributing eventually to social reforms and improvement in health⁹⁴. For example, Thomas Beddoes, British poet-physician hypothesized that the blessed original state of health could only be recaptured by abiding by the

⁸⁹Stephenson W. *The ecological development of man*...p.217.

⁹⁰McNeill WH. *Plagues and people*. London: Penguin Books, 1979, p.39 (first published by Doubleday, USA, 1976.)

⁹¹Tunnes N. 1656. Cited in: Dubos R. *Mirage of health: Utopias, progress and biological change*. New York: Harper and Row Publishers, 1959, p.11; see also: Fortune R. The health of the Eskimos as portrayed in the earliest written accounts. *Bulletin of the history of medicine* 1971; 45: 97-114.

⁹²Wharton WJL, editor. *Captain Cook's Journal during his first voyage around the world made in H M Bark Endeavour, 1768-1771*. London: Eliot Stock, 1893, p.323.

⁹³Rousseau JJ. Discourse on the origin and foundations of inequity amongst men. 1754. In: Mason JH. *The indispensable Rousseau*. London: Quartet Books, 1979.

⁹⁴Dubos R. *Mirage of health*....p.144.

simple order and purity of nature⁹⁵. Julien Joseph Virey, the nineteenth century French physician-philosopher, asserted in *L'Hygiène Philosophique*, that humans in a state of nature are endowed with an instinct for health which permits biological adaptation, and which civilised humans have lost⁹⁶, and Edward Jenner observed that "the deviation of Man from the state in which he was originally placed by Nature seems to have proved to him a prolific source of disease"⁹⁷.

Earlier oriental examples demonstrate that Rousseau's theory was not original. In *The Yellow Emperor's Classic of Internal Medicine*, published in China in the fourth Century BC it was supposed that in the remote past "people lived to a hundred years, and yet remained active and did not become decrepit in their activities"⁹⁸. Similarly Lao-tzu and Chuang-tzu eulogise about a golden age, the latter suggesting that when "the ancient men lived in a world of primitive simplicity...was a time when the yin and the yang worked harmoniously,...all creation was unharmed, and the people did not die young"⁹⁹. Pao Ching-yen, at a later date, observed "Man in the morning went forth to his labour on his own accord and rested in the evening. People were free and uninhibited and at peace...Contagious diseases did not spread, and long life was followed by natural death."¹⁰⁰

Despite these supposed advantages of the lifestyle, a high level of mortality at all ages is believed to have been the common experience containing the

⁹⁵ Beddoes T. *Hygeia, or essays moral and medical on the causes affecting the personal state of our middling and affluent classes*. 3 vols. Bristol: R. Phillips, 1802-1803.

⁹⁶ Virey, JJ. *L'hygiene philosophique*. Paris: Crochard, 1828.

⁹⁷ Jenner E. *An inquiry into the causes and effects of the variolæ vaccine: A disease discovered in some of the Western counties of England, and known as the cow pox*. Birmingham, Ala.: Classics of Medicine Library, 1978 (Reprint of the 1798 edition published in London by S Low).

⁹⁸ Ilza Veith. Huang Ti Nei Ching Su Wen. *The yellow emperor's classic of internal medicine*. Baltimore: Williams and Wilkins, 1949, p.253.

⁹⁹ Lao-tzu. *Tao Te Ching* (The Way) Circe 500BC: Chuang-tzu. In: Dubos R. *Mirage of health: Utopias, progress and biological change*. New York: Harper and Row Publishers, 1959, p.10.

¹⁰⁰ Pao Ching-yen. In: Needham J. *Science and civilisation in China*, Vol 2, *History of scientific thought*, Cambridge: Cambridge University Press, 1956.

human population at the level at which their interaction with ecology could be maintained. Those who survived and procreated were those most able to live and adapt effectively to life's demands, and in fact could be designated healthy. In this way, Coon observed "natural selection is not thwarted, and in their breeding populations they do not build up increasing loads of disabling genes"¹⁰¹. See figure 5.1 for an illustration of mortality patterns of hunter gatherer populations.

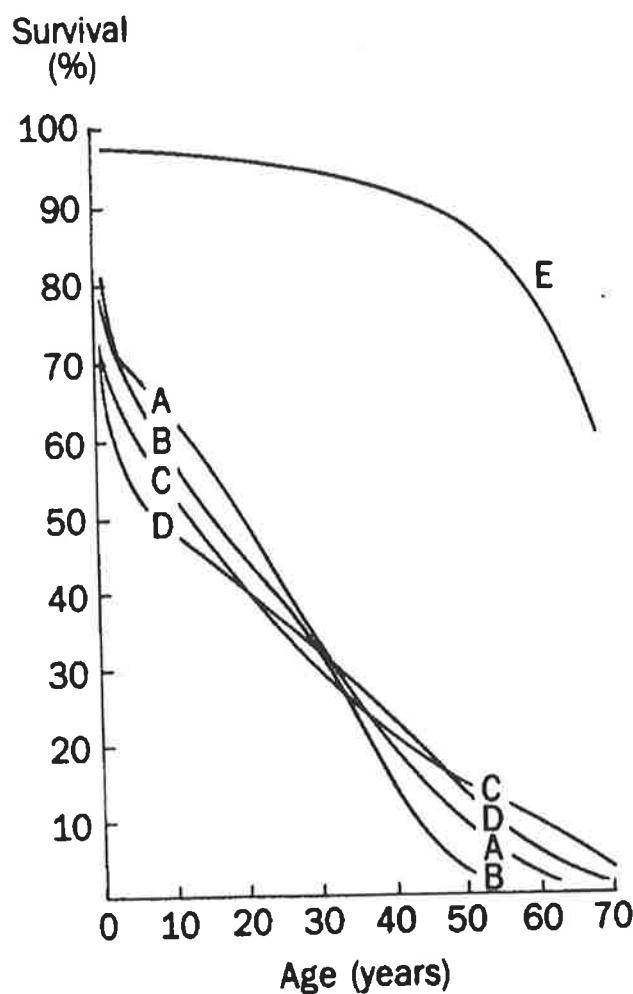


Figure 5.1: Mortality patterns of hunter gatherer populations¹⁰²

Survival patterns in three extinct and one modern hunter-gatherer populations:

- A, Cariston-Annis, Kentucky, USA (4000-2500 BC);
 - B, Libben, Ohio USA (AD 750-1000);
 - C, Yanomami, males only; and
 - D, 'Maghreb'-Afaslou-bou-Rhummel and Taforalt, North Africa (10,000 years ago).
- (A, 22.4 years; B, 19.9 years; C, 21.5 years; D, 21.1 years).

Curve E shows the survival profile of a modern post-industrial population, the USA in 1960. The average life expectancy of the recent US population of nearly 70 years contrasts sharply with the values for the other populations.

Early mortality and morbidity resulted from ecological forces acting on the population, for example "parasites with high transmission rates and little or no induced immunity" such as

worms, lice and ticks, pathogens such as salmonella and trypanosoma

¹⁰¹ Coon CS. *The hunting peoples*. London: Jonathan Cape Ltd., 1972, p.390.

¹⁰² Meindel RS. Human populations before agriculture. In: *The Cambridge encyclopedia of human evolution*...p.408.

(sleeping sickness), climate ("older people suffer gradual loss of the ability to buffer temperature extremes"¹⁰³), and availability of food and water. 'Occupational' accidents, aggression and infanticide are also suggested causes¹⁰⁴.

Such demographic and epidemiologic deductions do not contradict the claims that hunter-gatherers experienced general well-being, but rather, in common with modern humans they experienced ill-health and accidents, the different nature of which, coupled with lack of specialist knowledge, led to early death for many of the population. Nor do these deductions negate the notion that occupation, survival and health are inextricably linked. In fact they support this notion. Because of their occupational nature and potential, humans were able to strive to improve these survival odds and decrease the experience of illhealth. Their technology, in the main, addressed the potential risk factors of a world in which people are not the fastest, strongest, largest or best camouflaged of animals. Much has been written about 'fight or flight' behaviour, and it's appropriateness for the natural dangers facing early humans, since Walter Cannon's description, in the nineteen twenties, of the single automatic pattern of response of the organism to any challenge to equilibrium¹⁰⁵. However appropriate, the response would have been unpleasant to experience, and provided strong motivation to develop artefacts and social structures to overcome fear-producing situations. Social cohesion and education were used by hunter-gatherers, along with tool technology, as vehicles to improve superiority over prey and predators in the long term. So, survival pressures provided meaning, motivation and opportunity for engagement in a variety of individual and community

¹⁰³ Dobson A. People and disease. In: *The Cambridge encyclopedia of human evolution...* pp.411-412.

¹⁰⁴ Meindel RS. Human populations before agriculture. In: *The Cambridge encyclopedia of human evolution...* p.410.

¹⁰⁵ Cannon WB. *Bodily changes in pain, hunger, fear and rage*. Boston: C. T. Branford, 1929 & 1953.

occupations which addressed the obvious health risks of the day. In pursuit of this hunter-gatherers developed capacities, talents and potentials, and a satisfying balance of physical, mental and social exercise with rest in tune with nature which at the same time promoted their health and well-being.

It is not known whether early humans made any conscious efforts to maintain health and prevent illness apart from shelter, sustenance and the seeking out of substances they instinctively craved when sick, in a way similar to other animals¹⁰⁶. Stephenson has suggested that the 'animal' ability of primitive humans developed into a commonsense approach to health and illness, and "that with his omnivorous feeding habits and experimental frame of mind, primitive men established the curative values of a wide range of plant products, many of which are still in medicinal use"¹⁰⁷. King Boyes notes of Australian Aborigines that "many records exist of the remarkable healing capacity exhibited by their bodies subsequent to injury; and the knowledge of homeopathic medicine held by the women was considerable". These practices co-existed with the use of shamans at times of ill-health, but without the expectation that 'good health' was "an inalienable right of life"¹⁰⁸.

At least from the time of recorded history humans appear to have valued healing science more than naturally healthy living. Dubos cites the history of the Greek gods Hygeia and Asclepius as symbolising the never ending oscillation between these different points of view. Hygeia was the goddess who once watched over the health of Athens. She symbolized the "virtues of a sane life in a pleasant environment", and probably personified reason. She

¹⁰⁶ Sigerist HE. *A History of Medicine*, Vol. 1, *Primitive and Archaic Medicine*. New York: Oxford University Press, 1955.

¹⁰⁷ Stephenson W. *The ecological development of man*...p.136.

¹⁰⁸ King-Boyes MJE. *Patterns of Aboriginal culture: Then and now*. Sydney: McGraw-Hill Book Company, 1977, pp.154-155.

was not involved in the treatment of the sick, but closely associated with mental health. For followers of Hygeia, health was the natural order of things: they saw the most important function of medicine as the discovery and teaching of natural laws which ensured health of mind and body. From the 5th Century BC on, her cult progressively gave way to the god of healing, Asclepius, who before his creation as a Deity lived as a physician in the 12th Century BC. Followers of Asclepius believe that the chief role of medicine is to treat disease. In mythology Hygeia became relegated to being either a member of his retinue, or his daughter, along with Panakeia. In most histories of medicine she is mentioned briefly as subservient to Asclepius. Hippocrates attempted to marry the approaches of Asclepius and Hygeia, providing students of public health with a classical philosophy about the relationship between external and internal determinants of health. He observed that a physician "was to be skilled in Nature and must strive to know what man is in relation to food, drink, occupation and which effect each of these has on the other"¹⁰⁹.

Medical science is dominant in current thinking about health, and it is medical experts who, on the whole, define for the general public what health is. Yet, it could be said that the meeting of biological needs, 'with the weapons of Hygeia', seems to have little in common with modern medicine. Medicine's interest in healing may account for the large number of people who do equate health with the absence of illness. In fact, whether people can achieve health through meeting 'natural laws which ensure health of mind and body' is, in many respects, socio-culturally determined. Cultures and societies provide the occupational structure and value systems which determine which, how and why particular needs can be met.

¹⁰⁹ Dubos R. *Mirage of health: Utopias, progress and biological change...* p.139.

Yet, from "ancient times the theory that most of the ills of mankind arise from failure to follow the laws of nature" has been reasserted time and time again¹¹⁰. Ideas and health practices purported to be based on natural lifestyles have resurfaced in this century with the counter-cultural movements of the sixties, the growth of holistic and natural health approaches, the ecological 'greenies' of the present time, and in this thesis. Whilst it is beyond the bounds of practicability to suggest that post-industrial societies should return to a 'natural' lifestyle based on hunter-gatherer occupations in the cause of health and happiness, the repeated interest in the topic suggests that keeping in touch with humans' innate needs as evidenced by their early behaviours is important in refocussing attention on matters relating to healthy survival of the species.

Biological mechanisms aimed at ensuring survival and health are basic to all animals, and adaptation occurs in response to long term environmental conditions during a period of change. Such adaptations are not necessarily fitted to healthy living in future environments and, as some basic biological needs of humans are now obscured by millions of years of acquired values, present day health awareness may not reflect needs which were, and probably still are, fundamental to healthy survival.

The chapter now considers health and well-being by exploring the biologically-based needs responsible for the maintenance of health and well-being through occupation. But, first, it is necessary to discuss the concept of biological needs, because, on the whole, and in a way similar to 'instincts', the study of biological needs has been neglected of late. Perhaps the human quest for the new and different is partly to blame for this. As Allport remarked on fashion in scientific enquiry "we never seem to solve our problems or

¹¹⁰ Dubos R. *ibid.* p. 9.

exhaust our concepts; we only grow tired of them"¹¹¹. Alternatively, the false dichotomy between disciplines concerned with the long running nature versus nurture debate, and the recent emphasis on nurture, may have resulted in need being more commonly explored from a socio-cultural perspective.

There are, however numerous need theories which attempt to identify from a 'natural' perspective what motivates human behaviour¹¹². Doyal and Gough, for example, in *A Theory of Human Need*, recently called in question fashionable subjective and relativist approaches, arguing that health and autonomy are basic needs, the meeting of which are essential preconditions for participation in social life¹¹³. Maslow's 'needs hierarchy theory' is probably the best known and most widely used needs theory, particularly in health texts. It is founded on the premise that individuals have innate needs which act as motivating forces¹¹⁴. He identified five basic need levels related to one another in a prepotent hierarchy. At the first level are needs, such as for food, which relate to the physiological function of the human organism, followed progressively by needs for safety and security, then belonging, love and social activity, with the need for esteem and respect at the fourth level, and at the top of the hierarchy, self actualisation. The process of self actualising he saw as the "development of the biologically based nature of man, (empirically) normative of the whole species conforming to biological

¹¹¹Allport GW. The open system in personality theory. *Journal of abnormal and social psychology* 1960; 61: 301-311.

¹¹²McDougall W. *The energies of men*. London: Methuen, 1932, and *Social psychology*. 23rd rev. ed. Methuen, 1936; Lewin K. *A dynamic theory of personality*. New York: 1935; Murray HA. *Explorations in personality*. New York: 1938; Hull C. *Principles of behavior*. New York: Appleton-Century-Crofts, 1943; Maslow AH. *Motivation and personality*. 2nd ed. New York: Harper & Row, 1954 and 1970; Madsen KB. *Theories of motivation*. 4th ed. Ohio: Kent State University Press, 1968; Alderfer CP. *Existence, relatedness and growth: Human needs in organizational settings*. New York: Free Press, 1972.

¹¹³Doyal L, Gough I. *A theory of human need...*
There are some similarities between the model Doyal and Gough propose and my own. One basic difference is that whilst I conceptualise a needs theory in terms of positive health and well-being, they argue from a negative health perspective (See footnote 140).

¹¹⁴Maslow AH. *Motivation and personality...*

destiny, rather than to historically-arbitrary, culturally-local value models as the terms 'health' and 'illness' often do"¹¹⁵. His theory is that more basic needs must be largely, but not necessarily completely, satisfied before higher level needs are activated and motivating. A similar three level hierarchy proposed by Alderfer identifies existence, relatedness and growth (ERG) as the need levels¹¹⁶.

Both Maslow's and Alderfer's theories are compatible with notions about innate 'drives' common in psychology for the greater part of the century, but in disuse at present¹¹⁷. Based on physiological discoveries such as those pertaining to homeostasis, 'drives' were seen as persistent motivations, organic in origin, which "arouse, sustain, and regulate human and animal behaviour" and are distinct from external determinants of behaviour such as "social goals, interests, values, attitudes and personality traits"¹¹⁸. Dashiell, in 'Fundamentals of Objective Psychology' illustrated this view:

*"The primary drives to persistent forms of animal and human conduct are tissue conditions within the organism giving rise to stimulations exciting the organism to overt activity. A man's interest and desires may become ever so elaborate, refined, socialized, sublimated, idealistic; but the raw basis from which they are developed is found in the phenomena of living matter"*¹¹⁹

Eysenck, Arnold, and Meili, in the *Encyclopedia of Psychology* report that the word 'need', meaning a "central motivating variable" made its debut into academic psychology in the early nineteen thirties. The concept of need, they

¹¹⁵ Maslow AH. *Toward a psychology of being*. 2nd ed. New York: D Van Nostrand Company, 1968. p.vi.

¹¹⁶ Alderfer CP. *Existence, relatedness and growth: Human needs in organizational settings...*

¹¹⁷ Doyal and Gough recognise biological motivations or drives, but they separate from these their discourse of 'universal needs' founded on human reason. Part of their stated reason for this separation is that physiological drives and needs can result from external sources, as in the case of someone who takes drugs 'needing' a fix. In such cases this is obviously not a universal need, but an abnormal one.(Doyal L, Gough I. *A theory of human need...*p.36-37).

¹¹⁸ Young PT. Drives. In: Sills DL, editor. *International encyclopedia of the social sciences*. The Macmillan Co & The Free Press, 1968, pp.275-276.

¹¹⁹ Dashiell JF. *Fundamentals of objective psychology*. Boston: Houghton Mifflin, 1928, pp.233-234.

say, eventually replaced the notion of instinct but, unlike instinct, an innate need, though undeniably goal-oriented, does not have a "repertoire of inherited, unlearned action patterns"¹²⁰. Snell bemoans the fact that "the term instinct has gone out of fashion", but thinks it "tempting to revive the term and to say we can now relate instinct to detailed brain structure"¹²¹. In accord with this Lorenz observes that although humans lack "long, self-contained chains of innate behavior patterns" they have more "genuinely instinctive impulses than any other animal"¹²². These 'instinctive impulses' are close to what I am terming the experience of 'biological need'.

'Need' is described in the Dictionary of Behavioral Science as:

"the condition of lacking, wanting or requiring something which if present would benefit the organism by facilitating behaviour or satisfying a tension."

and also as

*"a construct representing a force in the brain which directs and organises the individual's perception, thinking and action, so as to change an existing, unsatisfying situation"*¹²³

The word 'need', despite diverse common, conceptual usage, is employed in this section of the thesis, to describe the mechanism by which unconscious biological requirements are communicated to neuronal systems concerned in engagement with the external world, or which alerts the conscious state to the existence of some kind of disequilibrium. This view conforms with the suggestion made by Anscombe that 'needs', which are a matter of objective fact, relate to what is required for living organisms - plants, animals or

¹²⁰Eysenck HS, Arnold W, Meili R. *Encyclopedia of psychology*. New York: Continuum Books, The Seabury Press, 1979, pp.705-706.

¹²¹Snell GD. *Search for a rational ethic*. New York: Springer Verlag, 1988, p.147

It is interesting to note that almost all of the material about biological needs is found in psychological and social science texts pre 1980. This is reflected in the references used here.

¹²²Lorenz K. *Civilized man's eight deadly sins...*pp.3-5.

¹²³Wolman B, editor. *Dictionary of behavioral science*. New York: Van Nostand, Reinhold Co, 1973, p.250.

humans to fulfil potential and flourish¹²⁴. Anscombes ideas are infused with new life some thirty years later by Ornstein and Sobel's account of how the brain makes "countless adjustments" to maintain stability between "social worlds, our mental and emotional lives, and our internal physiology", each neuron producing "hundreds of chemicals" ...which..."for the most part" are responsible for "keeping the body out of trouble, from commonplace problems like not falling over or walking into a wall to the myriad of tasks involved in maintaining the stability and health of the organism"¹²⁵. From my viewpoint biological 'needs' are activated by this process and positive health and well-being is experienced when conditions allow humans to flourish because they are able to meet their needs and potential, usually through occupation.

According to this view, biological needs are homeostatically valuable – inborn health agents which recognise the organism as a 'whole in interaction with the environment' as part of an open system. They do not differentiate between physical, mental or social issues in the way in which modern society and medical or psychological practice do, but work as part of 'a flow of processes' within biological systems relating structures and function¹²⁶. They are integral to the collaboration between biological rhythms and homeostasis.

Needs, from my homeostatic perspective, have a three way role in maintaining the stability and health of the organism through occupation prompted by a specific feeling experienced¹²⁷. They serve to warn when a problem occurs, to protect and prevent potential disorder, and to prompt and

¹²⁴Anscombe GEM. Modern moral philosophy, *Philosophy*. 1958; 33(124): 1-19; see also Watts ED. Human needs. In: *The social science encyclopedia...*

¹²⁵Ornstein R, Sobel D. *The healing brain: a radical new approach to health care*. London: MacMillan, 1988, pp.11-12.

¹²⁶Bertalanffy L von. *General systems theory*. New York: George Baziller. 1968, p.27.

¹²⁷Wilcock AA. A theory of the human need for occupation. *Journal of occupational science: Australia* 1993; 1(1): 17-24.

reward use of capacities so that the organism will flourish, and reach potential. These three categories of needs provide both motivation and feedback. See Figure 5.2.

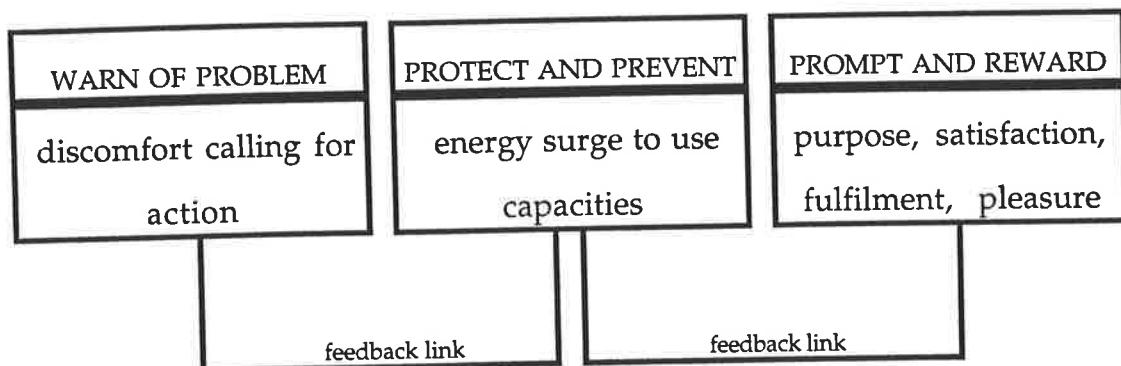


Figure 5.2: Needs: three way role in health.

Each of these categories will now be discussed briefly.

Firstly, to warn and protect, needs are experienced as a form of discomfort which calls for some kind of action to satisfy or assuage the need. Examples of these experiences are pain, fatigue, hunger, cold, fear, boredom, tension, depression, anxiety, anger or loneliness. Many studies have researched these experiences as separate emotions¹²⁸. Csiksentmihalyi, who has spent much of his professional life, using a variety of methods such as questionnaires, diaries, interviews and an 'experience sampling method', to research the effects of occupation on individuals¹²⁹, uses the term 'psychic entropy' to describe these states¹³⁰. He sees them as an "integrated response to the self system", with a main goal to "ensure its own survival", a view also held in this thesis. There is debate about whether actions provoked by such experiences can be considered purposive; indeed not all occupational

¹²⁸ See, for example, Izard CE. *Human emotions*. New York: Plenum, 1977. Izard CE, Kagan J, Zajonc RB. *Emotions, cognition, and behavior*. New York: Cambridge University Press, 1984. Frijda NH. *The emotions*. New York: Cambridge University Press, 1986.

¹²⁹ Csikszentmihalyi M, Csikszentmihaly I, editors. *Optimal experience: Psychological studies of flow in consciousness*. New York: Cambridge University Press, 1988, pp.22-23.

¹³⁰ Csikszentmihalyi M. Activity and happiness:Toward a science of occupation. *Journal of occupational science: Australia* 1993; 1(1): 38-42.

therapists concede that activity which has unconscious, rather than socially valued, purpose can be described as occupation. In psychology literature it is in texts contemporary with those discussing 'biological needs' and 'drives' that we find general acceptance of the notion of innate, biologically-driven activity. Rex and Margaret Knight's, *A modern introduction to psychology* is a case in point, which suggests that activities which do not involve purposive 'foresight', 'distant ends' or even, in some cases, 'ideas or images' should be described as 'conative', after the work of McDougall¹³¹. McDougall, the most famous advocate of the 'Hormic' school of psychology argued that the conative and emotional aspects of innate tendencies incline humans to act or to experience an impulse toward action which is conducive to biological well-being¹³².

In the second category, which involves preventing disorder and prompting the use of capacities, needs are experienced in a positive sense, such as, a need to spend extra energy, walk, explore, create, understand or make sense of, utilize ideas, express thoughts, talk, listen or look, meditate or worship, spend time alone or with others, and so on. This mechanism, in interaction with the first, acts to balance over or under-use. If capacities are over used people feel fatigue, stress and burnout which can lead to increased susceptibility to accident and illness. If capacities are under-used they will atrophy, cause disturbance to equilibrium and produce a decline in health. The balanced exercise of personal capacities to enable maintenance and development of the organism, is perhaps the most primary and least appreciated function of human occupation, although it has been commented on, from time to time by well-respected authorities from health science disciplines. Notable examples, from throughout this century, some authors of which have already

¹³¹ Knight R, Knight M. *A modern introduction to psychology*. London: University Tutorial Press Ltd, 1957, pp.56-57.

¹³² McDougall W. *Social psychology*. 23rd rev. ed. London: Methuen, 1936.

been mentioned, are listed below in order to demonstrate the striking similarities of their ideas. In 1922 the psychiatrist, Adolph Meyer proposed:

*"It is the use that we make of ourselves that gives the ultimate stamp to our every organ"*¹³³

In 1935 Carrel, in analogous comment observed:

*"It is a primary datum of observation that physiological and mental functions are improved by work. Also, that effort is indispensable to the optimum development of the individual. Like muscles and organs, intelligence and moral sense become atrophied for want of exercise...the physiological and mental progress of the individual depends on his functional activity and on all his efforts. We become adapted to the lack of use of our organic and mental systems by degenerating.....In order to reach his optimum state, the human being must actualize all his potentialities"*¹³⁴.

In 1955 Sigerist, the medical historian comments:

*"Work in itself is not harmful to health; it is, on the contrary, essential to its maintenance, because it determines the chief rhythm of our life, balances it, and gives meaning and significance. An organ that does not work atrophies and the mind that does not work becomes dumb"*¹³⁵.

And in 1968, the psychologist, Maslow echoes these earlier thoughts in his observation that:

*"capacities clamor to be used, and cease their clamor only when they are well used. That is capacities are also needs. Not only is it fun to use our capacities, but it is also necessary for growth. The unused skill or capacity or organ can become a disease centre or else atrophy or disappear, thus diminishing the person."*¹³⁶

The third category of needs considered to be integral to the occupational nature of humans and their healthy survival are those that reward use of capacities, such as the need for meaning, purpose, satisfaction, fulfillment, happiness and pleasure. Pleasure and happiness, including laughter, have

¹³³ Meyer A. The philosophy of occupational therapy...

¹³⁴ Carrel A. *Man, the unknown*. London: Burns and Oates, 1935, pp.178-179.

¹³⁵ Sigerist HE. *A history of medicine*, Vol. 1, *Primitive and archaic medicine*...pp.254-255.

¹³⁶ Maslow AH. *Toward a psychology of being*...

been recognised as powerful human needs by many writers, from Aristotle twenty three hundred years ago to current writers, whose work is particularly relevant to an occupational perspective, such as Argyle, Ornstein and Sobel, and Csikszentmihalyi. They maintain that pleasure is biologically related to health promoting-activity¹³⁷. This does not mean that pleasure is the ultimate drive of humans, but rather that it forms an integral part of health maintenance. In this vein, and picking up on some of Doyal's and Gough's concerns about needs and drives, Csikszentmihalyi notes that

*"a self originally organized around the pleasure principle might end up by working against the genetic teleonomy whose cause it had originally espoused....When a physiological need (such as hunger or sexual indulgence) becomes a goal, it ceases to be under the exclusive control of its original genetic instructions and begins to follow the teleonomy of the self"*¹³⁸.

That pleasure is indeed innate is supported by experiments carried out in the 1950's, in which rats could self-deliver a stimulus to the hypothalamus, and from which James Olds and Peter Milner 'discovered' what has subsequently been called the 'pleasure centre'. Since then other areas of the limbic system have also been found to elicit a pleasure response. Similar experiments from the 1960s have been reported from America on humans, mostly inmates of mental hospitals. The subjects descriptions of the experiences were vague, but included terms such as 'feeling good', which they apparently did experience, to the extent that they were prepared to self stimulate several hundred shocks an hour¹³⁹.

¹³⁷ Leone RE. Life after laughter: One perspective. *Elementary school guidance and counselling* 1986; 21 (2): 139-142; Argyle M. *The psychology of happiness...*; Ornstein R, Sobel D. *Healthy pleasures*. Reading: Addison-Wesley Publishing Co. Inc., 1989; Csikszentmihalyi M. *Flow: The psychology of optimal experience...*; Simon JM. Humor and its relationship to perceived health, life satisfaction, and moral in older adults. *Issues in mental health nursing* 1990; 11(1): 17-31; Southam M, Cummings M. The use of humour as a technique for modulating pain. *Occupational therapy practice* 1990; 1 (3): 77-84; Buxman K. Make room for laughter. *American journal of nursing* 1991; 91(12): 46-51; Mallett J. Use of humour and laughter in patient care. *British journal of nursing*. 1993; 2(93): 172-175.

¹³⁸ Csikszentmihalyi M, Csikszentmihaly I, editors. *Optimal experience: Psychological studies of flow in consciousness...*pp.24-25.

¹³⁹ Rose S. *The conscious brain...*pp.292-293.

Together, the second and the third category of needs serve to establish a sense of individual identity and autonomy, the latter being identified by Doyal and Gough as one of two universal needs, the other being physical health. In the 'negative' terms of their concept autonomy includes minimisation of 'mental illness', 'cognitive deprivation', and restricted opportunities'.¹⁴⁰

In order to test the proposal about biological needs having a three way role in maintaining stability and health, first year occupational therapy students, as part of a survey about health, occupation and capacities, each administered a questionnaire to three people known to them to ascertain whether they had experienced such needs. Approximately 150 subjects with ages ranging from six to ninety-eight years, and a mean age of thirty five years, were questioned. Approximately ninety-nine percent admitted they had experienced discomfort which called for action, and almost all of these had acted in some way to alleviate the discomfort. Between eighty and ninety nine percent admitted to experiencing a need to use their capacities in various ways. Of these ninety-nine percent had responded to such needs. If they did not respond to this type of need approximately eighty seven percent admitted to experiencing the type of discomfort described in the first category. Between ninety and ninety-nine percent agreed they had experienced a need for purpose, satisfaction, fulfilment, and pleasure, with ninety-five percent usually taking action in response to these needs. When subjects did not respond to these needs approximately eighty seven percent agreed that this lack of response resulted in discomfort. Additionally, the majority of those surveyed reported that they

¹⁴⁰ Doyal L, Gough I. *A theory of human need...*

They ["define and measure physical health negatively as the minimalisation of death, disability and disease...and...autonomy negatively as the minimalisation of mental disorder, cognitive deprivation and restricted opportunities"] considering ["that these two negatives make a positive"] (p.172).

consider the satisfaction of these three categories of needs affects their mental, physical and social health in a positive way.

This brings us to discussion of how socio-cultural influences fit into this scheme. Needs are not omnipotent, and even ultradian rhythms of sleepability or wakeability can be overridden by the cortex¹⁴¹. That is, needs are subject to scrutiny of, and adaptation by, the highly developed cognitive and intellectual capacities of humans, so that

*"primitive instinctive energy can be directed from its natural goal towards alternative ends that are a greater value". It is this process of redirection which enables the "highest achievements of humanity"*¹⁴².

This capacity for redirection and adaptation differentiates between biological and non-biological 'needs' and allows individuals to make choices according to the particular circumstances in which they find themselves, with the future in mind. In this way all impulses concerned with state of mind or action, whether deriving from "phylogenetic or from cultural sources...(are) a link in a well ordered, harmonious working system and, as such, (are) indispensable"¹⁴³. Even political theorists such as Fromm, Marcuse, Bay and Macpherson recognise that needs and wants differ, that needs are not dependent upon wants, and that cognitive and intellectual capacities not only formulate wants, they interpret needs¹⁴⁴. The two work in partnership, needs identifying biological requirements, and wants, in many instances, formulating ways that individual biological requirements can be achieved.

¹⁴¹Ultradian rhythms are those with a frequency of less than 20 hours. The term was coined by a chronobiologist at the University of Minnesota, Franz Halberg

¹⁴²Knight R, Knight M. *A modern introduction to psychology*...p.177.

¹⁴³Lorenz K. *Civilized man's eight deadly sins*...pp.3-5.

¹⁴⁴Fromm E. *The Sane Society*. New York: Rinehart, 1955; Marcuse H. *One Dimensional Man*. London: Routledge and Kegan Paul, 1964; Wolff RP, Moore B, Marcuse H. *A Critique of Pure Tolerance*. London: Cape, 1969; Bay C. Politics and Pseudopolitics. *American Political Science Review*. 1965: 59; Bay C. Needs, wants and political legitimacy. *Canadian journal of political science* 1968; 1: 241-260; Macpherson CB. *The Real World of Democracy*. Oxford: Clarendon Press, 1966; MacPherson CB. *Democratic Theory: Essays in retrieval*. Oxford: Clarendon Press, 1973.

Our intellectual and cognitive capacity, freed by the mechanism of choice, has enabled humans, despite diverse challenges, to satisfy, in large measure, the biological needs described earlier. In post-industrial countries, action to satisfy or assuage discomfort, such as, food production, the regulation of temperature, and measures to reduce pain, have reached a level of sophistication far beyond the simple methods used by all other animals living in natural habitats. To prevent disorder humans have developed ways of using their capacities in adaptive, inventive and exploratory fashions to the extent that they can provide purpose, reward and the pursuit of happiness. In fact, the biological mechanism of needs has focussed human energies towards developing both occupations and socio-cultural structures to meet those needs. Because of this humans have been successful survivors - to the point of over-population - although the occupations and socio-cultural structures, in some instances, whilst answering one need, may defeat another. There are 'downsides' to the mechanism of choice, in that humans can "act in ways that (go) against the millennial wisdom that natural selection had built into the biological fabric of the species", as was discussed in the section on 'consciousness' in chapter three¹⁴⁵. Because of the capacity to ignore biological needs, people may develop socio-political structures, or make lifestyle choices, that result in detrimental health consequences. Clear examples of this are starvation diets aimed, early in this century at women's suffrage, or currently at a fashionable appearance, which may lead to conditions such as anorexia nervosa or to untimely death.

Unless asked to consider such factors, or some process or part of the mechanism goes amiss, people are not usually conscious of survival and health maintaining functions. These, rather like the autonomic nervous

¹⁴⁵Csikszentmihalyi M, Csikszentmihalyi IS, editors. *Optimal experience: Psychological studies of flow in consciousness...* pp.20-21.

system, are built into the organism to just go on working. Because of this we are able to utilize our capacities for our own purposes, to explain the purpose of life in abstract rather than biological ways, and to attribute meaning to our activity based on socio-cultural influences. It follows that, in present circumstances, many individuals are not able to distinguish their biological needs, which ultimately impact on their health, from wants or preferences¹⁴⁶. This is held to be partly because the complexity of socio-cultural evolution makes differentiation difficult, so that "even phylogenetically evolved programs of...behavior are adjusted to the presence of a culture" which alters the significance of biological needs¹⁴⁷.

These latter points lead naturally to the final items to be proffered in this chapter - the socio-cultural determinants underlying the experience of positive health and well-being through occupation, and the link between these and biologically based determinants. These provide what can be regarded as a paradigm of the complex relationship between occupation, health and well-being.

The ideas about occupation and health which have been explored in this chapter, sustain the view that there are not only 'occupational indicators of health and wellness', but also underlying factors which can positively influence health. Figure 5.3, on the next page, encapsulates the concept. There are three distinct categories of underlying factors of a socio-cultural nature: firstly, the type of economy, such as whether it is nomadic, agrarian,

¹⁴⁶ Fitzgerald R, editor. *Human needs and politics*. Sydney: Permagon, 1977.

¹⁴⁷ Lorenz K. *The waning of humanness*, Munich: R Piper & Co Verlag, 1983. Translated Great Britain: Unwin Paperbacks, 1989. p.124.

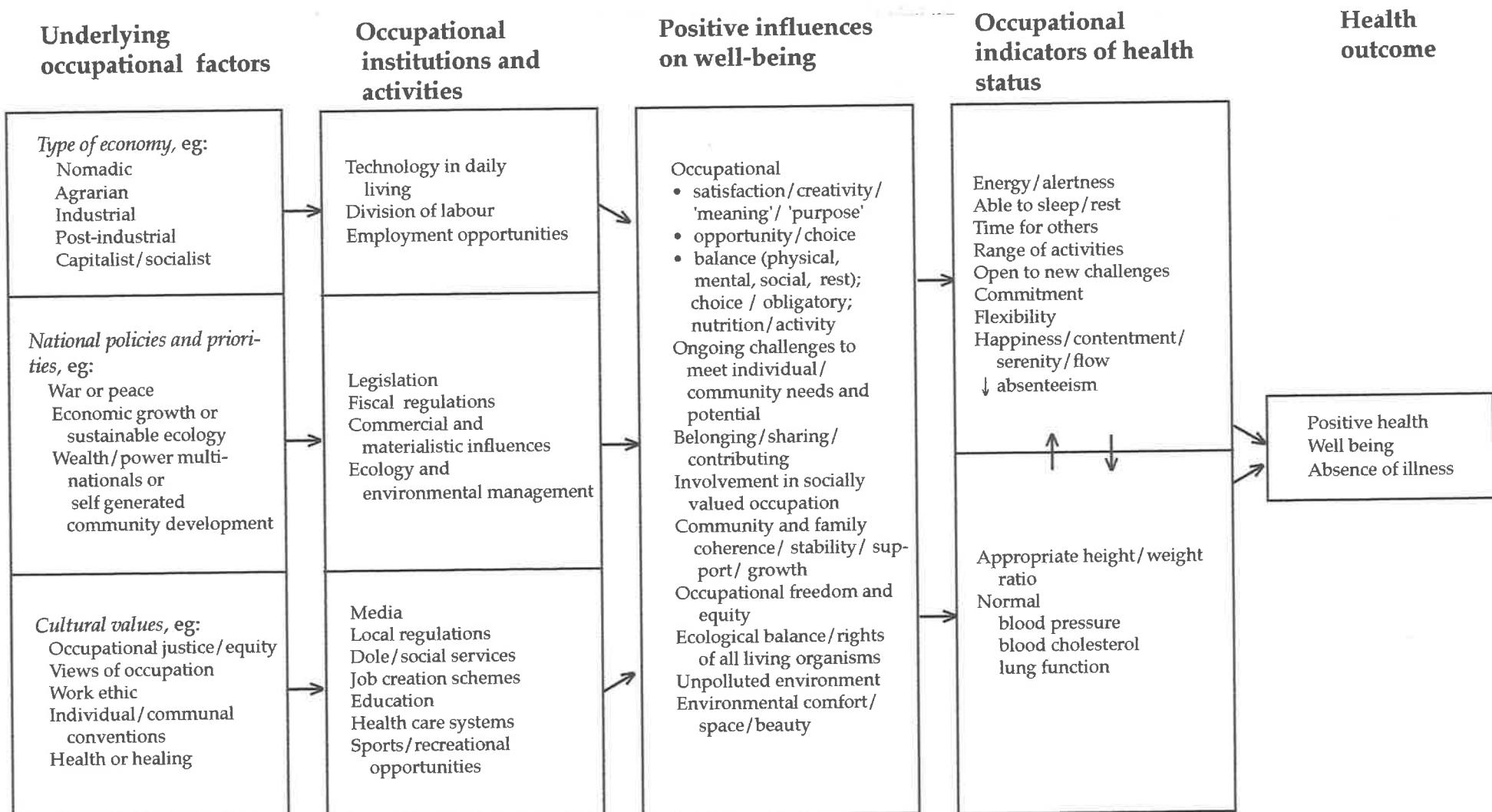


FIGURE 5.3: DETERMINANTS OF HEALTH AND WELL BEING THROUGH OCCUPATION

industrial, post-industrial, capitalist or socialist for example; secondly, national policies and priorities, such as towards war or peace, economic growth or sustainable ecology, wealth and power of multinational organisations or self generated community development; and finally, dominant cultural values about such ideas as social justice and equity as it relates to occupation, how different aspects of occupation are perceived, the work ethic, individualistic or communal conventions, and respect for health or healing. These underlying factors give rise to particular occupational institutions and activities in any given society. For example, the type of economy has direct influence on the amount and type of technology in daily living, how labour is divided between classes, genders and age groups, and employment opportunities; national priorities have direct influence on legislative and fiscal institutions which provide rules by which people live, commercial and material activities, and management of the environment and the ecology; and cultural values will impact upon the media, local regulations, social services, job creation schemes, education and health care systems, for example.

These activities and institutions can be positive influences upon community, family or individual health by providing equitable opportunity to develop potential, creativity and balanced use of capacities, to experience satisfaction, meaning and purpose, stability and support, belonging and sharing, and being able to contribute in a way which is socially valued, yet maintains natural resources and recognises the rights of all living organisms. The effects of the underlying factors may not be the same for all communities, or for all individuals. For example, although peace is advocated as a necessity for health by the Ottawa Charter, a view that is currently supported by many people, it may be that some communities and individuals find war to be a health-enhancing occupation. Although to the 'green lobby' ecological sustainability appears to be the healthy way for all to survive, to power-

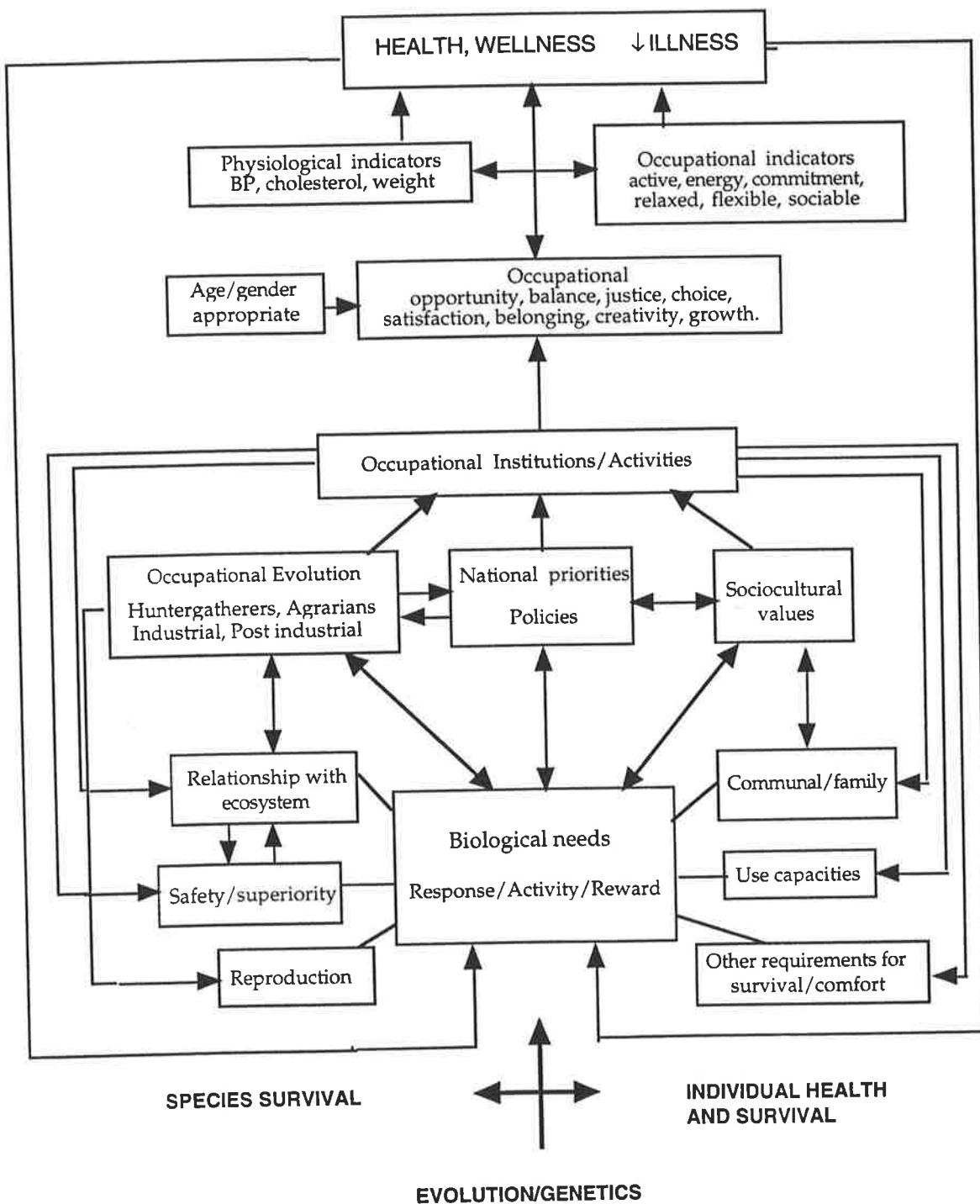


Figure 5.4: Factors underlying health and well being from occupational perspective.

broking economists and politicians the opposite may be conducive to their well-being¹⁴⁸. What the young perceive as dangerous risk-taking behaviours by the more mature may produce happiness, exhilaration and physical fitness.

Occupational indicators of health status include energy and alertness, a range of activities, flexibility, interest, contentment, commitment, the ability to relax and sleep, time for others, openness to new challenges and reduced absenteeism. These are likely to be compatible with more conventional health status indicators such as appropriate height/weight ratio, and normal blood pressures, cholesterol and lung function. Figure 5.4 on the previous page displays the interactive links between biological needs and socio-cultural factors discussed throughout the chapter, as occupational determinants of health and well-being. Only the most direct links are shown in the figure in the interest of clarity, and it is especially important to note the link from the 'health and well-being outcome' back to the underlying determinants, as the process is not linear, but interactive at all levels.

In summary, health and well-being result from being in tune with our 'occupational' species nature. Being responsive to biologically-driven needs and utilizing capacities has, in the past, been central to maintaining homeostasis, and promoting physical, mental and social well-being. Because physiological, and innate biological mechanisms are informed, stimulated, influenced and adapted by conscious social processes, these too become very influential determinants of human occupation and of health. For health and well-being to be experienced, by individuals and communities, engagement in occupation needs to have meaning and be balanced between capacities, provide optimal opportunity for desired growth in individuals or groups, be flexible enough to develop and change according to context and choice, and be compatible with sustaining the ecology. Such engagement, if it is in accord

¹⁴⁸ Note: Both war-mongers and power-brokers may pay lip service to opposite values.

with socio-cultural values, will enable individuals, families and communities to flourish and the species to survive. The complexity of the interaction of socio-cultural processes with biological needs, along with lack of awareness about health's dependence on engagement in balanced and satisfying occupation can lead to unhealthy consequences. These are discussed in the next chapter.

Chapter 6

Ill-health: Occupational risk factors.

Early humans used occupational behaviour to improve survival odds and decrease the experience of ill-health. Although this is still the case in many instances, the current complexity of occupational behaviour may conceal detrimental effects of human occupation. This chapter focuses on identifying 'occupational' risk factors to health and well-being. In doing so it is in line with public health conventions aimed at the 'absence of illness' through preventive approaches based on known risks. As this can be regarded as a first step in the promotion of health, it is appropriate to consider whether occupational risk factors can be prevented even though they are very complex. The chapter focuses particularly on occupational imbalance, deprivation and alienation as risks to health, so I analyse studies not only in health care literature but also from education and socio-political fields which address these issues. I follow this course because there is inadequate understanding and consideration, as well as a lack of research, about occupation as it relates to illness, or the prevention of occupational risk factors, in an holistic sense.

The chapter begins by exploring why public health researchers, given their particular interest in the prevention of illness, have paid scant attention to either the illness prevention or the health promoting benefits of engagement in occupation, despite the fact that a variety of risk factors to health can result from less than optimal balance, use, choice or opportunity in occupation. There are, perhaps, two major reasons. The first of these, noted in chapter one, is that throughout most of its recent history public health has been tied, conceptually, to medical science. The second is that the notion of occupation has been associated with paid employment, rather than with the human need

for purposeful activity as a requirement for health. These two issues - public health's close association with medical science, and the limitations of the specialty of occupational health and safety will be discussed briefly.

Public health's close association with medical science is illustrated by the emphasis on the 'absence of illness' view of health in public health and health education texts. The topics which are most frequently addressed - cigarette smoking, alcohol and drugs, eating habits, exercise and fitness, stress control, safe sex and occupational(paid employment) hazards are clearly identified as risk factors in illness¹. Such topics, along with issues of social justice and equity, are also prominent in social health texts. The medical view of illness is so pervasive that the pursuit of a disease-free state is the idea which prevails, and the difference between helping people to be healthy and stopping them from being unhealthy, which are different operations, based on different premises, is poorly appreciated. Indeed, from my own experience, even most health care workers concerned with social or community health appear to assume that prevention of illness is the same as the promotion of health². So dominant is this idea that 'health' is used as the identifying descriptor for services aimed at ill-health, such as health care, health science, health professionals, and even public health.

Current research priorities and health resource expenditure also support the claim that health care is dominated by medical science's preoccupation with illness; that healing takes priority over preventing illness; and that preventing

¹ See, for example: Last J. editor. *Public health and preventive medicine*. Connecticut: Appleton and Lange, 1987. Last's authority is indicated by the fact that he is the editor of this major public health text. Two other international authorities, Hetzel and McMichael, in their book on lifestyle factors mentions most of these topics but barely relates them to surrounding contextual features such as economic and occupational environments. (Hetzel BS, Michael T. L S factor: *Lifestyle and health*, Ringwood, Victoria: Penguin, 1987).

² For example, all health promotion centres I have seen in public hospitals provide the same type of information as the texts noted above. Additionally, in conversation with health care workers involved in prevention, I have found they commonly and strongly assert their field of endeavour is health promotion.

illness takes precedence over maintaining and enhancing wellness. For example, there is substantial criticism that curative and technological health programs receive too great a percentage of resources aimed at health despite evidence of highly developed, industrialised societies having a decreasing margin of return on continued investments in conventional, curative medical care against the improvement of health status³. That criticism is often levelled from the perspective of preventive medicine. Katz, Hermalin and Hess suggest that

"health professionals and institutions are often justly criticized for devoting too much attention and money to curative programs, while down-playing or ignoring preventive activities. Government planners and policy makers at all levels emphasize treatment intervention programs to the relative neglect of preventive efforts "⁴.

Whilst clearly differentiating between curative and preventive approaches to health this suggests that health resources would be equitably shared if those approaches were the only recipients. Such a suggestion ignores other than 'absence of illness' approaches, and maintains public health's long time association with reductionist, as opposed to holistic, concepts of health. Because public health tends to consider risks at population levels, it is easy to be seduced into thinking that its approach is holistic.

The pervasiveness of 'absence of illness' approaches, exemplified by the modern phenomena of medical science, such as organ transplants, have created a myth that all illness can be overcome. In fact, the Better Health Commission of Australia suggests that we live in a society which continues to foster the belief that, with the aid of modern technology, we can control our bodies and the environment and expect health and wellness as our right⁵. The

³Maddox GL. Modifying the social environment. In: *Oxford textbook of public health*. Vol. 2, pp.19-31. New York: Oxford University Press, 1985.

⁴Katz AH, Hermalin JA, Hess RE, editors. *Prevention and health: Direction for policy and practice*. New York: The Haworth Press, 1987.

⁵Better Health Commission. *Looking Forward to Better Health, Volumes 1,2, and 3*, Canberra: Australian Government Publishing Service,1986.

Better Health Commission, itself, has been criticised for fostering the same belief in its detailed recommendations. Such beliefs have reinforced 'healing' rather than 'health' ideologies, and confused curative medicine with health. With such beliefs, the most logical way to promote health would be a regimen of following medical rules such as regular medical check ups, a balanced nutritional diet, adequate exercise, an appropriate amount of sleep, and obeying as far as possible those mandates which are said to decrease risk of ill-health. In many ways the majority of public health initiatives, and how they are reported in the media, support the message that this is, indeed, the case. For example, the emphasis given to 'screening' suggests that if whatever is wrong can be found it can be fixed. Whilst these are important adjuncts to health, even if such rules are followed illness is not necessarily avoided, and 'health', nor, indeed, well-being, are not the inevitable reward. Although 'life-style' and 'bad habits' such as smoking are blamed for many of today's chronic diseases⁶, with apparent support from numerous public health studies such as the twenty year Framingham Cohort study⁷, they are insufficient to explain who gets sick and who stays healthy. Research concentrating on why people succumb to unhealthy lifestyles and habits is necessary but is rare. Additionally, health is so complex that studies carried out at population level can only establish probable links. There are as yet many unknown determinants of illness, and even fewer of wellness.

Clearly, not all risk factors have been established. Other possibilities, and the underlying determinants of risk factors, need to be studied with the rigour applied to the study of risks already known about. The occupational nature of

⁶Department of Health and Human Services. *The health consequences of smoking: Cancer* 1982, *The health consequences of smoking: Cardiovascular disease* 1983, *The health consequences of smoking: Chronic obstructive lung disease* 1984. Rockville, Maryland: A report of the surgeon general USPHS, 1982,83, 84.

⁷Gordon T, Sorlie P, Kannel WB. Section 27, coronary heart diseaseatherothrombotic brain infarction. Intermittent claudication. A multivariate analysis of some factors related to their incidence: Framingham study, 16 year follow up. U.S. Department of Health, Education and Welfare, Public Health Service. NIH Pub. No. 1740-0320,1971..

humans is one example which merits closer scrutiny, and can be seen as having many of the same requirements as inquiry into the social nature of ill-health. In recent years public health has recovered the notions of 'social medicine' which studies the "social behaviour of human beings and their external environment" and, occasionally, how people "work and play" in many different cultures. Whilst this type of research embraces some, but not all, notions about occupation and health, at least it is now accepted that there are "associations between much of this human behaviour and human health and disease"⁸. Douglas Gordon, who was a medically trained pioneer of social medicine in Australia, suggests that the practice of social medicine includes coming to understand the motives, values, social organisations and structures of different cultures as well as the "philosophies and essential mysteries of human behaviours insofar as these affect health"⁹.

Public health maintains a long tradition of epidemiological research. This type of exploration, viewed as normative by the research establishment, empirical in nature and greatly influenced by positivism, is appealing to funding bodies. Epidemiology does not embrace the most suitable research methods to explore complex interactive determinants of health, such as motives, values, social organisations and structures of different cultures, and which can be applied to the relationship between occupation and health from individual to global perspectives. This necessitates qualitative, phenomenological, methodologies being recognised as valid research tools in conjunction with conventional quantitative epidemiology. Qualitative methodologies are well suited to exploring the occupational aspects from this wider view of public health, as well as the more restricted perspective of the relationship between illness and occupational hazards. Using qualitative

⁸Gordon D. *Health, sickness, and society: Theoretical concepts in social and preventive medicine*. St Lucia, Queensland: University of Queensland Press, 1976, p.5.

⁹Gordon D. *Health, sickness, and society*...p.5.

methodologies, along with critical research approaches, it is possible to extend both the direction and the range of exploration to include underlying determinants based on long held occupational beliefs and structures.

Rather than using the variety of pertinent methods recent tendencies in the public health specialty of 'occupational health and safety' indicate the limited focus of public health in matters pertaining to health and occupation¹⁰. 'Occupational medicine' is, perhaps older than public health, with at least two texts on 'mining' diseases being published in the 16th Century, and classical texts on occupational diseases being published by Ramazzini in 1700, and Thackrah in 1831¹¹. The focus has historically been on ill-health, and the current public health interest reflects this emphasis. For example, in the BBC documentary "Skeletons of Spitalfields" occupational health experts expressed their surprise at finding that the skeletal remains of hands belonging to nineteenth century weavers did not display evidence of undue degeneration as a result of overuse. The alternative point of view, that the variety of hand exercise inherent in the activity may be a health benefit, was not even mentioned¹².

The present emphasis in occupational health also mirrors the current societal, political and economic value given to paid employment above other occupations. Whilst leisure and recreation is given some attention in relation to 'healthy lifestyle' through programs such as the 'Life Be In It Campaign', the

¹⁰Parmeggiani L, editor. ILO encyclopedia of occupational health and safety. 2 vols. 3rd revised ed. Geneve: International Labour Organisation, 1983.

¹¹Agricola (George Bauer) *De re Metallica* 1556. Translated from the first latin edition of 1556 by Hoover HC, Hoover HL. New York: Dover Publications, 1950; Paracelsus. *Four treatises of Theophrastus von Hohenheim called Paracelsus*. 1567. Translated from original German by Temkin CL, Rosen G, Zilboorg G, Sigerist HE. Sigersit HE, editor. Baltimore: Johns Hopkins press, 1941; Ramazzini B. *Disease of occupations* (Originally - Diseases of tradesmen... 1700) New York: Collier-MacMillan, 1980; Thackrah CT. *The effects of the principle arts, trades, and professions, and of civic states and habits of living, on health and longevity...* London: Longman, Rees, Orme, Browne and Green, 1831.

¹²Skeletons of Spitalfields. UK: BBC Television Documentary, circa 1990.

amount of research and resources allocated to this topic relegates it to a much lesser status than paid employment. Other aspects of occupation are effectively ignored or studied in isolation. The major problem in such approaches is that if the phenomenon of occupation is not studied as an entity broader than paid work the likelihood of understanding the true relationship between occupation and health is lessened, just as reductionist approaches within preventive medicine lessens the likelihood of appreciating interactive and compounding factors in disease processes.

The public health preoccupation with risk factors of ill-health suggest that it may be necessary to demonstrate the linkages between engagement in occupation and the prevention of illness if research pertaining to these are to be valued and resourced by public health authorities. A broad, contextual picture of the interaction between occupation and ill-health might begin with the changing occupational behaviours of humans which can be seen as central to changes in morbidity and mortality. To this end the next few pages review briefly the occupational history of patterns of morbidity.

MacNeill explains how early hominids, as other animals, fitted into a self balancing, self regulating ecological system, preying on other forms of life, as they were preyed upon by large bodied organisms, parasites and micro-organisms. They were, in fact, "caught in a precarious equilibrium between the microparasitism of disease organisms and the macroparasitism of large-bodied predators". In a natural state some microparasites provoke acute disease, killing the host; some provoke immunity reactions; others achieve a stable relationship with the host who perhaps experiences continuous, low level malady; and yet others are carried by the host and are the cause of disease in others. Yet, as was intimated in the last chapter, for early hominids, apart from occasional disturbances such as drought, fire and floods which set limits to population imbalance, "a tolerable state of health can be supposed, such as

exists among wild primates of the forest today". Within this natural scenario any change to one living creature is compensated for by genetic or behavioural change in co-organisms. 'Undisturbed' biological evolution is a slow process, but when humans began to evolve culturally, and to adapt, as well as adapt to, different habitats by changes in their occupation they transformed the balance of nature and patterns of disease altered along with this occupational transformation. As human hunter-gatherers began to dominate the food chain, populations increased; as they became able to overcome cold through use of clothing, shelter and fire they were able to expand into colder environs leaving behind many of the parasites and disease organisms. In new environments populations escalated and occupations proliferated¹³. This was aided by the circumstance that in nomadic life "the small collections of human beings were too scattered to sustain micro-organisms which do not readily achieve a carrier state"¹⁴.

It would seem, however, that the world's resources can support only limited numbers of hunter-gatherers and that social strategies to control population numbers, such as abandonment of unwanted infants probably were used¹⁵. The modern assumption that life must be preserved at all costs sits uncomfortably with a natural ecological point of view. In contrast, although stability, better access to food, and improved shelters during the agricultural era reduced comparatively morbidity and mortality due to starvation, as well as providing better facilities to nurture and care for infants, the sick and the aged, low life expectancy remained the common experience because of the increased incidence of infectious diseases¹⁶. The continual development of

¹³McNeill WH. *Plagues and people*. London: Penguin Books, 1979, pp.13,25. (first published by Doubleday, USA, 1976).

¹⁴Douglas M. Population control in primitive peoples. *British journal of sociology* 1966; 17: 263-273; Birdsell JB. On population structure in generalized hunting and collecting populations. *Evolution* 1958; 12: 189-205.

¹⁵Douglas M. Population control in primitive peoples...

¹⁶Hetzel BS, Mc Michael T. *L S factor: Lifestyle and health*. Ringwood, Victoria: Penguin, 1987.

agriculture which prevented the re-establishment of natural ecosystems, along with the rise of villages, towns and cities, provided ideal conditions for hyperinfestations of various potential disease organisms. Throughout the world diseases such as diphtheria, scarlet fever, malaria, typhus, smallpox, syphilis, leprosy and tuberculosis caused ongoing morbidity, along with various plagues which caused periodic but devastating toll. Indeed, the bubonic plague, at its peaks, killed 10,000 people daily in Constantinople during the 6th and 7th century¹⁷, and in the 14th century, within only a few years, between a third and a half of the population in Europe and Britain¹⁸.

Such epidemics and infectious diseases occurred because with increased population density as well as more travel and contact from trade diseases which had been checked by generations of adaptation gained new leases of life. As occupations such as oceanic exploration, trading and conquest grew, so did the spread of disease sometimes with disastrous consequences. For example, in 1520 smallpox arrived in Mexico along with the relief expedition for Cortez, and played a major role in the outcome of the Spanish conquest¹⁹, and in Australia, aborigines having "no racial experience with diseases such as measles, mumps, smallpox, chickenpox and influenza" were devastated when exposed to these disorders along with white settlement²⁰.

During most of human existence the population increase has only been about 0.1 per cent per annum, compared with a present global increase of approximately 2% per annum²¹. Based on what occurs in modern primitive economies, the small growth of human populations can be attributed to factors

¹⁷Procopius. Persian wars 23:1. *History of the wars*. 5 volumes. English translation by Dewing HB. Cambridge, Mass.: Harvard University Press, 1914.

¹⁸Mumford L. *The Condition of Man*, London: Heinemann, 1944 and 1963.

¹⁹McNeill WH. *Plagues and people....p.192*

²⁰Gordon D. *Health, sickness, and society...*

²¹Cipolla CM. *The economic history of world populations*. 5th ed. Harmondsworth: Penguin, 1970.

such as primitive forms of birth control, disease, famine, war and high mortality rates in infants and children²², particularly as infectious diseases did not cease to be the major threat to health until this century. The industrial revolution initially provided few health benefits for the vast majority of people who moved to towns and cities in order to find paid employment. In 1780 only 15% of the population in the United Kingdom, 0% in Australia, and 5% in the United States lived in towns or cities. This had risen to 50% in the United Kingdom by 1851, in Australia by 1870, and in the United States by about 1910²³. Perhaps the most obvious result of this urban population explosion was over-crowding in environments not constructed for comfortable and sanitary living, which, aggravated by industrially-polluted working conditions led to a widespread increase in ill-health. Eversley suggests:

"We who live in the twentieth century can hardly imagine the significance of pain, disfigurement, and the loss of near relations as a constant factor in every day life. Slight wounds became infected and suppurated for weeks. Fractures healed badly. Minor irritations like toothache and headache became major preoccupations, paralyzing ordinary activity...Even where no acute injury or identifiable major disease was involved, common colds, gastric upsets from the consumption of rotten foodstuffs, and permanent septic foci such as those provided by bad teeth were common, if not universal".²⁴

Many factors have brought about an improvement in this state of affairs including public health initiatives from the mid 19th century, particularly the improvement of sanitary conditions, water supply and housing. Other social and economic changes such as improved nutrition, smaller families, less overcrowding and improved education, along with major advances in medical

²²Gordon D. *Health, sickness, and society*...p.157.

²³Jones B. *Sleepers, wake! Technology and the future of work*. Melbourne: Oxford University Press, 1982, p.16.

²⁴Eversley DEC. Epidemiology as social history. In: Creighton CA, editor. *History of epidemics in Britain*. 2nd ed. London: Cassell, 1965, 1:35

and pharmaceutical science have also contributed to a decrease in disease²⁵. Indeed, it is possible to appreciate Gordon's suggestion that medicine's role in making life more bearable "is probably its major achievement and for this it receives little credit"²⁶.

This overview of the interaction between changing occupational structures and behaviours and morbidity and mortality opens a window onto a variety of recurring themes. One which emerges as important in terms of occupational structure is population size, so it is pertinent to consider the present trend towards urbanisation for economic reasons associated with paid employment as an example of a potential underlying risk factor to health.

Although only 3% of the world's population lived in cities as late as 1800, centralisation of occupational efforts started with the acquisition and possession of land following the adoption of agriculture. However, only a small proportion of people have lived in towns and cities for the thousands of years since then, and these urban centres were much smaller than modern cities which usually have in excess of a million people living in them. The Greeks "mistrusted aggregations of more than 10,000 people since they considered anything larger hard to govern and keep healthy". Medieval and Renaissance cities were also small, yet are said to have been "architecturally, economically, and intellectually satisfactory and satisfying social entities even though their hygiene was poor and their infant mortality high"²⁷. This picture changed as paid employment became segregated from family life and home base and urbanisation escalated dramatically during the past two hundred years. From roughly 1730 until the turn of this century, urban conditions were

²⁵Doll R. *Preventive medicine: The objectives in 'the value of preventive medicine'*. (Ciba Foundation Symposium 10) London: Pitman, 1985

²⁶Gordon D. *Health, sickness, and society*...p.164

²⁷Gordon D. *Health, sickness, and society*...p.311.

appalling²⁸. Urbanisation has continued to rise, and by 1980 reached, 80% in the United Kingdom, 86% in Australia, and 76% in the United States²⁹.

Overcrowding itself has been described by Lorenz as deleterious to health: people subjected to the over-population of city life, experience "exhaustion of interhuman relationships" which causes them to lose sight of the innate friendliness and social nature of humans which is apparent "when their capacity for social contact is not continually overstrained". He argues that "superabundance of social contacts, forces every one of us to shut himself off in an essentially 'inhuman' way, and which, because of the crowding of many individuals into a small space, elicits aggression"³⁰.

In some cities, the inhabitants deem it wise to restrict some occupations because of such aggression. On a recent visit to Los Angeles I was advised that it is unsafe to walk in the city, and that the preferred alternative would be a walking track in the University grounds. The alternative did not meet the same interest, value or purpose as a walk to the city which would not only stretch my legs, but enable me to become familiar with the environment, allow me to soak up the atmosphere and to experience its difference. The lack of freedom to pursue such a simple occupation was frustrating for me, although it may be that, for many people, the constant stimulation and change which accompanies city living compensates for the disadvantages³¹. There may also be some truth in the claim that city living "provokes to activity those attributes of the brain which are essentially human, namely the capacity to devote major resources of human endeavour to pursuits and goals that are not

²⁸Mumford L. *The culture of cities*. New York: Harcourt, Brace, 1938.

²⁹Jones B. *Sleepers, wake!*...p.16.

³⁰Lorenz K. *Civilized man's eight deadly sins*. Translated by Latzke M. London: Methuen & Co Ltd., 1974, pp.8-9,76.

³¹In such a vein, Dubos, in the Foreword to Hinrichs, 'Population, environment and people', comments: "I love crowds and cities....All over the world the largest and most polluted cities are also the ones with the greatest appeal even though their inhabitants uniformly complain of congestion and pollution" Hinrichs N, editor. *Population, environment and people*. New York: McGraw-Hill, 1971, p.xi. (Selected papers of the first National Congress on optimum population and environment, Chicago, June, 1970).

material"³². People tend to express strong feelings about their attachment to city living, or their desire to 'get away from it all', yet whether or how changes in the size of population groupings affect health has not been the topic of intensive inquiry, and I propose may be a major, largely unrecognised factor in occupational imbalance, deprivation and alienation.

The next section of the chapter discusses occupational imbalance, deprivation and alienation as risk factors which occur as a result of underlying determinants described in chapter five. The type of economy, national priorities and policies, and cultural values create occupational institutions and activities which may not only promote health and well-being but can also lead to risk factors such as overcrowding, loneliness, substance abuse, lack of opportunity to develop potential, imbalance between diet and activity, and ecological breakdown. They can also result in ongoing unresolved stress from occupational imbalance, deprivation or alienation, which are risk factors in themselves, may result from other risk factors, or lead to the development of health risk behaviours. These risk factors can lead to early, pre-clinical health disorders such as boredom, burnout, depression, decreased fitness, brain or liver function, increased blood pressure, and changes in sleep patterns, body weight and emotional state, and ultimately to disease, disability or death. Figure 6.1 (on the next page) encapsulates this overview.

The first of the risk factors to be considered is occupational imbalance. Balance, as a result of 'heeding' physiological messages such as the urge to use physical, mental, social capacities or rest is seldom, if ever, the primary concern of socio-cultural structures, yet a balance between and within intrinsic and extrinsic factors appears to be a key concept in achieving health and well-being. In fact, Friedman suggests that Cannon's ideas about homeostasis "may

³² Gordon D. *Health, sickness, and society...* p.337.

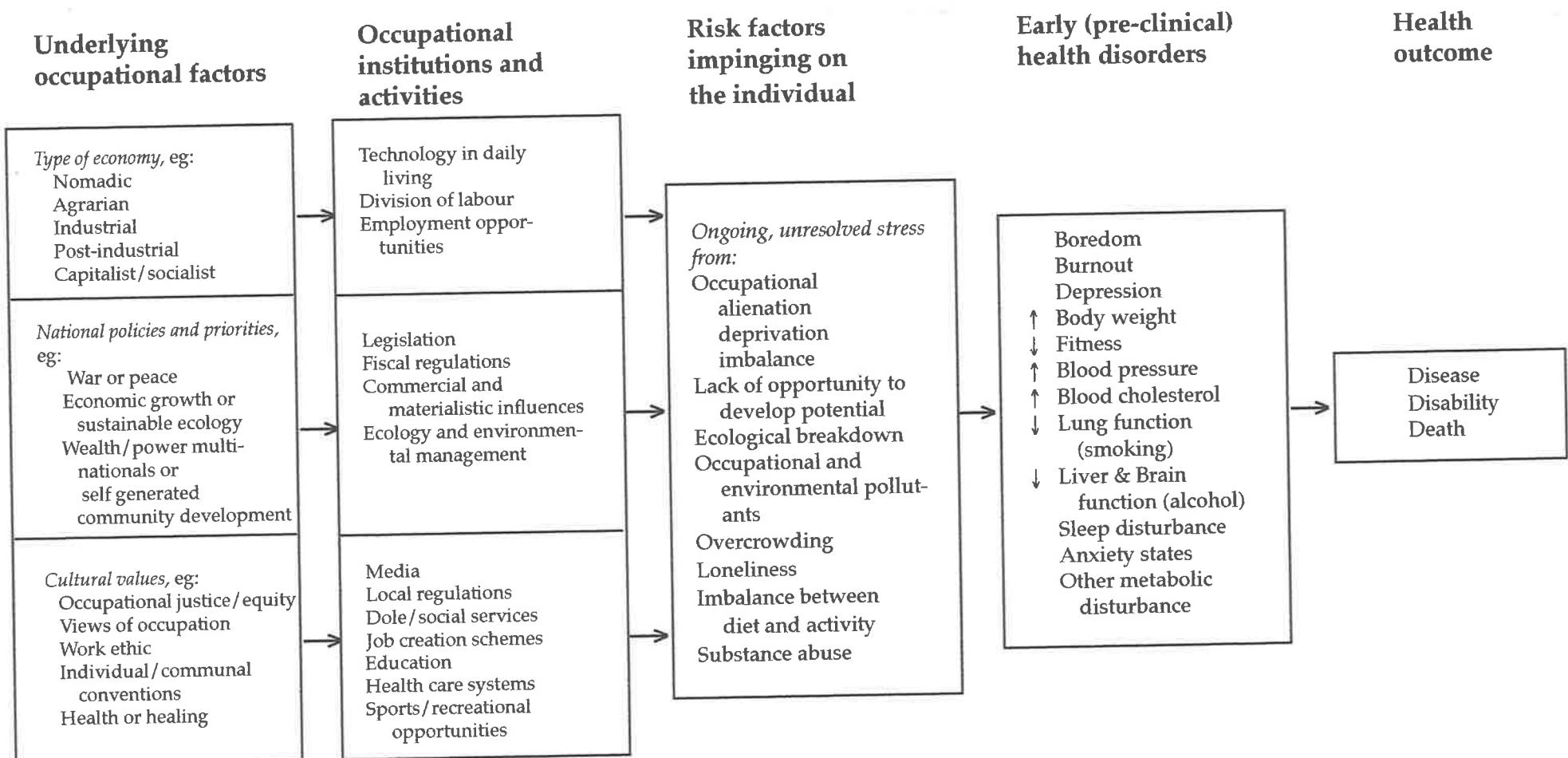


FIGURE 6.1: DETERMINANTS OF ILL-HEALTH THROUGH OCCUPATION

well come to dominate medical thinking in the twenty-first century...as the interdependence of the internal bodily systems is revealed, and as the role of harmony between the person and the environment is documented"³³.

The idea of balance was central to the Greek view of health. They believed that illness resulted from imbalance of the four humours and that a physician's job was to advise on due proportion, to "restore a healthy balance" and to aid "the natural healing powers believed to exist in every human being"³⁴. This was recognised in Hippocratic writings³⁵, and by Plato who espoused balance of mind and body by avoiding "exercising either body or mind without the other, and thus preserv(ing) an equal and healthy balance between them". He advocated that those engaged in 'strenuous intellectual pursuit' must also exercise the body, and those interested in physical fitness should develop 'cultural and intellectual interests'³⁶. In the same way, engagement in occupations must be 'properly proportioned' so that a balance exists in the exercise of individual human capacities. To this end, imbalance, in occupational therapy terms, is often taken to refer specifically to a lack of balance between work, rest and play³⁷. (See Appendix IV). Defining what this is is no easy task because what is considered work or play is a social rather than a biological construct, and because what people feel about, or do in, their work,

³³ Friedman HS, editor. *Personality and disease*. New York: John Wiley & Sons, 1990, pp.7,11.

³⁴ Risse GB. History of Western medicine from Hippocrates to germ theory. In: Kiple KF, editor. *The Cambridge world history of human disease*. Cambridge: Cambridge University Press, 1993, p.11.

³⁵ Hippocrates *Regimen*. In: *Hippocratic Writings: On Ancient Medicine*. William Benton, Publisher, Great Books of the Western World, Encyclopaedia Britannica, Inc., 1952. This contains a prescription of diet and lifestyle conducive to health

³⁶ Plato. *Timaeus*. Translated with an introduction by Lee HDP. Penguin Classics 1965, pp.116-117.

³⁷ For an insight into the occupational therapist's view of balance see: Meyer A. The philosophy of occupational therapy. *Archives of occupational therapy* 1922; 1: 1-10. In: *The American journal of occupational therapy* 1977; 31(10): 639-642; Levin HL. Occupational and recreational therapy among the ancients. *Occupational therapy and rehabilitation* 1938; 17: 311-316; Llorens L. Changing balance: Environment and individual. *The American journal of occupational therapy* 1984; 38: 29-34; Marino-Schorn JA. Morale, work and leisure in retirement. *Physical and occupational therapy in geriatrics* 1986; 4: 49-59; Spencer EA. Toward a balance of work and play: promotion of health and wellness. *Occupational therapy in health care* 1989; 5: 87-99.

rest or play differs for everyone. The evolutionary perspective and health focus of my theory suggest that imbalance involves a state which occurs because people's engagement in occupation fails to meet their unique physical, social, mental or rest needs, and allows insufficient time for their own occupational interests and growth as well as for the occupations each feels obliged to undertake in order to meet family, social and community commitments.

It follows, from the standpoint of my theory, that imbalance will therefore differ for each individual, just as their capacities, interests and responsibilities differ, and that imbalance can be viewed as a factor in disease processes. For example, in terms of infectious diseases, when "our responses to problems in life are excessive or deficient,...the balance is upset between us and our resident pathogens" because "the central nervous system and hormones act on our immune defences in such a way that the microbes aid and abet disease"³⁸; and in terms of the so called lifestyle disorders of the present day, imbalance can be a cause of the production of "excessive stress hormones - cortisol and catecholamines, which can lead to artery damage, cholesterol buildup and heart disease"³⁹. From this point of view, physiological imbalance and ill-health, result from individual responses to, and coping with, the vicissitudes of everyday life, which are closely tied to people's engagement in occupations.

Contemporary occupational structures, and the social environment and political agendas which support these structures, may not provide people with opportunities for health enhancing, balanced yet stimulating use of capacities, because occupational value in post-industrial cultures (and many other cultures striving to emulate post-industrialism) usually centres around paid

³⁸ Justice B. *Who gets sick: Thinking and health*. Texas: Peak Press, 1987, pp.28-29; See also: Wolf S, Goodell H. *Behavioural science in clinical medicine*. Springfield,Ill.: Charles C. Thomas, 1976.

³⁹ Justice B. *Who gets sick...* pp.31-32; See also Price VA. *Type A behaviour pattern: A model for research and practice*. New York: Academic Press, 1982.

employment. Within paid employment there is little commonality in physical, mental, social and obligatory requirements or opportunities for choice, so, for the majority of people, engagement in other occupations is necessary, in most instances, to ensure that all capacities are exercised and balanced to a point equating to health and well-being. However, a limited understanding of this concept of balance suggests that it is chance, rather than design, which leads to balanced lifestyles.

In part, this is because massive and rapid changes in society result in ongoing alterations to use of capacities. For example, on the whole, people are no longer required to undertake either sustained or substantial physical exercise. They undertake it at will rather than for necessity. This contrasts markedly with the situation which existed until fairly recent times⁴⁰. Very few modern people would run or walk for several hours every day, as early humans did, despite considerable media exposure to the claims that exercise of sufficient vigour and regularity is protective of cardio-vascular disease and conducive to general well-being. Lack of physical activity and coronary heart disease is as strong a risk factor as increased blood pressure, smoking and high levels of cholesterol, and adults who are 'inactive' are twice as likely to die from cardio-vascular disease than those who are 'very active'⁴¹. Commonly accepted standards about what this protective level of fitness entails is vigorous, repetitive, rhythmical activity such as walking, running, swimming or cycling, for at least 20 minutes, 3-4 times a week⁴². In Britain, the United States of America and Australia, less than half the adult population meet that

⁴⁰Hetzel BS, McMichael T.L *S factor: Lifestyle and health...*p.186.

"vigorous physical activity was part of everyday life for most people, at home, at work and in transit between them. Even as recently as 1850, human muscles provided up to one-third of the energy used by workshops, factories and farms. Today the figure is less than 1%; the human body is becoming redundant as a source of energy in the workplace", with physical activity having become "largely a recreational option rather than a survival necessity".

⁴¹Powell KE, Thompson PD, Caspersen CJ, Kendrick JS. Physical activity and the incidence of coronary heart disease. *Annual review of public health* 1987; 8: 253-287.

⁴²American College of Sports Medicine. *Guidelines for exercise testing and prescription*. 4th ed. Philadelphia: Lea & Febiger, 1991.

standard, with women less likely to engage in physical activity than men^{43,44,45,46}. Whilst the Australian government is implementing programs within schools which actively encourage women to participate in sport⁴⁷, Green, Hebron and Woodward suggests that women give a different meaning and structure to leisure which represents to them time for relaxation and a physical and mental recharging⁴⁸. As meaning and structure can be learnt, a change of societal emphasis, values and opportunities may result in women becoming more interested in sport as a leisure or work occupation. In fact, Boutilier and SanGiovanni report a dramatic increase of women's participation in sport in America since the seventies, which they see as a result of both the feminist movement and "the emergent mid-century emphasis on physical fitness"⁴⁹.

The protective effect of vigorous activity is part of the 'occupational' health mechanism of biological evolution. The protective effects include

⁴³Hetzel BS, Mc Michael T. LS factor: *Lifestyle and health...* pp.186-187.
In a 1983 Australian survey of "approximately 6000 study subjects aged 25-64, half of the men and two thirds of the women rarely or never exercised...at the level sufficient to maintain heart-lung endurance fitness".

⁴⁴Caspersen CJ, Christensen GM, Pollard RA. Status of the 1990 physical fitness and exercise objectives - Evidence from NHIS 1985. *Public Health Reports* 1986; 101: 587-592.
In the 1985 American National Health Interview Survey only 7% of the women, and 8% of the men exercised according to a level recommended by the American College of Sports Medicine.

⁴⁵Blaxter M. *Health and Lifestyles....*
In the Blaxter study in the United Kingdom which defined exercise solely as a leisure time activity, 63% of males, and 69% of females reported no vigorous activity.

⁴⁶Clee J Unpublished study. Occupational Therapy, University of South Australia, 1991.
A study on self reported patterns and attitudes toward leisure of 138 participants over the age of eighteen years, and from a variety of settings around Adelaide such as home, schools, sports clubs and retirement villages, supports the notion that men indulge in more physically active leisure pursuits, such as sport, than females who prefer more sedentary recreation including reading and craftwork as well as some sport.

⁴⁷Department of Sport, Recreation and Tourism, *Annual Report, 1985/86*. Canberra: Australian Government Publishing Service, 1986.

⁴⁸Green E, Hebron S, Woodward D. *Women's leisure in Sheffield: A research report*. Sheffield Department of Applied Social Studies, 1987; Green E, Hebron S, Woodward D. *Womens leisure. What leisure?* London: MacMillan Education Ltd., 1990.

⁴⁹Boutilier M, SanGiovanni L. Women and sports: reflections on health and policy. In: Lewin E, Olesen V, editors. *Women, health and healing: Toward a new perspective*. New York: Tavistock Publications, 1985, p.209.

strengthening of heart muscle⁵⁰, increased production of protective HDL cholesterol⁵¹, reduction in triglycerides⁵², reduced blood pressure⁵³, improved glucose metabolism⁵⁴, increased resting metabolic rate, maintenance of weight loss⁵⁵, and reduction of fibrin stickiness (and therefore the formation of blood clots)⁵⁶. Apart from cardio vascular disease several studies have shown the protective effect of physical activity against osteoporosis, some cancers⁵⁷, anxiety and depression⁵⁸. However, as Kaplan, Sallis and Patterson suggest "the study of physical activity as it relates to health is in its infancy" and it is difficult to estimate and measure as most studies use different criteria to define physical activity, or describe and quantify its many variations⁵⁹. Apart from gender, many studies have also found differences between groups according to age, ethnicity, socio-cultural status, education and paid employment⁶⁰.

⁵⁰Blair SN, Kohl HW, Paffenbarger RS, Clark DG, Cooper KH, Gibbons LW. Physical fitness and all-cause mortality: A prospective study of healthy men and women. *Journal of the American Medical Association* 1989; 262: 2395-2401; Haskell WL, Haskell WL, Johnson JL, Whaley FS, Criqui MH, Sheps DS. Physical fitness as a predictor of cardiovascular mortality in asymptomatic North American men. *New England journal of medicine* 1988; 319: 1379-1384.

⁵¹Haskell WL. Exercise induced changes in plasma lipids and lipoproteins. *Preventive medicine* 1984; 13: 23-36; Wood PD, Haskell WL, Blair SN, Williams PT, Krauss RM, Lindren FT, Albers JJ, Ho PH, Farquhar JW. Increased exercise level and plasma lipoprotein concentrations: A one-year randomised study in sedentary middle-aged men. *Metabolism* 1983; 32: 31-39.

⁵²Kaplan RM, Sallis JF, Patterson TL. *Health and human behavior*. New York: McGraw-Hill Inc, 1993.

⁵³Hickey N, Mulcahy R, Bourke GJ, Graham I, Wilson-Davis K. Study of coronary risk factors relating to physical activity in 15,171 men. *British medical journal* 1975; 5982: 507-509; Siegel WC, Blumenthal JA. The role of exercise in the prevention and treatment of hypertension. *Annals of behavioural medicine* 1991; 13: 23-30.

⁵⁴Vranic M, Wasserman D. Exercise, fitness and diabetes. In: Bouchard C, Shephard RJ, Stephens T, Sutton JR, McPherson GD, editors. *Exercise, fitness and health: A consensus of current knowledge*. Champaign, Ill.: Human Kinetics, 1990, pp.467-490.

⁵⁵Epstein LH, Wing RR, Thompson JK, Griffin W. Attendance and fitness in aerobic exercise: The effects of contract and lottery procedures. *Behavior modification* 1980; 4: 465-479.

⁵⁶Haskell WL, Leon AS, Caspersen CJ, Froelicher VF, Hagberg VF, Harlan JM, et al. Cardiovascular benefits and assessment of physical activity and fitness in adults. *Medicine and science in sports and exercise* 1992; 24: S201-220.

⁵⁷Calabrese LH. Exercise, immunity, cancer and infection. In: *Exercise, fitness and health: A consensus of current knowledge*. pp.567-579.

⁵⁸Stephens T. Physical activity and mental health in the United States and Canada: Evidence from 4 population surveys. *Preventive medicine* 1988; 17: 35-47.

⁵⁹Kaplan RM, Sallis JF, Patterson TL. *Health and human behaviour*...p.350.

⁶⁰See for example, Gilliam TB, Freedson PS, Geenen DL, Shahraray B. *Medicine and science in sports and exercise* 1981; 13: 65-67; Stephens T, Jacob DR, White CC. A descriptive epidemiology of leisure time physical activity. *Public health reports* 1985; 100: 147-158;

All of these factors relate to differences in occupational behaviour: simply recommending an exercise regime which meets pre-determined health criteria is not effective for everybody. Physical activity in the past met many other occupational needs and societal values: what is recommended to replace 'superseded' occupations in the present age has also got to meet the ever changing needs and values of humans occupational nature in the future. Instead, in a reductionist way, and counter to the notion of 'balance', the expenditure of physical energy, its components, and the specificity of each to perceived health functions, have been put under the microscope, and people are now given reductionist advise on aspects of physical activity which are deemed to be 'good' or 'bad' for selected issues. For example, the American College of Sports Medicine makes a distinction between physical activity for 'fitness' or for 'health⁶¹', and 'fitness' has been similarly divided by the American Alliance for Health, Physical Education, Recreation, and Dance, into "motor skill related fitness" and "health related fitness". In the latter:

*"components appear to be related to the development of cardiovascular-respiratory health, maintenance of an optimal body weight, and the development of adequate flexibility and muscular strength and endurance important for the prevention of low back injury and pain"*⁶²

Whilst the research which provides the basis for such division is valuable, it's presentation in both professional and popular media leads to the assumption that other types of physical activity are of less value. It is hardly surprising that people hearing this type of rhetoric do not equate the physical activities of daily living, nor more general occupational behaviours with their health. In a retrospective study conducted in Adelaide on 100 people over the

Shea S, Basche CE, Lantigua R, Weschler H. The Washington Heights-Inwood healthy heart program: A third generation community-based cardiovascular disease prevention program in a disadvantaged urban setting. *Preventive medicine* 1991; 21: 201-217; King AC, Blair SN, Bild DE, Dishman RK, Dubbert PM, Marcus PM, Oldridge MD, Paffenbarger RS, Powell KE, Yeager KK. Determinants of physical activity and interventions in adults. *Medicine and science in sports and exercise*. 1992; 24: S221-S237.

⁶¹American College of Sports Medicine. *Guidelines for exercise testing and prescription....*

⁶²Williams MH. *Lifetime fitness and wellness: A personal choice*. 2nd ed. Dubuque: Wm. C. Brown Publishers, 1990, p.9.

age of sixty, it was found that the majority of the sample did not associate their life's occupations with their health⁶³. This finding appears to be indicative of a 'medicalised' understanding of health by the general public, which is, perhaps inadvertently, being reinforced by health education strategies, and the media.

This modern reductionism can be contrasted with the holistic nature of hunter-gatherer lifestyles in which physical activity and nutrition were part of an ecological healthy 'whole'⁶⁴. In the present day weight gain and obesity are common health concerns in post-industrial societies and many widely differing circumstances associated with occupation affect the prevalence of weight disorders, yet in the multitude of articles and texts about diets there is scant reference to the need to consider diet and occupation as closely related. For example, although it has been estimated that an individual, per 121 pounds of body weight, will expend approximately 1.5 calories per minute employed as a typist, in contrast to 3.5 if engaged in domestic work, nutritional intake seldom varies when occupations change, with a resultant imbalance between energy input and output.⁶⁵.

It is often the small percentage of people who are committed to physical exercise regimes, and 'physical health' who are very aware of how their food intake affects their occupation. However, even these are subject to breakdown of health because of imbalance. For example, it has recently been reported that although athletes generally experience a high level of physical fitness and well-

⁶³ Wilcock AA, et al. *Retrospective study of elderly peoples' perceptions of the relationship between their lives occupations and health*. University of South Australia: Unpublished, 1990.

⁶⁴ King-Boyes MJE. *Patterns of aboriginal culture: then and now*. Sydney: McGraw-Hill Book Company, 1977. pp. 17,155.

⁶⁵ See, for example: Passmore R, Eastwood MA. *Davidson and Passmore, Human nutrition and dietetics*. Edinburgh: Churchill Livingstone, 1986; Grades are according to the obesity index based on the ratio W/H^2 devised by Garrow JS. *Treat obesity seriously*. Edinburgh: Churchill Livingstone, 1981; Hafen BQ, editor. *Overweight and obesity: Causes, fallacies, treatment*. Utah: Brigham Young University Press, 1975.

being, they frequently suffer some form of breakdown of health at the time of major competition. Evidence about the cause of pathophysiology of such overtraining syndrome is limited, but it has been suggested that the stress of training can cause depression and decreased immune function⁶⁶. This gives rise to the notion that too much exercise, taken to reach peak performance in this case, is detrimental to health as is too little exercise, which can lead to atrophy of body tissue and organs. Kenneth Cooper, who is credited with coining the term 'aerobics', now suggests that over-exercising can trigger the over production of free radicals which could be linked with many life style disorders, and even death⁶⁷. Indeed, from a study of cases of sudden death during exercise, Siscovick, Weiss, Fletcher and Lasky found that the risks of death during exercise are increased by 700%, despite men who exercise having half the death rate of those who do not exercise⁶⁸. Moderate, rather than strenuous exercise is now being seen, by some, as a more sensible physical fitness regime, and this recommendation fits in well with notions about occupational balance.

Despite this changing view, another aspect of balance between activity and rest, is also poorly understood, even though the 'sleep' research discussed in chapter three points to them being part of the same continuum. When the 'natural' balance between active and rest occupations is considered (apparent from studies of more primitive cultures) it would seem that artificial constructs such as the eight hour day or five day week have little to recommend them. Within these constructs people are engaging in activity for socially, economically or politically based 'temporal' reasons. There is a lack of understanding of how biologically based temporal rhythms impact upon occupation, and on occupation's relationship to ill-health, despite studies

⁶⁶ Budgett R. Overtraining syndrome. *British journal of sports medicine* 1990; 24(4): 231-236.

⁶⁷ Cooper K. *Dr Kenneth Coopers antioxidant revolution*. Melbourne: Bookman, 1994.

⁶⁸ Siscovick DS, Weiss NS, Fletcher RH, Lasky T. The incidence of primary cardiac arrest during vigorous exercise. *New England journal of medicine* 1984; 311: 874-877.

which have found that shift work which disrupts sleep-wake patterns, can lead to irritability, malaise, fatigue, stomach complaints, diminished concentration, diminished functional capabilities, mood changes and increased susceptibility to accidents⁶⁹.

In evolutionary terms rest between actions appears an early survival mechanism. From personal, close and ongoing observations of habitual rest / activity patterns of domestic animals, I note that much of their time is spent in rest and watchfulness. This is contrasted with periods of intense activity⁷⁰. I suggest that this biological balancing function serves a survival purpose whereby energy is conserved and stored during resting, whilst the watchfulness informs, so that the animal is ready for action should a need arise. The watchfulness remains as a dominant behaviour, although its original survival function is obscured under the social-cultural guise of entertainment or 'sticky-beaking'⁷¹. Whilst assuming that humans retain vestiges of the resting mechanism, Hetzel and McMichael suggest that, although contemporary western society "has largely eliminated" the need for "recreational inactivity (as) a natural means of resting tired limbs or conserving hard won energy...the instinct for it remains"⁷². This may, in some way account for the often expressed desire of people 'to stop working', 'to go for a holiday', 'to have a rest', 'to retire if they could afford to do so', 'to be anywhere other than at work', and that society's arbitrary temporal constructs and constraints are counter to biological activity patterns.

⁶⁹ See, for example: Monk T. Coping with the stress of shift work. *Work and stress* 1988; 2: 169-172; Rosa R, Colligan M. Long workdays versus restdays: Assessing fatigue and alertness with a portable performance battery. *Human factors* 1988; 5: 87-98; Dinges D, Whitehouse W, Carota-Orne E, Orne M. The benefits of a nap during prolonged work and wakefulness. *Work and stress* 1988; 2: 139-153.

⁷⁰ Such observation has, during my adult life, included six dogs, a cat, two goats, four lambs, a cow, three calves, about 100 fan tail pigeons and innumerable bantam hens.

⁷¹ An Australian slang term for minding other people's business.

⁷² Hetzel BS, Mc Michael T. *L S factor: Lifestyle and health...* p.186.

Late in the evolutionary chain, as human capacities increased, the need to keep more diverse 'intellectual' capacities exercised for when they were required, demanded changed, increased and more flexible activity patterns. These activity patterns were superimposed on, and integrated with the older activity / rest rhythms. These patterns often compete, and inactivity or passive activity, which seldom provides for the newer 'top of the hierarchy' needs for satisfaction, purpose and meaning, can become the easier option. For example, watching television is one of the most common 'resting' occupations of present times, and Kubey and Csikszentmihalyi found that it is universally reported as involving practically no challenges and no skills, and does not provide 'flow' experiences⁷³. Csikszentmihalyi suggests the low level of energy expenditure may be a factor in its popularity, along with the notion that "a mismatch between opportunities and abilities leads to a progressive atrophy of the desire for new challenges"⁷⁴. I suggest that it is modern 'watchfulness' during which time people learn about and reflect on their world for similar survival reasons to earlier times. In combination with this, choice of passive, 'unsatisfying' and what are frequently described as unhealthy pursuits may be a particular, but unconscious, problem for those who, because of early deprivation, or lack of learning and opportunity, do not develop their innate capacities and potential, and need to be more watchful. As well, in present occupational structures, the amount of time people have available for restful occupations may not meet their overall needs in terms of biological balance, because amongst other factors, many people are obliged to utilize their mental capacities differently than in earlier times. That is, there is probably a decrease of time and opportunity for intellectual or spiritual reflection, and much more time required to attend to routine, but demanding

⁷³ Kubey R, Csiksentmihalyi M. *Television and the quality of life*. Hillsdale, NJ: Erlbaum, 1990. See also Csiksentmihalyi M, Larson R, Prescott S. The ecology of adolescent activity and experience. *Journal of youth and adolescence* 1977; 6: 281-94; Larson R, Kubey R. Television and music: Contrasting media in adolescent life. *Youth and society* 1983; 15: 13-31.

⁷⁴ Csiksentmihalyi M. Activity and happiness: Towards a science of occupation. *Journal of occupational science: Australia* 1993; 1(1): 38-42.

paperwork which has to be filled in for work, social security and taxation purposes. For many, this is stressful and a common complaint is that people lack energy and are tired by the mental and social demands of their occupations. So in spite of widespread dissemination of information that sedentary lifestyles jeopardise long term health and survival many people still choose sedentary occupations for their leisure time, and imbalance between physical, mental, social and rest occupations is an ongoing occurrence.

In 1992, with a small group of student researchers from the Adelaide School of Occupational Therapy, I undertook a pilot study to explore perceptions of occupational balance and its relationship to health. Using a cluster sampling method and with 146 respondents the results indicated that, for many, ideal occupational balance is approximately equal involvement in physical, mental, social and rest occupations. A significant relationship was found between the closeness of current occupational patterns to those perceived by the respondent to be ideal, and their reported health. (See appendix IV)

The arbitrary dividing of occupation impedes the conscious awareness of the need to balance mental, physical, social, rest, chosen and obligatory occupations as integral aspects of health. For many people, lack of such balance results in boredom or burnout. Boredom is the most common emotional response to lack of occupation and burnout is the widely reported emotional response to over stimulation, and too much occupation. Both boredom and burnout are forms of stress which have been linked with ill health. Whilst overload has received more attention than insufficient occupation as a cause of illness, if energy systems are not used they deteriorate. Both "highly conditioned endurance athletes who go through a period of detraining" and people who are bedridden experience huge "decreases in the oxygen energy system in

relatively short periods of time"⁷⁵. This phenomenon can decrease immune responses, and increase susceptibility to ill-health⁷⁶. In parallel, and probably associated with the opposite of boredom, more than ten studies have demonstrated that physical activity has a protective effect against certain cancers⁷⁷

Sobel and Ornstein assert that "the brains mechanism for adaptation can be overwhelmed and blitzed by too much change and challenge"⁷⁸ but that "a certain amount of stimulation and information" is needed "to maintain its organisation. They observe that:

*"as the brain evolved, its ability to handle the world became increasingly comprehensive. ...The paradox is that as the human brain matures and develops it both enormously increases its ability to find out new things and, at the same time, develops an enormous capacity for getting bored"*⁷⁹.

Ardell claims that "boredom is the arch-enemy of wellness" and that "it is the leading cause of low level worseness". He argues that it can be held responsible for health-risk behaviours, such as, smoking, drug and alcohol abuse, and "a failure to take the positive initiatives associated with potent lifestyles"⁸⁰.

There are many reasons for the apparent increase in boredom and burnout caused by occupational imbalance. This includes societal pressure to pursue particular occupations which may impose upon individuals the apparent need

⁷⁵ Williams MH. Lifetime fitness and wellness:...p.27

⁷⁶ See for example: Geschwind N, Galaburda A, editors. *Biological foundations of cerebral dominance*. Cambridge: Harvard University Press, 1984 ; Andervont HB. Influence of environment on mammary cancer in mice. *Journal of National Cancer Institute*, 1944; 4: 579-581; de la Pena A. *The psychobiology of cancer*. New York: Praeger Publishers, 1983; Achterberg J, Collerrain I, Craig P. A possible relationship between cancer, mental retardation and mental disorder. *Social science and medicine* 1978; 12: 135-139.

⁷⁷ Calabrese LH. Exercise, immunity, cancer and infection. In: *Exercise, fitness and health: A consensus of current knowledge*...pp.567-579.

⁷⁸ Ornstein R, Sobel D. *The healing brain, a radical new approach to health care*. London: MacMillan, 1988, p.207.

⁷⁹ Ornstein R, Sobel D. *The healing brain.... pp.207, 214.*

⁸⁰ Ardell DB. *High level wellness*. 2nd ed. Berkeley, Ca.: Ten Speed Press, 1986.

to do more than they are capable of, or to do less than they achieve personal satisfaction from. Ornstein and Sobel suggest there is an optimal set point for stimulation "in the middle of an organism's response level" maintained "through feedback processes similar to the homeostatic mechanisms of the body", and that when there is either "too much or too little, instability results and disease may follow"⁸¹. Similarly Csikszentmihalyi has found that an optimal state relating to health and well-being occurs when individuals are challenged by their occupations, and have the personal capacities to meet the challenge⁸². If this does not occur ill-health may be a consequence. These views support the 'needs construct' described in the last chapter.

Until the industrial revolution, as Jones observed, "labour/time-absorbing employment was the norm in human experience"⁸³. In earlier times many people grew or made most of the products they required by virtue of both physical exercise and creative endeavour. By practising and mastering skills from beginning to end they were able to utilise their capacities to the extent that each felt comfortable and as a consequence benefited from a sense of achievement, satisfaction and well-being, which assisted their resistance to disease and illness. This allowed a more cohesive perspective of occupation which, it is argued, enabled greater awareness of too much or too little exercise of capacities. However at times of environmental crisis or ecological change when the challenges became too demanding, despite this more holistic awareness, susceptibility to disease would have increased. As Sigerist suggests:

*"work...may also be harmful to health, may become a chief cause of disease, when there is too much of it, when it is too hard, exceeding the capacity of an individual, when it is not properly balanced by rest and recreation, or when it is performed under adverse circumstances"*⁸⁴.

⁸¹ Ornstein R, Sobel D. *The healing brain...* pp.213-217.

⁸² Csikszentmihalyi M. *Flow: The Psychology of optimal experience*. New York: Harper and Row, 1990.

⁸³ Jones B. *Sleepers, wake!*... p. 83

⁸⁴ Sigerist HE. *A history of medicine, Vol. 1, primitive and archaic medicine*. New York: Oxford University Press, 1955, p.254-255.

Apart from individual experience of imbalance, there is an imbalance in health opportunities through occupation throughout the community, between the haves and the have nots; between the rich and the poor; between the informed and the illiterate; and between the employed and the unemployed. This imbalance is becoming a cause for concern to the extent that it is a common topic of conversation in many community venues, and is being addressed in popular media. For example 'The Weekend Australian' newspaper, dated April 8-9th, 1995, devoted more than a page to an article addressing *The age of overwork*. This presented evidence from several major post-industrial nations to suggest that many people in paid employment are now expected to take on increased duties, to spend longer hours on work tasks without extra rewards, and that health breakdowns from this cause are increasing⁸⁵. Women are particularly at risk as they often undertake a double role of domestic and paid employment occupations.

This is the case not only in post industrial societies. Barrett and Browne assert that African women have a triple workload, as biological, social and economic producers, which is deleterious to their health⁸⁶, and Ferguson found that women in a marginal area of Kenya experience stress-related ill-health because of the demands of their many occupations, as well as poor nutrition, high fertility rates and limited access to health care⁸⁷. At the other end of the spectrum is the rising numbers of unemployed with decreased opportunity for engagement in satisfying and valued occupation. Inequities of this type cause not only individual illness but community disease. This disease is compounded by the present day need to adapt and cope with an ever changing social, occupational and ecological environment. If individuals need

⁸⁵ Gare S. *The age of overwork*. *The Weekend Australian review*. April 8-9, 1995, pp.2-3; see also Schor J. *The overworked American: The unexpected decline of leisure*. New York: Basic Books, 1991.

⁸⁶ Barrett HR, Browne A. Workloads of rural African women: The impact of economic adjustment in Sub-Saharan Africa. *Journal of occupational science: Australia*, November 1993; 1(2): 3-11.

⁸⁷ Ferguson A. Women's health in a marginal area of Kenya. *Social science and medicine* 1986; 23: 17-29.

to have some degree of stability for the human system to remain healthy, there could come a time when maintaining the balance between development, particularly occupational development, and physiological processes is a major issue in health.

Despite affluent societies having an abundance of occupational choices which offer opportunity for the exercise and development of physical, mental and social skills, the structures, material costs and values placed upon different aspects of occupation may well affect how successfully individuals access these opportunities. People may also be restricted in their choice by factors as various as time, lack of resources, lack of awareness or, perhaps, because the focus of their occupations appear irrelevant to survival, health or well-being. Such obstacles can cause occupational imbalance because of occupational deprivation which I will now consider as another major risk factor.

Deprivation implies the influence of an external agency or circumstance that keeps a person from "acquiring, using or enjoying something"⁸⁸. The external agency or circumstance which causes occupational deprivation may be technology, the division of labour, lack of employment opportunities, poverty or affluence, cultural values, local regulations, and limitations imposed by social services and education systems, as well as ill-health and disability. Familiar examples spring to mind, such as the person confined to bed and wheel-chair because of physical handicap, the reluctant retiree, numerous individuals engaged in 'carer' duties, the school leaver or middle aged process worker unable to find paid employment or the lonely, battered child with little access to toys or stimulus.

Infants deprived of the opportunity of learning through doing because of lack of sensory stimulation within their environment, fail to develop

⁸⁸ Deprive. *Funk & Wagnall's Standard Desk Dictionary*, Vol 1 A-M . USA: Harper & Row, Publisher Inc., 1984, p.172

normally or to thrive^{89,90,91}. Indeed, all types of biological and social deprivation have been associated with failure to make use of occupational opportunities⁹², poor health⁹³, and with dysfunction in adolescence⁹⁴. In extreme examples where children have been left alone in almost empty rooms, and provided with only food and a place to sleep they have failed to develop even basic occupational skills of walking and self care. The classic example of child deprivation is the 'wild boy of Aveyron' who appeared from the woods of Caune, in France, in the late eighteenth century, after, probably, at least seven of his twelve years living alone. Despite five years of experimental education by Jean Itard he never attained normal language or robust health, although he did develop in many ways⁹⁵. A more recent example is provided by the prolonged deprivation experienced by children in Romanian orphanages, in which "every child who has been in these institutions for six months or longer has significant developmental delays"⁹⁶. In a pilot study exploring the effects of sensory deprivation, and the changes that can occur following enrichment of the environment, infants were initially found to be functioning at a level between the 'at risk' and 'deficiency' categories of the

⁸⁹ Literature which examines sensory influences on development includes Gilfoyle EM, Grady AP, Moore JC. *Children adapt*. Thorofare, NJ: Charles B Slack, 1981; Short MA. Vestibular stimulation as early experience: Historical perspective and research implications. *Physical and occupational therapy in pediatrics* 1985; 5: 135-152.

⁹⁰ Some institutions provide a deprived environment; See for example: Drotar D. Failure to thrive and preventive mental health: knowledge gaps and research needs. In: Drotar D, editor. *New directions in failure to thrive*. New York: Plenum Press, 1985, pp.27-44 ; Provence S, Lipton RC. *Infants in institutions*. New York: International Universities Press 1962.

⁹¹ Occupational therapists advocate the use of sensory stimulation to prevent deprivation. See, for example: Day S. Mother-infant activities as providers of sensory stimulation. *The American journal of occupational therapy* 1982; 36: 579-589; Archer PW. Perceptual problem of cerebral palsy children and the occupational therapist. *Canadian journal of occupational therapy* 1959; 26: 123-127.

⁹² Mackie A. Social deprivation and the role of psychological services. *Educational and child psychology* 1992; 9(3): 84-89.

⁹³ Townsend P, Simpson D, Tibbs N. Inequalities in health in the city of Bristol: A preliminary review of statistical evidence. *International journal of health services* 1985; 15(4): 637- 663.

⁹⁴ Mechanic D. Adolescents at risk: New directions. *Journal of adolescent health* 1991; 12(8): 638-643.

⁹⁵ Itard J. The wild boy of Aveyron. In: Malson L, editor. *Wolf children and the problem of human nature*. New York: Monthly Review Press, 1972.

⁹⁶ Bascom B. Program summary, projects and descriptions. In: *Brooke Foundation Annual Report*. Washington, DC: Brooke Foundation, 1993, p.12.

total 'Test of Sensory Functions'⁹⁷. Following a six month program within an enriched environment children improved in all but 'adaptive motor functions'⁹⁸.

Another group of people who experience extreme occupational deprivation are prisoners of war. The importance of finding meaning through occupation is one factor in the survival odds of prisoners. For example, Dimsdale in a study of the coping behaviour of Nazi concentration camp survivors identified purpose as essential to those who survived. One of his subjects focussed on "where I could find a blanket, something to chew, to eat, to repair, a torn shoe, an additional glove"⁹⁹, and Frankl, an existential psychiatrist, about his own concentration camp experiences, observed that mortality rates were highest amongst those unable to find purpose¹⁰⁰. Prisoners in jails often face similar, if not so extreme, states of occupational deprivation which has been linked with both community and individual disorders such as prison riots¹⁰¹ and schizophrenia¹⁰², as well as suicide whilst in custody¹⁰³. Supporting the link between lack of purposeful occupation and ill-health is a longitudinal study of long term prisoners which found the opposite to be the case as, over a period of seven years, the prisoners being studied became increasingly involved in a variety of occupations which led to decreases of dysphoric emotional states, stress related medical problems and disciplinary incidents¹⁰⁴.

⁹⁷ Degangi GA, Greenspan SI. *Test of sensory functions in infants (TSFI) Manual*. Los Angeles: Western Psychological Services, 1989.

⁹⁸ Haradon G, Bascom B, Dragomir C, Sciparu V. Sensory functions of institutionalized Romanian infants: A pilot study. *Occupational therapy international* 1994; 1: 250-260.

⁹⁹ Dimsdale, JE. The coping behavior of Nazi concentration camp survivors. *American journal of psychiatry* 1974; 131(7): p.795.

¹⁰⁰ Frankl VE. *Man's search for meaning*. Boston: Beacon Press, 1962.

¹⁰¹ Useem B. Disorganization and the New Mexico prison riot of 1980. *American sociological review* 1985; 50(5): 677-688.

¹⁰² Barte HN. L'isolement carcéral (Isolation in prison) English abstract of *Perspectives-psychiatriques* 1989; 28(19): 252-255.

¹⁰³ Liebling A. Suicides in young prisoners: A summary. *Death studies*. 1993; 17(5): 381-409.

¹⁰⁴ Zamble E. Behavior and adaptation in long term prison inmates: descriptive longitudinal results. *Criminal justice and behavior* 1992; 19 (4): 409-425.

Many people experience reduced occupational options because they are deprived of paid employment and may, as a result, have reduced opportunity to use physical, mental or social capacities and may thereby suffer a decrease in health. However it would appear that there may be more than this simple explanation to consider. One important characteristic of paid employment at present, noted in the chapter on occupational evolution, is the value placed upon it by society, which is probably as great as skill in obtaining the requirements for sustenance would have been among hunter-gatherers. In other words, significant work will be more conducive to mental and social health and well-being if it involves both meeting a primary urge and complying with societal values. Lack of significant work may cause mental and social ill-health, which can result in physical illness as well because of the integrative nature of the nervous system. Research data seems to support that decreased health status is linked with unemployment.

Richard Smith's summary account suggests that unemployment and poor health are strongly associated, that unemployment itself causes some illness, and that health problems are compounded by unemployment; that the poverty, low socio-economic status, poor education, and housing conditions, associated frequently with both ill health and unemployment cause difficulties in clarifying the strength of the associations; and that unemployment is also associated with high divorce rates, child and spouse abuse, unwanted pregnancies, abortions, reduced birthweight and childgrowth, perinatal and infant mortality, and increased morbidity in families, though for none of the associations can it be assumed that unemployment itself is the cause¹⁰⁵.

Smith is supported by many detailed studies. About a fifth of the unemployed report a deterioration in their mental health since being out of

¹⁰⁵Smith R. *Unemployment and health: A disaster and a challenge*. Oxford: Oxford University Press, 1987.

work¹⁰⁶. Studies using standardised questionnaires consistently show that the mental health of the unemployed is poorer than those with work¹⁰⁷, and that there is a link between unemployment, suicide and deliberate self-injury¹⁰⁸. There is less evidence associating unemployment with psychoses¹⁰⁹. Fryer and Payne, found that 5 per cent of the unemployed they studied reported an improvement in their mental health - some because they escaped from jobs they disliked, while others had found positive aspects to unemployment¹¹⁰. The studies linking unemployment with physical illness are limited. However the British Regional Heart Study has shown higher rates of bronchitis, chronic obstructive lung disease, and ischaemic heart disease among the unemployed than among the employed¹¹¹. Beale and Nethercott found a statistically significant 20 per cent increase in medical consultation rates for families of 80 men and 49 women who lost their jobs when a local factory closed, compared with controls who did not lose their jobs¹¹². A 60 per cent increase in referrals to hospital out-patients was also found. In a 1992 Australian paper, unemployed men were reported as experiencing a 66 per cent higher prevalence of disability, 21 per cent of recent illnesses, 101 percent more days of reduced activity because of illness, and of diabetes and respiratory disorders as a cause of death, than employed men. Women followed the same

¹⁰⁶ Colledge M, Bartholomew R. *A study of the long term unemployed*. London: Manpower Services Commission, 1980; Jackson PR, Warr PB. Unemployment and psychological ill health: The moderating role of duration and age. *Psychological medicine* 1984; 14: 605-14; Warr P. Twelve Questions about Unemployment and Health. In: Roberts R, Finnegan R, Gallie D, editors. *New Approaches to Economic Life*. Manchester: Manchester University Press, 1985.

¹⁰⁷ Warr P. Twelve Questions about Unemployment and Health...; Dowling PJ, De Cieri H, Griffin G, Brown M. Psychological aspects of redundancy: An Australian case study. *Journal of industrial relations* 1987; 29 (4): 519-531.

¹⁰⁸ Platt S. Unemployment and suicidal behaviour: A review of the literature. *Social science medicine* 1984; 19: 93-115.

¹⁰⁹ Jaco EG. *The social epidemiology of mental disorders*. New York: Russell Sage Foundation, 1960; Warr P. Twelve questions about unemployment and health.

¹¹⁰ Fryer D, Payne R. Proactive behaviour in unemployment: Findings and implications. *Leisure studies* 1984; 3: 273-95.

¹¹¹ Cook DG, Cummins RO, Bartley MJ, Shaper AG. Health of unemployed middle aged men in Great Britain, *Lancet* 1982; i: 1290-4.

¹¹² Beale N, Nethercott S. Job loss and family morbidity: A study of factory closure, *Journal of Royal College General Practitioners* 1985; 280: 510-4.

trends but not to the same extent¹¹³. Brenner, a professor at Johns Hopkins University, found a relationship between downward fluctuations in the American economy between 1940 and 1973, and physical and emotional illness¹¹⁴. He calculated that an unemployment increase of about a million people(1% of the population) sustained for 6 years, could be linked with increases of 36,887 in total deaths, 4227 in mental hospital admissions, and 3340 in prison admissions. His study indicated that health is vulnerable to subtle economic fluctuations and that it improves and declines with the economy. Scott-Samuel, and Moser, found unemployment may also be associated with premature death¹¹⁵, however Gravelle is unconvinced that this is the case¹¹⁶.

Other people who are at risk of ill-health from occupational deprivation include disadvantaged groups within the community, such as the poor, the disabled, minority ethnic groups and the aged. There are differences in the risks of ill-health between such social groupings and others¹¹⁷, and it is argued here that occupational deprivation plays a part in this equation. For example, Australian aboriginal elders, particularly from remote areas, disturbed by "self-destructive activities such as drinking, (and) violence", poor health, along with loss of traditional occupations, "asked that 'sit-down' money be replaced by money for work done by those who were unemployed"¹¹⁸. The

¹¹³Enough to make you sick: How income and environment affect health. Australian National Health strategy Research paper No 1, Sept 1992.

¹¹⁴Brenner MH. Health costs and benefits of economic policy. *International journal of health services* 1977; 7: 581-93; Brenner MH. Mortality and the National economy: A review, and the experience of England and Wales, *Lancet* 1979; ii: 568-73.

¹¹⁵Scott-Samuel A. Unemployment and health. *Lancet* 1984; ii: 1464-5; Moser KA, Fox AJ, Jones DR. Unemployment and mortality in the OPCS longitudinal study. *Lancet* 1984; ii: 1324-9; Moser KA, Goldblatt PO, Fox AJ, Jones DR. Unemployment and mortality: Comparison of the 1971 and 1981 longitudinal census sample. *British medical journal* 1987; 294: 86-90: See also Kerr C, Taylor R. Grim prospects for the unemployed. *New doctor* 1993; (Summer): 23-24.

¹¹⁶Gravelle H. Does unemployment kill? Oxford: Nuffield Provincial Hospitals Trust, 1985.

¹¹⁷Hart JT. The inverse care law. *Lancet* 1971; February 27: 405-412; Martin GS. *Social/medical aspects of poverty in Australia*. Australian Government inquiry into poverty. Canberra: Australian Government Publishing Service, 1976; Optit LJ. Economic policy and health care: The inverse care law. *New Doctor* 1983.

¹¹⁸Jensen H. What it means to get off sit-down money: Community Development Employment Projects (CDEP). *Journal of occupational science: Australia* 1993; 1(2): 12-19.

Community Development Employment Project Scheme came into being providing "an increase in the health of communities...more people involved in physically active tasks, a decrease in alcohol consumption, an increase in cleanliness and better nutrition"¹¹⁹. This is a rare example of an 'occupational' initiative being implemented for combined health, social and economic benefits.

Very few initiatives are being implemented for those with ongoing health problems, such as the disabled. In fact, programmes aimed at promoting their health through opportunities to encourage growth of occupational potential are the first to be axed when 'health' resources become scarce, even though such programs are not expensive when compared with 'technologically brilliant life-saving procedures which may condemn a 'brain injured' victim to an unresourced, unsatisfying and unhealthy life in the future. Hodges asks: "Are service needs for the promotion of health among the disabled different than for the non-disabled, and are they adequately met?" He identifies the lack of development of strategies for the disabled as a major void and suggests that for this "significant portion of society....the concept of health promotion and disease prevention takes on added dimensions and heightened need."¹²⁰

Women, too, have generally suffered occupational deprivation for hundreds of years but the industrial revolution brought the differences and divisions of labour between men and women to a point seen by Mackie and Pattullo as destroying the vitality of women¹²¹. Equality of occupational opportunity between males and females had declined from the Palaeolithic era on, yet during particular eras some women enjoyed some respite. For example, in the medieval period it was possible for women entering a nunnery (usually upper

¹¹⁹ Aboriginal and Torres Strait Islander Commission. *No reverse gear: A National review of the Community Development Projects Scheme*. 1993.

¹²⁰ Hodges A. Health promotion and disease prevention for the disabled. *Journal of allied health* 1986; Nov.

¹²¹ Mackie L, Pattullo P. *Women at work*, London: Tavistock Publications, 1977.

class, unmarried females, and later from the merchant classes) to receive a better education and the chance to engage in a greater range of occupations than those who married, and women in towns were able to engage in many trades¹²². Women did not however have political equality, and were subservient to their fathers or their husbands. Although accepted as of less value than the roles men undertook, women's occupations which were often "gruelling and virtually unending", were also productive, rich in variety, self expression and responsibility, achievement and satisfaction, and not "compartmentalised, isolated or solitary"¹²³. Not all women were engaged in paid employment but the restricted occupational role of affluent women was hazardous to health in a different way. Their physical activity was slight, the use of their mental capacities restricted, and their "social usefulness was never recognized or recompensed. Instead their dependence on the male bread winner and their work in the family reduced their capacity to organise"¹²⁴. Florence Nightingale at the age of 26 observed that "women don't consider themselves as human beings at all" and that she knew of some who had gone mad for lack of things to do¹²⁵; similarly Elizabeth Garrett Anderson suggests that:

*"there is no tonic in the pharmacopoeia to be compared with happiness, and happiness worth calling such is not known where the days drag along filled with make-believe occupations and dreary sham amusements"*¹²⁶

122 Stavrianos LS. *The world to 1500: A global history*, 4th ed. Englewood Cliffs, NJ.: Prentice Hall, 1988, p.273-275

Note the number of medieval English words ending in 'ster' or 'ess', as in *brewster* (woman beer maker), *webster* (woman weaver), *baxter* (woman baker), *seamstress* (woman sewer), or *governess* (woman teacher); see also: Etienne Boileau's 13th century *Livre de Metiers* (Book of Trades), which lists the rules of 100 Paris Guilds. Women were working in 86 of these guilds; Power E. The position of women. In: Crump CG, Jacob EF, editors. *The legacy of the middle ages*. Oxford: Clarendon Press, 1926, pp.401-434; Gross SH, Bingham MW. *Women in medieval -Renaissance Europe*. St Louis Park, Mn.: Glenhurst, 1983.

123 Mackie L, Pattullo P. *Women at work...* p.10

124 Rowbotham S. *Hidden from history*, London: Pluto Press, 1973, p.58.

125 Woodham-Smith C, *Florence Nightingale*. London: The Reprint Society, 1952, p.71.

126 Anderson EG. *Fortnightly review* NS, xv: London: 1874, p.590.

The strong preference for women to follow domestic and child raising occupations in the home, in Victorian times, was linked with infant health. It was thought by many that if married women undertook paid employment outside the home this would be at the sacrifice of infant lives^{127,128}, although this was found, by a 1893-94 Royal Commission on Labour, not to be the case¹²⁹.

The inequality of opportunity that has characterised women's occupations for thousands of years as a result of the type of economy, and dominant cultural ideas such as about social justice and equity, humanism, individualism and familism, is still evident today, although in post-industrial societies it has improved greatly. Even so as recently as 1976, Douglas Gordon, in his book *Health, Sickness and Society* expresses occupational gender bias in observing:

"It is said that a man's job provides him with a means to satisfy his ego by preserving his personal integrity and by maintaining his place in the world. On average a man's occupation is more important to his mental health than is outside occupation to a woman. She gains status as a wife and mother and from her

¹²⁷ Hewitt, M., *Wives and mothers in Victorian industry*, London: Rockcliff, 1958.

¹²⁸ Indicative of the period, Dr H. Jones, in an essay 'The perils and protection of infant life' concluded that.:

"The children of women engaged in industrial occupations suffer from the effects of maternal neglect. They are handicapped from the moment of birth in their struggle for existence, and have to contend not only against the inevitable perils of infancy but also against perils due to their neglect by their mothers and to the ignorance of those to whose care they are entrusted":

Jones H. The perils and protection of infant life. *Journal of the Royal Statistical Society* 1894; 1(vii): 1-98, (p.56).

Dyhouse reports that during formal discussion of Dr Jones' paper, by the Royal Statistical Society, there was some criticism of this conclusion, such as; that statistics linking women who took jobs outside the home with infant mortality rates provided conflicting evidence; that overcrowding and insanitary conditions were more crucial variables; that some children might benefit from better food and conditions provided by mother's wages.

Dyhouse C. Working Class Mothers and Infant Mortality in England, 1895-1914, *Journal of social history* 1978; xii: 248-267.

¹²⁹ Collett CE. The collection and utilization of official statistics bearing on the extent and effects of the industrial employment of women. *Journal of the Royal Statistical Society* 1898; 219-61.

The 1893-94 Royal Commission on Labour, which investigated conditions of women's work, including '*the effects of women's industrial employment on their health, mortality and the home*' found Jones's association between women's employment and infantile mortality were imprecise and impressionistic.

*home...Some women need to work outside: a lot do not wish to do so. At least that is what they say."*¹³⁰

The remarkable improvements in women's morbidity and mortality since the nineteenth century appears to be multi-factoral, including reduced birth rate, greater understanding of obstetric and gynaecological disorders, emancipation, a change of attitudes, and it is argued here, the increased opportunity for women to exercise capacities and develop potentials. Indeed a few studies point to this being the case¹³¹. However despite the growing numbers of women participating in other than domestic work, the study of the relationship between women's occupations and health are limited, on the whole, to job stress¹³², reproductive hazards¹³³, and the threat to family function and maternal responsibilities¹³⁴.

Occupational deprivation and imbalance have been variable and, generally, gradual as occupation evolved in the course of human adaptation to challenge. It has been noted that adaptation is being called for at a rapidly increasing rate at present, and Ornstein and Sobel suggest that the technological possibility of

¹³⁰Gordon D. *Health, sickness and society* ...p.378; see also: Frumkin RM. Occupation and major mental disorders. In: Rose AM, editor. *Mental health and mental disorder*. London: Routledge and Kegan Paul, 1956.

¹³¹Wheeler AP, Lee ES, Loe HD. Employment, sense of well-being, and use of professional services among women. *American journal of public health* 1983; 73(8): 908-911; Pepitone-Arreola-Rockwell F, Somner B, Sassenrath EZN, Rozee-Koker P, Stringer-Moore D. Stress and health in working women. *Journal of human stress* 1981; 7(4): 19-26.

¹³²Waldron I. The coronary-prone behavior pattern, blood pressure, employment and socio-economic status in women. *Journal of psychosomatic research* 1978; 22: 79-87; Lemkau JP. Women and employment: Some emotional hazards. In Beckerman CL, editor. *The evolving female*. New York: Human Sciences press, 1980; Haw MA. Women, work and stress: A review and agenda for the future. *Journal of health and social behavior* 1982; 23: 132-144; Lewin E, Olesen V. Occupational health and women: the case of clerical work. In: Lewin, E. Olesen V, editors *Women, health and healing*: ...

¹³³Bell C. Implementing safety and health regulations for women in the workplace, *Feminist studies* 1979; 5(2): 286-301; Hunt VR. A brief history of women workers and hazards in the workplace, *Feminist studies* 1979; 5(2): 274-285; Petchecky, R. Workers, reproductive hazards, and the politics of protection: An introduction. *Feminist studies* 1979; 5: 233-245; Wright MJ. Reproductive hazards and 'protective' discrimination. *Feminist studies* 1979; 5(2): 302-309; Lewin E, Olesen V. Occupational health and women: the case of clerical work. In: Lewin, E. Olesen V, editors *Women, Health and Healing*....

¹³⁴Fogarty MP, Rapoport R, Rapoport RN. *Sex, career, and family*, Beverly Hills: Sage Publications, 1971.

more radical changes in occupation could result in serious health consequences. They say that because parts of the brain are rooted in earlier species inheritance people are only able to respond with biological reactions which are either "obsolete" or "inappropriately elicited"¹³⁵. Similarly, Dubos warns that although humans may appear to adapt to new environments their biological inheritance only enables adaptation up to a point and that chronic disease states can develop over time¹³⁶. These warnings are an echo of some of Dunn's anxiety as to whether individuals and families can "attain and maintain wellness while riding the crest of a social millrace"¹³⁷, and Maslow's concerns that mankind is "at a point in history unlike anything that has ever been before" with "huge acceleration in the growth of facts, of knowledge, of techniques, of inventions, of advances in technology". Maslow suggested that the rapidity of the changing world calls for "a different kind of human being...who is comfortable with change," because "societies that cannot turn out such people will die"¹³⁸. The Ottawa Charter also recognises that there are health concerns associated with socio-ecological change and calls for a "systematic assessment of the health impact of a rapidly changing environment, particularly in areas of technology, work, energy production and urbanisation"¹³⁹. Such an assessment would need to take into account the concept of alienation or 'estrangement' which is the third occupational risk factor to be considered.¹⁴⁰

¹³⁵ Ornstein R, Sobel D. *The healing brain...* p.206

¹³⁶ Dubos R. Changing patterns of disease. In: Brown RG, Whyte HM, editors. *Medical practice and the community: Proceedings of a conference convened by the Australian National University, Canberra*. Canberra: Australian National University Press, 1968 (p 59).

¹³⁷ Dunn HL. *High level wellness*. Arlington, Va.: RW Beatty, 1961.

¹³⁸ Maslow A. *The farther reaches of human nature*. Viking Press, 1971.

¹³⁹ World Health Organization, Health and Welfare Canada, Canadian Public Health Association. *Ottawa Charter for Health Promotion*. Canada: Ottawa, 1986.

¹⁴⁰ Alienation. defined as "estrangement; transference of ownership; diversion to a different purpose". *The standard English desk dictionary*, 2nd ed. © Oxford University Press, 1975; published for sale in Australia and New Zealand only, Sydney: Bay Books, 1976

Since the time when people lived in harmony with the natural environment early in the species history, with only the simplest of technology to assist them to meet their needs, mankind has sought to challenge and master nature by the development of more and more sophisticated technology to meet their occupational wants, and to conquer ill-health and delay death by ever increasing sophisticated medical science. Such technological change is seen, by some, as alienating. Alienation is a term much debated by twentieth century Marxists, as it is a theme which surfaced as important in the early humanist period of Marx's work since first being published in English in 1932¹⁴¹.

As a central concept of his philosophy, alienation is intimately connected with Marx's views about activity and human nature¹⁴². Individual, group, institutional or societal activity can result in alienation when it is not in accordance with our species nature. Marx saw our species nature as a unity of naturalism and humanism; that is, he viewed humans in evolutionary terms, as part of nature and, in humanist terms, as praxic beings who both change nature and create themselves. He regarded as potentially alienating any productive, economic, social or spiritual activity, as well as the products of activity such as philosophies, morals, money, commodities, laws or social institutions¹⁴³. He argues that because of 'cultural' and 'capitalist' history such activities and products have become estranged from the natural 'creativity' of human's species nature, resulting in feelings of alienation towards self and others, and the activities and products themselves. These alienating activities, along with division of labour are "forced upon individuals by the society

¹⁴¹Marx K. *Economic and philosophical manuscripts*, 1844 (1932). In: Livingstone R, Benton G, translators. *Karl Marx: Early writings*. Penguin Classics, 1992, and *Grundisse*, 1857 (first English version 1939); Penguin Classics, 1970.

¹⁴²Petrovic G. Alienation. In: Bottomore T, editor. *A dictionary of Marxist thought*. 2nd ed. Oxford: Blackwell, 1991, pp.11-16.

¹⁴³Marx K. *Economic and philosophical manuscripts*, 1844. In: *Karl Marx: Early writings*.... Penguin Classics, 1992.

which they themselves create"¹⁴⁴ and as long as "activity is not voluntary...man's own deed becomes an alien power opposed to him, which enslaves him instead of being controlled by him"¹⁴⁵.

To illustrate this concept of alienation, consider the analogy of an animal born in captivity - a lion, for example, who has only ever known a world of a cage, of other animals living solitary lives in their own cages, and of people who feed and care for him, but who demand particular activity and behaviour from time to time. It is possible to understand that the lion will experience needs and instincts which relate to the natural environment in which he would have lived in the wild but with no means of really appreciating or satisfying them. He is estranged or alienated from his species nature, from his activities and from other animals but because he has never known a natural lifestyle does not understand why he feels unhappy, frustrated, or the need to escape to something different. Humans because of their occupational species nature have constructed, over time, their own cages. The bars are the products and results of their occupations, such as the social values of any culture or society, its laws and rules, its political direction and its economic structure including the day by day occupational opportunities and demands on each individual. Like the lion, humans are estranged from their species nature, from others, from what they 'do' and from the results of their activities. Daniel Miller even suggests that the status given to the medical profession, and its 'scientific' values, can be alienating factors in the way that they exert control over the procedures aimed at rapid repair of body parts decontextualised from the recipients mental or social needs¹⁴⁶

¹⁴⁴ Mohun S. Division of labour. In: *A dictionary of Marxist thought*...p.155.

¹⁴⁵ Marx K, Engels F. *The German Ideology*. 1845-46. London: Lawrence & Wishart, 1964.

¹⁴⁶ Miller D. Dissociation in medical practice: Social distress and the health care system. *Journal of social distress and the homeless* 1993; 2(4): 243-267.

Marx particularly linked feelings of alienation with the restrictions imposed upon the ordinary worker by capitalism and industrial processes. He pondered on the contrast between the craftsmen who worked skilfully with tools which themselves were often hand made, and the factory worker who in many instances were subservient to their tools - the machines. He wrote that far from freeing humans from toil "the lightening of the labour, even, becomes a sort of torture, since the machine does not free the labourer from work, but deprives the work of all interest"¹⁴⁷. He envisaged that factory workers "robbed thus of all real life-content, have become abstract individuals,...the only connection which still links them with the productive forces and with their own existence - labour - has lost all semblance of self-activity and only sustains life by stunting it"¹⁴⁸. Marx perceived this 'stunting' outcome as less than health-giving and suggested a direct illness connection associated with the processes of industrialisation because:

"factory work exhausts the nervous system to the uttermost, it does away with the many sided play of the muscles, and confiscates every atom of freedom, both in bodily and intellectual activity"

Smith suggests in *Unemployment and Health* that, for many, these problems continue to the present, as "most employment for most people has since the industrial revolution been hard, exhausting, boring, dirty, degrading, and, as Marx said, alienating"¹⁴⁹. These alienating changes were compounded, during the industrial revolution, by "the terrific destruction of human values", with Dubos suggesting that if ever people "lived under conditions completely removed from the state of nature dreamed of by the philosophers of the enlightenment, it was the English proletariat of the 1830s"¹⁵⁰.

¹⁴⁷ Marx K *Capital* (1867)...pp.422-424

¹⁴⁸ Fischer,1970...pp 43-44.

¹⁴⁹ Smith R. *Unemployment and Health: A disaster and a challenge*. Oxford: Oxford University Press, 1987, p.2.

¹⁵⁰ Dubos R. *Mirage of health: Utopias, progress and biological change*. New York: Harper and Row Publishers, 1959, p.147.

Those conditions are now regarded as so unhealthy that it is difficult to understand why people made the mass exodus from country to town, until it is appreciated that "the move from farm to factory was based on social trends that the individual could not control", and "it is far from clear that it was individual preference...that led to urban migrations", but economic need¹⁵¹. It is also worth noting that the conditions of most people in the eighteenth century were far from idyllic, with labourers working from dawn to dark in 'poverty and darkness'¹⁵². Huge numbers of the population changed not only their habitats but the structure of their social networks, from small cohesive groupings, which worked and played together, to large populations where individuals know or are close to few people. Jones observes that a "new concept of 'going to work'" emerged as "employment based at or near home" was "replaced by work at central locations such as factories and shops"¹⁵³. Centralisation separated males and females, altering the value of their occupations, and experiences of social and mental well-being; it separated adults from children, altering teaching and learning roles; and children, unless engaged in 'child labour' with them, no longer observed or participated with their parents as they engaged in the daily round of socially valued roles and skills. Instead they learned from strangers.

Such changes to basic human relationship patterns may well have gradually impacted on some of the family, loneliness and social alienation problems common in the modern world, and which lead directly or indirectly to ill-health. Misjuskovic puts a case that alienation, and individual loneliness are more pronounced and prevalent in 'atomistic societies', such as America, (and I would argue, other post-industrial societies), than in 'organic communities' in which natural functions, role perspectives, mutual interdependence and

¹⁵¹Triplett T. Hebrides women: A philosopher's view of technology and cultural change. In: Wright BD, Ferree MM, Mellow GO, Lewis LH, Samper MLD, Asher R, Clasper K, editors. *Women, work and technology*. USA: The University of Michigan Press, 1987, p.147

¹⁵²Bronowski J. *The Ascent of Man*. London: British Broadcasting Corporation, 1973, p.260.

¹⁵³Jones B. *Sleepers, wake!* ...

intrinsic relations are stressed in contrast to individual freedom, external connections, causal and reductionistic explanations, rule orientation and artificial frameworks¹⁵⁴. His view has some merit when it is observed how current post-industrial values and changing occupational structures, language, and technologies can restrict freedom of action by ever increasing rules, regulations and bureaucracy; replace ongoing human endeavour with labour saving technology which often creates work of a mundane variety; reduce the availability of paid employment which has interest, meaning or meets individual needs for growth and challenge; create a materialistic way of life out of step with sustaining the natural world of which humans are part. All of those changes have the potential to create environments which are alienating enough to spawn discontent and dis-ease.

Since Marcuse renewed attention to Marx's theme of alienation in 1932, others, such as Fromm, have continued widespread and intense discussion which links the notions of alienation with 'sickness' or ill health for individuals and for societies¹⁵⁵. In numerous recent studies, alienation associated with unsatisfactory occupational factors has been found to be implicated in ill-health and 'risk' behaviours, particularly for people already disadvantaged¹⁵⁶. Whilst technological change in itself (unless toxic) is

¹⁵⁴ Mijuskovic B. Organic communities, atomistic societies, and loneliness. *Journal of sociology and social welfare* 1992; 19(2): 147-164.

¹⁵⁵ Fromm E. *The sane society*. New York: Rinehart, 1955.

¹⁵⁶ See for example: Yates A. Current status and future directions of research on the American Indian child. *American journal of psychiatry* 1987; 144(9): 1135-1142; Burke RJ. Career stages, satisfaction, and well-being among police officers. *Psychological reports* 1989; 65(1): 3-12; Winefield HR, Winefield AH, Tiggemann M, Goldney RD. Psychological concomitants of tobacco and alcohol use in young Australian adults. *British journal of addiction* 1989; 84(9): 1067-1073; Nutbeam D, Aaro LE. Smoking and pupil attitudes towards school: The implications for health education with young people: Results from the WHO study of health behaviour among schoolchildren. *Health education research* 1991; 6(4): 415-421; Mosher A, Pearl M, Allard MJ. Problems facing chronically mentally ill elders receiving community based psychiatric services: need for residential services. *Adult residential care journal* 1993; 7(1): 23-30; Nah KH. Perceived problems and service delivery for Korean immigrants. *Social work* 1993; 38(3): 289-296; Semyonova ND. Psychotherapy during social upheaval in the USSR. Special section: In times of national crisis. *Group analysis* 1993; 26(91): 91-95; Hammarstrom A. Health consequences of youth unemployment: Review from a gender perspective. *Social science and medicine* 1994; 38(5): 699-709; Rodenhauser P.

unlikely to cause illness, the effects on people's engagement in occupations and their reaction to the changes can lead to illness if the change is alienating, even in high demand jobs¹⁵⁷. Justice argues that when work is perceived as stressful, boring or meaningless the likelihood of "mass illness" is increased¹⁵⁸, and this is backed up by a review of material from sixteen epidemics of illness at various work places and schools undertaken by staff from the (American) National Institute for Occupational Safety and Health¹⁵⁹. There is convincing evidence that the health benefits of paid employment depend on its quality¹⁶⁰, and those who are dissatisfied with work life experience numerous symptoms and stress, and tend to drink or smoke more than those who are satisfied¹⁶¹,

Alienation for workers, unions and labour managers will continue to increase as production and service jobs become 'deskilled' and lose their capacity to interest those doing them, because "many jobs that have been transformed by new technology are characterised by high levels of boredom"¹⁶². Along with this, Naisbitt suggests that people are experiencing turbulence which may well have health implications hard to anticipate as they are caught in the rapid, 'mega' change from an industrial to an information

Cultural barriers to mental health care delivery in Alaska. *Journal of mental health administration* 1994; 21(1): 60-70.

¹⁵⁷ Haynes SG. Type A behavior, employment status, and coronary heart disease in women. *Behavioural medicine update* 1984; 6(4): 11-15: See also Justice B. *Who gets sick:...*

¹⁵⁸ Justice B. *Who gets sick:...* p.179.

¹⁵⁹ Colligan MJ, Murphy LR. Mass psychogenic illness in organizations: An overview. *Journal of occupational psychology* 1979; 52: 77-90.

¹⁶⁰ Warr P. Twelve questions about unemployment and health...; Warr P. *Work, unemployment and mental health*. Oxford: Oxford Science Publications, 1987; Winefield A, Tiggeman M. A longitudinal study of the psychological effects of unemployment and unsatisfactory employment on young adults. *Journal of applied psychology* 1991; 76(3): 424-431; Winefield A, Tiggeman M, Winefield H. Unemployment distress, reasons for job loss and causal attributions for unemployment in young people. *Journal of occupational and organizational psychology* 1992; 65: 213-218; Winefield A, Tiggeman M, Winefield H, Goldney R. *Growing up with unemployment*. London: Routledge, 1993;

¹⁶¹ Verbrugge LM. Work satisfaction and physical health. *Journal of community health* 1982; 7(4): 162-283.

¹⁶² Farnworth L. An exploration of skill as an issue in unemployment and employment. *Journal of occupational science: Australia* 1995; 2(1): 22-29; See also: Adler P, Technology and us. *Socialist review* 1986; 85: 67-96.

society. For those employed in intellectual occupations such as educators, administrators, scientists, and health professionals, stresses caused by what he calls the "chaos of information pollution" are frequently described as overwhelming¹⁶³.

"Technological change is often hailed as a signpost of human progress and a vehicle for human liberation"¹⁶⁴. Pollard observes that the belief in progress is an assurance that science and technology will continue to provide more and more material benefits, as well as mastery over the environment¹⁶⁵. So much respect is accorded in today's world that the 'natural' health needs of people pale into insignificance beside the drive to create more and more sophisticated technology. How technological progress in entertainment equipment has altered the character of many shared social occupations is a case in point. Other leisure occupations also have been influenced by technological advancements, supposedly so that excellence is more attainable. Examples include the sporting activities for which chemical potions as well as mechanical, biophysical and electronic apparatus have been developed and marketed so that individuals may achieve previously unrealised feats. Such technology subtly alters the elements of human toil, the pure skill, and the mental and social exercise components drawn from within any participant. This is also true in the arena of paid employment, and it is suggested that the way in which technology and division of labour have been used remain as in the industrial revolution "antagonistic to individual growth"¹⁶⁶. This reduction in the use of human energies and potentials via technology, which drastically changes utilisation of human creativity and natural environments,

¹⁶³Naisbit J. *Megatrends; Ten new directions transforming our lives*. New York: Warner Books, 1982, p. 24.

¹⁶⁴Haddad CJ. Technology, industrialisation, and the economic status of women. In: Wright BD, Ferree MM, Mellow GO, Lewis LH, Samper MLD, Asher R, Clasper K, editors. *Women, work and technology*. USA: The University of Michigan Press, 1987, p.33.

¹⁶⁵Pollard S. *The idea of progress: History and society*. Oxford: Alden & Mowbray, 1968.

¹⁶⁶Marot H. *The creative impulse in industry: A proposition for educators*. New York: E.P.Dutton and Co., 1918, p. 135.

is primarily to meet market purposes rather than human needs and thus is alienating.

Other major and potentially alienating change, that goes along with rapid technological advances, has been a marked increase in the urge to accumulate material goods and property, without a thought for the potential of materialism to destroy our ecosystem. Many erroneously equate material wealth with happiness and health, mistaking the means for the ends. Mumford suggests that "over-charges of empty stimuli,...materialistic repletion,...costly ritual of conspicuous waste,...and highly organised purposelessness" are part of the "clinical picture of the cultural disease from which the world suffers"¹⁶⁷. He goes so far as to assert that

*"the supernatural theology of the Middle Ages was closer to reality than the crass materialism of an age which fancies that the achievement of an 'economy of abundance' will automatically ensure a maximum of human felicity"*¹⁶⁸.

The acquisition of assets is now seen as a primary need and is regarded, by Lorenz, as having reached a 'pathological' state with the potential to cause mental and social disruption deemed to be symptoms of cultural ill-health. He asserts that the apparent rush to acquire material wealth undermines health, although "man rushes, not only because he is propelled by greed, for this alone would not induce him to ruin his own health, but because he is driven" by fear¹⁶⁹.

Throughout this chapter it has been indicated that occupational alienation, along with deprivation and imbalance, have the potential to lead to stress-related illness which will now be considered, albeit briefly despite its considerable importance.

¹⁶⁷Mumford L. *The Condition of Man*... p. 380

¹⁶⁸Mumford L. *The Condition of Man*... p.148

¹⁶⁹Lorenz K. *Civilized man's eight deadly sins....*

Stress is a basic phylogenetic mechanism, which under normal circumstances works to maintain physiological equilibrium in times of physical and emotional pressure. If prolonged at an unacceptable level, susceptibility to illness is increased. Adolf Meyer is credited with recognising, early in this century, that disease appeared to occur when this regulatory system became subjected to overload¹⁷⁰, and Hans Selye, in 1936, described the 'general adaptation syndrome'¹⁷¹ in which he hypothesised that the adaptive response can break down due to:

*"innate defects, understress, overstress, or psychological mismanagement. The most common stress diseases...are peptic ulcers...high blood pressure, heart accidents, and nervous diseases"*¹⁷².

Work based on Selye's hypothesis has, largely, sustained it. A well publicised study by French and Caplan links stress with coronary heart disease¹⁷³ and others have suggested that stress is associated with disorders of the musculo-skeletal, digestive, immune systems¹⁷⁴, and depressive illness. Roskies and Lazarus propose that the ability to cope with everyday stress has more effect on physical, mental and social health than stress episodes themselves¹⁷⁵, and in similar vein, Moore argues that:

*"long term chronic stress and especially chronic unpredictable stress can result in an earlier demise or long term disability (mental and/or physical), unless therapeutic intervention can reverse the individual's way of coping and/or reverse the situations which are causing the stress "*¹⁷⁶.

¹⁷⁰Adams JD, editor. *Understanding and managing stress: A book of readings*. CA.: University Associates Inc., 1980.

¹⁷¹Selye H. A syndrome produced by diverse noxious agents. *Nature* 1936; 138: 32.

¹⁷²Selye H. In: Monat A, Lazarus RS, editors. *Stress and coping: an anthology*, 2nd ed. New York: Columbia University Press, 1985, p.25.

¹⁷³French JRP, Caplan RD. Organizational stress and individual strain, In: Marrow, AJ, editor. *The failure of success*. New York: Amacon, 1972, pp.30-66.

¹⁷⁴McQuade W, Aikman A. *Stress*. New York: E.P Dutton & Co., 1974.

¹⁷⁵Roskies E, Lazarus RS. Coping theory and the teaching of coping skills. In: Davidson PO, Davidson SM, editors. *Behavioural medicine: Changing health lifestyles*. New York: Brunner/Mazel, 1980.

¹⁷⁶Moore JC. *Neurosciences and their application to occupational therapy*. Unpublished lecture notes Adelaide: Neuroscience Conference, 1989, p.185.

The type of illness experienced as a result of stress is thought, by Selye, to express any individual's weakest points¹⁷⁷, so any genetic or familial predisposition, such as mental breakdown, arthritis or cardiac failure, can be activated by prolonged stress¹⁷⁸. Temoshok, however argues that there is little empirical evidence either "to support or refute potential biological pathways linking stress factors and disease initiation or progression for any disorder". He suggests that this reflects the complexity of the connections which probably include person and situation variables, interaction effects including physiological and psychological predispositions, as well as social, cultural, economic and political contexts¹⁷⁹

Moderating factors, such as diet¹⁸⁰, medication¹⁸¹, physical activity and rewarding occupational roles¹⁸², as well as relaxation techniques¹⁸³ can provide resistance to stress-related disorders. For example, it has been suggested that playing sport is relaxing because "one is using the mind and body the way they were intended to be used in fighting or running away" in response to the fight or flight reaction¹⁸⁴. Such argument leads to the view held by Eisler, that health is more likely to be maintained if individuals have the skills and resources to cope effectively with the diversity of life's

Moore lists some effects of chronic unpredictable stress as increased blood pressure, heart rate, respiration, muscle tension and blood-glucose levels, decreased peristalsis, lymphocytes, T and B cells, immune response, destabilization of lysosomes and hyper-alert states.

¹⁷⁷Selye H. *The stress of life*. New York: McGraw-Hill, 1956, 1976.

¹⁷⁸Kobasa SC, Maddi SR, Courington S. Personality and constitution as mediators in the stress-illness relationship. *Journal of health and social behavior* 1981; 22: 368-378.

¹⁷⁹Temoshok L. On attempting to articulate the biopsychosocial model: Psychology-psychophysiological homeostasis. In; Friedman HS, editor. *Personality and disease*. New York: John Wiley & Sons, 1990, p.211.

¹⁸⁰Olson RE. *Nutritional reviews: Present knowledge in nutrition* 5th ed. Washington, DC: Nutrition Foundation, 1984.

¹⁸¹Weiner H. *Psychobiology and human disease*. New York: Elsevier, 1977.

¹⁸²Hazuda H. Women's employment status and their risks for chronic disease. Colloquium presentation, University of Texas School of public health, Houston. Reported in Justice B. Who gets sick....

¹⁸³Pelletier KR. *Mind as healer, mind as slayer*. New York: Delta, 1977

¹⁸⁴Maddi SR. Issues and interventions in stress mastery. In; Friedman HS, editor. *Personality and disease*. New York: John Wiley & Sons, 1990, p.132.

challenges¹⁸⁵, and to the questions asked by Antonovsky about not whether stress is 'bad' for health, but for whom and under what conditions is it 'good' or 'bad'. He speculates that the mechanisms for the relationship between a 'sense of coherence' and health includes experience of successful coping with stressors. Indeed moderate stress which augments the functional capacities of all systems is necessary for maintaining positive health and vitality as well as providing a reserve against extreme stress. "Heart attacks are not the result of shovelling snow or running for a train...they are the product of a lifetime of not doing things like shovelling snow or running for a train"¹⁸⁶.

Stress related illness as a result of occupational alienation, deprivation and imbalance have undoubtedly increased during occupational evolution, despite the obvious benefits in living in today's post-industrial world rather than that of hunter-gatherers. Now, for those living in post-industrial societies, there is longer life expectancy, lower infant mortality, and 'miraculous' advances in technological and pharmaceutical medicine to reverse the effects of much disease, disability and trauma.

"Since the 1940's...the impact of scientific medicine and public health administration upon conditions of human life has become literally world-wide. In most places epidemic diseases have become unimportant, and many kinds of infection have become rare where they were formally common and serious. The net increment to human health and cheerfulness is hard to exaggerate"¹⁸⁷.

These advances ensure that more people are provided with a stable base from which to move towards the experience of positive health and well-being. On the whole, though, health and well-being seems to sit uneasily amidst the rush and stresses of present day occupational structures which humans have constructed over the years, with much morbidity and mortality resulting from

¹⁸⁵Eisler RM. Promoting health through interpersonal skills development. In: Mattarazzo JD, Weiss SM, Herd JA, Miller NE, Weiss SM, editors. *Behavioural health: A handbook of health enhancement and disease prevention*. New York: John Wiley and Sons, 1984.

¹⁸⁶Klump TG. How much exercise to avoid heart attacks? *Medical times* 1976; 4(104): 64-74.

¹⁸⁷McNeill WH. *Plagues and people...*

lack of individual or community awareness about the relationship between occupation and ill-health. This is, in large measure, because of a lack of research based upon a sufficiently broad or holistic perspective of occupation and a resultant dearth of intervention strategies from public health, social, political or national policies.

In another time of rapidly changing occupational conditions, early this century, a small group of idealists such mental hygienists like Adolf Meyer, trade union activist Helen Marot, and founders of the arts and crafts movement (based on Morris's ideology) in America recognised and acted on the apparent link between health, well-being and occupations. This was sufficient to lead to the concept of 'health through occupation' to counteract the maladaptive effects of industrialisation and occupational deprivation, imbalance and alienation for those who were ill, being adopted by social activists and pioneer occupational therapists early in the twentieth century. The next two chapters discuss the genesis of this concept and how the message became dimmed by general acceptance of the changed shape of occupational structures, and by a change of emphasis within health services.

Chapter 7

The genesis of occupational therapy

As occupational therapy claims to be fundamentally concerned with people attaining health through occupation, it is useful, from a public health perspective, to consider the distinctive philosophical and practice base of occupational therapists, with a view to utilising their expertise in the drive to enable 'health for all'. To this end, this chapter explores the genesis of occupational therapy at the beginning of the 20th century in America, its predecessor, 'moral treatment', and some of the ideas which influenced its emergence, such as 'industrialisation', the 'arts and crafts movement', 'pragmatism', and 'feminism'.

Occupational Therapy is a profession of the twentieth century although the philosophies and rationales on which it is based have a very long history¹. It reflects natural, biological and 'common sense' truths about health and well-being. Its simplest claim is that occupation, or any form of human activity, has effects upon the health of the individual engaged in the activity. Human occupation may be chosen wisely to enhance or maintain health, to reduce ill-health, or to help the adaptation process should handicap appear irreversible. Occupational therapy was originally more concerned with promoting or maintaining health, for those without access to 'normal' human activity because of chronic illness, than being remedial for people with acute illness. Nor was it applied to 'well' individuals or the community at large, although it appears to have grown from community programs addressing social problems, as well as moral treatment for the insane.

¹ McDonald EM, editor. *Occupational therapy in rehabilitation*. London: Bailliere, Tindall and Cassell, 1960 and 1964.

It is a complex profession which is poorly understood by the public, other health workers, educational institutions and governments. From its beginnings it has sat peripheral to conventional medicine and health care, probably because, although it has always been associated with medicine, and much of the impetus for its establishment came from psychiatrists and physicians, it does not share the same reductionist base of practice. Views of illness and perspectives of treatment possibilities between occupational therapy and medicine began to differ shortly after the genesis of occupational therapy from the 1920s on. From about that time changes in medical services occurred in which reductionist practice, pharmaceutical intervention and technology-based skills gained importance, and personal skill development of a simpler kind, in which occupational therapy specialised, became devalued. Despite this, occupational therapy is recognised as a health profession compatible with conventional medicine. It is perhaps remarkable that the profession is still attached to health care systems centred on the short stay acute hospital, as many interventions thought essential by occupational therapists address problems that demand time and long term programs to achieve results.

The complexities of the relationship between occupation, ill-health, health and well-being have already been discussed, so how it is viewed and defined by the profession is of interest. At present, the World Federation of Occupational Therapists defines it as:

"assessment and treatment through the specific use of selected activity. This is designed by the occupational therapist and undertaken by those who are temporarily or permanently disabled by physical or mental illness, by social or by developmental problems. The purpose is to prevent disability and to fulfil the persons needs by achieving optimum function and independence in work, social and domestic environments."²

² World Federation of Occupational Therapists. Paris: 1976.

This fairly traditional definition can be applied to occupational therapy practitioners throughout the world. In some ways, particularly by its reference to 'assessment and treatment', to be 'designed by the occupational therapist', it reflects the association occupational therapy has had with the medical model. Each country tends to further define its practice according to local needs and conditions. One of the definitions adopted by the Australian Association of Occupational Therapists in 1987 stated that:-

"Occupational therapy is concerned with human occupation and its importance in health for persons of all ages. Occupational therapists evaluate the physical, psychosocial and environmental factors which reduce a person's ability to participate in everyday activities or occupation. Therapeutic objectives are achieved through techniques or activities designed to

- 1) diminish or control pathology.
- 2) restore and/ or reinforce functional capacity.
- 3) facilitate learning of skills and function essential for adaptation or productivity.
- 4) promote and maintain health."³:

Early definitions and descriptions were simpler. For example, in 1917 the (American) National Society for the Promotion of Occupational Therapy was formed when architects, George Edward Barton⁴ and Thomas Bessell Kidner⁵; social worker, Eleanor Clarke Slagle; physician, William Rush Dunton⁶; and

³ Australian Association of Occupational Therapists. 1987.

⁴George Barton, became the first occupational therapist with a 'consumer's' perspective. Following recurrent bouts of tuberculosis, the amputation of his left foot after gangrene, and a reputedly 'hysterical' paralysis of the left side of his body, he was encouraged to work with people who had similar problems. He brought to his work his architectural skills, and an interest in social problems from an Arts and Crafts perspective gained from William Morris himself. To prepare himself for the work he studied anatomy, surgery, nervous diseases, and drug treatment, and consulted 'occupation' experts. He bought a house in Clifton Springs which he called Consolation House, and which he opened as a school, vocational workshop and vocational bureau for convalescents. It was he who called the first meeting of occupational therapists, and who is credited with coining and popularising the name 'occupational therapy'.

⁵ Thomas Kidner, Barton's fellow architect, added international flavor to the founding group. Born in England, he worked in Canada as vocational secretary in the Military Hospitals Commission, where he developed a vocational rehabilitation system for disabled veterans.

⁶William Rush Dunton, was a direct descendent of Benjamin Rush, mentioned later in connection with the establishment of moral treatment. He was a physician who worked for thirty years at Sheppard and Enoch Pratt Hospital in charge of occupations. He was a prolific writer, and is credited with four text books on occupational therapy, Dunton Jr WR. *Occupational therapy: A manual for nurses*. Philadelphia: WB Saunders, 1915; Dunton Jr WR. *Reconstruction therapy*. Philadelphia: WB Saunders, 1918; Dunton Jr WR. *Prescribing occupational therapy*.

teacher Susan Cox Johnson⁷, who were all working in the field, met at Clifton Springs, New York State, to write the 'Certificate of Incorporation'⁸. The objectives of the Society were "the advancement of occupation as a therapeutic measure; the study of the effect of occupation upon the human being, and the scientific dispensation of this knowledge"⁹. Those particular objectives could well be seen as having current value to public health, so it is useful to explore the historical context in which the notions developed.

Hopkins' and McDonald's historic perspective on occupational therapy states that the importance of occupation in health was recognised and utilized thousands of years ago by, for example, the Chinese, the Greeks, the Persians and the Egyptians¹⁰. Macdonald provides as one of several examples, Homer's tale of Hephaistos, the noble craftsman god who was lame, being given equipment by Thetis and Euronyme which enabled him to become skilled in much 'cunning handiwork'¹¹.

However, it is 'moral' treatment which many people describe as the forerunner of occupational therapy today. As one product of the 'Age of Enlightenment' this humane approach to the insane revolutionised psychiatric institutions during the 18th and 19th centuries. The genesis, success and demise of moral treatment is a fascinating, but cautionary, tale.

Springfield Ill.: Charles C Thomas, 1928; Dunton Jr WR, Licht S. *Occupational therapy: principles and practice*. Springfield Ill.: Charles C Thomas, 1950

⁷ In 1917, Susan Johnson was lecturer in occupational therapy at Columbia University, New York City.

⁸ Reed KL, Sanderson SR. *Concepts of occupational therapy*. 2nd ed. Baltimore: Williams and Wilkins, 1983.

⁹ Certificate of Incorporation of the National Society for the Promotion of Occupational Therapy, Inc. (1917). *Then and now: 1917-1976*. American Occupational Therapy Association, 1967, pp.4-5.

¹⁰ Hopkins HL, Smith HD, editors. *Willard and Spackman's Occupational therapy*. 7th ed. Philadelphia: J B Lippincott Co, 1988; Mc Donald EM, Editor. *Occupational Therapy in Rehabilitation*....

¹¹ Homer. *The Iliad*. Book XVIII.

The fascination starts with the nomenclature 'moral', which implies that what it replaced was 'immoral'. In today's terms it certainly appears so, as the traditional treatment meted out to 'lunatics in mad-houses', prior to the nineteenth century, included whipping and chaining, along with many other approaches for "coercing patients into straight thinking and accepting reason" such as "vomits, purges,...surprise baths, copious bleedings and meagre diets"¹² Eminent doctors of the mad, such as William Cullen, argued that

*"restraining the anger and violence of madmen is always necessary for preventing their hurting themselves or others; but this restraint is also to be considered as a remedy."*¹³

This treatment, far from being condemned by people of the time, provided entertainment for the curious, when, for a penny, the inmates were exhibited through the open doors of Bethlem Hospital. In fact, even George III, during bouts of mania, was subjected to similar treatment by his physician Francis Willis. "He was sometimes chained to a stake. He was frequently beaten and starved, and at best he was kept in subjection by menacing and violent language"¹⁴. Whether or not behaviour is perceived as humane or inhumane, moral or immoral depends on the context, the world view and the values of those perceiving. Scull argues that "the subjugation of the madman, the breaking of his will by means of external discipline and constraint" were consistent with the view that "in losing his reason, the essence of his humanity, the madman had lost his claim to be treated as a human being"¹⁵. In turn, this view was congruent with the theological and supernatural beliefs and values of an agrarian economy in which 'God' and

¹² Hunter RA, MacAlpine I. *Three hundred years of psychiatry*. London: Oxford University Press, 1963, p.475.

¹³ Cullen W. First lines in the practice of physic, 4 volumes.4th ed. (Edinburgh: Elliot, 1808) In: Hunter RA, MacAlpine I. *Three hundred years of psychiatry*... p.478.

¹⁴ The words of Countess Harcourt reported in: Bynum W. Rationales for therapy in British psychiatry, 1780-1835. In: Scull A, editor. *Madhouses, mad-doctors and madmen: The social history of psychiatry in the Victorian era*. Philadelphia: University of Pennsylvania Press, 1981.

¹⁵ Scull A. Moral treatment reconsidered: Some sociological comments on the episode in the history of British psychiatry. In: Scull A, editor. *Madhouses, mad-doctors and madmen*... p.108.

'Nature' dominated, and humans, on the whole, did not seek, or think possible, self-transformation. Moral treatment, he suggests, arose as a result of a change in "the cultural meaning of madness" which emerged along with the change from agriculture to industry, from reliance on nature to reliance on human activity and invention in the transformation of natural resources into marketable products. In fact, as industrialists sought to "make such machines of man that cannot err"¹⁶ they cultivated in workers a new belief in "'rational' self interest (which was) essential if the market system were to work". So too, in Moral treatment, were "lunatics...made over in the image of bourgeois rationality"¹⁷.

At about the same time as Pinel liberated and removed the prison chains of the insane constrained in the dungeons of Bicêtre, in France, William Tuke established moral treatment in Britain, specifically for Quakers at the York Retreat^{18 19}. He based his revolutionary approach on beliefs that self discipline and hard work, rather than external control, were the keys to rehabilitation of the insane, just as they were the keys to education of children for success in a world which had begun to recognise the capacity for human improvement²⁰. Reflecting the Quaker work ethic, as well as religious discipline, treatment at the Retreat encouraged individuals to regain self control through occupation, as "of all the modes by which the patients may be induced to restrain themselves, regular employment is perhaps the most

¹⁶ Wedgwood J. Cited in McKendrick N. Josiah Wedgwood and factory discipline. *Historical Journal* 1964; 1: 46.

¹⁷ Scull A. Moral treatment reconsidered:...p.115.

¹⁸ Foucault M. *Madness and civilization: A history of insanity in the age of reason*. New York: Random House, 1973, p.247. (Original in French, 1961). Tuke S. *Description of the Retreat*. York: Alexander, 1813, p.141.

¹⁹ Others such as John Ferriar of the Manchester Lunatic Asylum, and Edward Long Fox from Bristol were among practitioners who followed essentially similar approaches: See Ferriar J. *Medical histories and reflections*, 3 volumes. London: Cadell and Davies, 1795, 2: 111-112; Fox EL. *Brislington House, an asylum for lunatics, situate near Bristol*. Bristol: for the author, 1806. (Cited in Scull.)

²⁰ Prior to setting up the York Retreat William Tuke established Ackworth, a school for girls.

generally efficacious"²¹, Tuke recognised that "in itself, work possesses a constraining power superior to all forms of physical coercion", because of "the regularity of the hours, the requirements of attention, (and) the obligation to produce a result"²². It is also a requisite of self esteem which Tuke valued highly.

Pinel's 'moral' approach differed in several ways from Tukes', particularly in that his asylum was "a religious domain without religion, a domain of pure morality, of ethical uniformity"²³ but it, too, recognised the value of occupation:

*"it is the most constant and unanimous result of experience that in all public asylums, as in prisons and hospitals, the surest and perhaps the sole guarantee of the maintenance of health and good habits and order is the law of rigorously executed mechanical work"*²⁴.

The 'occupation' theme continued after Pinel's time; we read, for example, of Leuret, a nineteenth century French psychiatrist, who included exercise, drama, music, reading and manual labor and stressed improvements of habits and the development of a consciousness of society within his treatment programs²⁵. It was from Tuke's and Pinel's programs that 'madness' became associated with medicine, and from these eighteenth century ideas that modern notions of rehabilitation have grown.

Despite the fact that America still retained a predominantly agricultural economy, it was "rapidly developing a new liberal philosophy of the individual" and it, too, embraced the concept of Moral treatment²⁶, in part,

²¹Tuke S. *Description of the Retreat*. York: Alexander, 1813, p.156.

²²Foucault M. *Madness and civilization*: ...p.247.

²³Foucault M. *Madness and civilization*: ...p.247.

²⁴ Pinel P. *Traite medico-philosophique sur l'alienation mentale* (Paris, 1801) p.265. In Foucault M. *Madness and civilization*,...p.258.

²⁵Leuret F. 1840. On the Moral Treatment of Insanity. In: Licht S. *Occupational therapy source book*. Baltimore: Williams and Wilkins, 1948.

²⁶Bockoven JS. *Moral treatment in American society*. New York: Springer. 1963, p.172.

through the efforts of William Tuke's son Samuel²⁷, and also through the reforms of Benjamin Rush, who like Pinel, was inspired by the writings of physician-philosopher, John Locke²⁸. Hopkins suggests it may well be significant that the development of this person-centred treatment began at a time when the rights and equalities of men were being fought over on both sides of the Atlantic²⁹.

The Worcester State Hospital in Massachusetts, which opened in 1833, served as a proving ground for moral treatment in America, demonstrating "beyond doubt that recovery was the rule"³⁰. Thomas Story Kirkbride, who, in 1844, was one of thirteen founders of the Association of Medical Superintendents of American Asylums for the Insane, also played an important role in establishing moral treatment, not least by his writings about the construction of asylums³¹. He implemented moral treatment in the Pennsylvania Hospital for the Insane, a prestigious private institution which he headed for forty years. He wrote annual reports aimed at, amongst others, prospective customers and their families in which he detailed over fifty occupations available to inmates. They included light gymnastics, fancy work, magic lantern displays and lecture series and, in order to meet the intellectual and artistic needs of more cultivated clients, "intelligent and educated individuals with courteous manners, and refined feelings" were employed to encourage reading, handiwork and music on the wards.³² He assured

²⁷Corsini RJ, editor. *Encyclopedia of psychology*, Vol. 2. New York: John Wiley & Sons, 1984, p.162.

²⁸John Locke (1632-1704). His main philosophical works were 'An essay concerning human understanding', and 'Two treatises of civil government', which were both published in 1690.

²⁹Hopkins HL, Smith HD, editors. *Willard and Spackman's occupational therapy*

³⁰Bockoven JS. *Moral treatment in community mental health* New York: Springer Publishing Company, Inc. 1972, p. 14.

³¹Tomes NJ. A generous confidence: Thomas Story Kirkebride's philosophy of asylum construction and management. In: Scull A, editor. *Madhouses, mad-doctors and madmen*:. See: Kirkebride TS. *On the construction, organization and general arrangements of hospitals for the insane*. Philadelphia: Lindsay and Blakiston, 1854.

³²Kirkebride TS. *Annual report of the Pennsylvania Hospital for the Insane*. 1845 p.38, 1846, pp.24-25, 1858, pp.22-32, and 1869, p.26. Cited in Tomes NJ. A generous confidence:

prospective patrons that cure could be expected in many cases, especially if treatment was prompt, but that even in cases requiring long term care moral and humane conditions would apply. In fact, moral treatment was reported as curative by the superintendents of the asylums who ran the programs, with some hospitals, such as the Hartford Retreat, recording success rates of up to 90%³³. An example of the recovery statistics of patients admitted to the Worcester State Hospital between 1833-1852 and used to attract prospective customers, is provided as Table 7.1.

5 year period	patients admitted	patients discharged recovered	patients discharged improved
1833-37	300	211 (70 %)	39 (8.3%)
1838-42	434	324 (74.6%)	14 (3.2%)
1843-47	742	474 (63.9%)	34 (4.6%)
1848-52	791	485 (61.3%)	37 (4.7%)

Table 7.1 Outcome In Patients Admitted To Worcester State Hospital Who Were Ill Less Than One Year (Data from Annual Reports of the Hospital³⁴)

The cautionary part of the tale lies in the decline of moral treatment despite its reputed success. As most of the American asylums in which it was used were small private hospitals, access was limited to the affluent, but with the touting of the curative effects of moral treatment, social reformers pushed for it to be available to all, not just the 'well-to-do'. They were so successful in their endeavours that the asylums became overcrowded, often with immigrant 'insane paupers'³⁵, activity rooms became wards, and as resources were limited, due to a Civil War-taxed economy, the treatment deteriorated into custodial care³⁶. Indeed, in the aftermath of the Civil War, and the change from agriculture to industry, both social values and the economy were in a state of flux. Humanistic social values were being gradually replaced by

³³ Peloquin SM. Moral treatment: Contexts considered. *The American journal of occupational therapy*. 1989, 43(8) 537-544.

³⁴ Bockoven JS. *Moral treatment in community mental health* ...p.14.

³⁵ Bockoven JS. *Moral treatment in American society*. New York: Springer, 1963.

³⁶ Peloquin SM. Moral treatment: Contexts considered...

'reductionist, mechanical' values associated with industrialisation, and in some quarters by social Darwinism³⁷. Peloquin also suggests that as occupational programs deteriorated because of these factors, medicine was reconsidering the causes of insanity in the light of new physiological knowledge in which ideas about occupation did not seem important. Indeed, it seems almost inevitable that as positivist, medical science developed, doctors would try to make their role in the treatment of the insane fit with their view of their own skills, beliefs and purpose. The doctor's role in moral treatment in the early days was as a wise authority figure, Pinel and Tuke both asserting that "his moral action was not necessarily linked to any scientific competence"³⁸. Foucault points out this gradually led to a 'magical' belief in psychiatrists and ultimately to the transfer of the potential to cure from asylum to doctor³⁹. It was unavoidable that the 'natural' would be overtaken by the 'scientific'. The reported success of moral treatment was challenged as exaggeration, and disappeared from psychiatric practice. Peloquin concludes that:

" Moral treatment's decline relates closely to a lack of inspired and committed leadership willing to articulate and redefine the efficacy of occupation in the face of medical and societal challenges. The desire to embrace the most current trend of scientific thought led to the abandonment of moral treatment in spite of its established efficacy. The failure to identify and address the social and institutional changes that had gradually made the practice and success of moral treatment virtually impossible led to the erroneous conclusion that occupation was not an effective intervention."⁴⁰ .

As the effects of the industrial revolution accumulated, ideas about humans being regarded as 'cogs in a machine' gained respectability. Such

³⁷Serrett KD, editor. *Philosophical and historical roots of occupational therapy*. New York: The Haworth Press Inc., 1985.

³⁸Foucault M. *Madness and civilization*: ...p.275.

³⁹Foucault M. *Madness and civilization*: ...p.276. describes psychiatric practice as a "certain moral tactic contemporary with the end of the eighteenth century, preserved in the rites of asylum life, and overlaid by the myths of positivism".

⁴⁰Peloquin SM. Moral treatment: Contexts considered.....

ideas were promoted during the late nineteenth century by the work of people such as Frederick Taylor who developed the scientific management movement⁴¹. This movement sought ways to use people effectively in industrial organisations and viewed behaviour from the vantage point of job analysis focussed on work efficiency, particularly from a physiological perspective⁴². Even before Taylor, though, "the drive for maximum productivity and control led managers to divide labor into repetitive, minute tasks. Individual workers could neither envision the larger purpose of their labor nor exert much control over their working lives". Even for professionals and white collar workers, such as clerks "the new bureaucratic view of work often fragmented their labor and reduced their sense of autonomy"⁴³.

The rhetoric of Helen Marot's *Creative Impulse in Industry* provides an indication of the mood of the industrial era: "industry is the great field for adventure and growth". "If America wants industrial efficiency, it must have efficient workers if it holds its place among nations"⁴⁴. The machine age appeared to herald a new way of thinking, working, living and researching. Ackoff suggests that, as the three dominant intellectual styles of this time were reductionism, analysis, and mechanism (in terms of cause and effect), consideration of environmental factors was deemed irrelevant⁴⁵. In medicine, as in other sciences, 'machine age thinking' led to a reductionist view that everything could best be studied by considering component parts. In psychiatry and psychology, for example, "the observation by pathologists of

⁴¹Taylor FW. The principles of scientific management. In: Taylor FW. *Scientific Management*. New York: Harper, 1947.

⁴²Hoy WK, Miskel CG. *Educational administration, theory, research and practice*, second edition. New York: Random House, 1978.

⁴³Jackson Lears TJ. *No place of grace: Antimodernism and the transformation of American culture 1880-1920*. New York: Pantheon books, 1981, p. 60.

⁴⁴Marot H. *Creative Impulse in Industry*. New York: Arno Press, 1977, p. xix-xx. (Originally published by E.P. Dutton & Company, New York, 1918).

⁴⁵Ackoff R. *Redesigning the future*. New York: Wiley, 1974.

microscopic lesions in the central nervous system of patients who had been mentally ill" led to their conclusion that the study of behaviour and environmental factors would not yield understanding of disease processes because it was "looked upon as a result of mechanical defect"⁴⁶.

As the therapeutic use of occupation diminished, it seems that, at least in some instances, it was again replaced by restraint in hospitals for the insane. In *Occupation as a substitute for restraint in the treatment of the mentally ill: A history of the passage of two bills through the Massachusetts legislature*⁴⁷, Vernon Briggs explains that in 1911 three bills proposing the introduction of occupation into mental institutions, along with training in occupation, for attendants, were "strenuously opposed by certain men in high positions, most of them connected with private hospitals as proprietors, or with the State service for the care and treatment of the mentally ill as officials or trustees". In his opening address to the Committee on Public Charitable Institutions he described how patient's engagement in occupation has a positive effect on their health and improves the work environment of attendants. He based his information on several 'occupational' initiatives occurring in various parts of the country; a training school for nurses and attendants in Illinois; New York supervisors and Maine nurses sent to receive training at the Chicago School of Philanthropics, and in turn New York hospitals providing training for nurses from Boston. With the passing of the first of the bills, Dr Mary Lawson Neff, a psychiatrist, was appointed as director or instructor of occupational therapy. Apart from establishing programs for patients, she reported in her *Résumé of work of 1912 in developing therapeutic occupations in the State hospitals of Massachusetts* on the staging of an education exhibition which visited eight hospitals and was attended by more than two thousand people;

⁴⁶ Bockoven JS. *Moral treatment in American society*...p.189.

⁴⁷ Vernon Briggs L. *Occupation as a substitute for restraint in the treatment of the mentally ill: A history of the passage of two bills through the Massachusetts legislature*. (1911) New York: Arno Press, 1973

invitations to lecture at a variety of hospitals, universities and public departments; a course of lectures for nurses delivered at Danvers, Worcester, Taunton, Westborough, Medfield, Boston and Waverley. (see figure 7.1 for an outline of Dr Neff's lectures); and a conference on occupational therapy which nearly 100 people attended⁴⁸.

<i>Outline of a Course of Lectures on Psychology by Mary Lawson Neff, M.D.</i>	
I.	The Nervous Mechanism "Tis strange that a harp of a thousand strings Should keep in tune so long."
II.	Fatigue Eight – four – two – one.
III.	How to Play "There is work that is work; there is play that is play; there is work that is play; there is play that is work – and in only one of these lies happiness." – GELETT BURGESS.
IV.	How to Work "He that hewes with a dull axe must put thereto the more strength. – THE BOOK.
V.	How to Rest "It's a heap easier to want what you git than to git what you want." – UNCLE MOSE.
VI.	Habit and Personality "All the days of foregone virtue work their health into this." – EMERSON.
VII.	Suggestion "Advice is like snow; the softer it falls and the longer it lies, the more good it does."
VIII.	Mental Hygiene "I consider how I may exhibit my soul before the Judge in a healthy condition." – PLATO.

Figure 7.1 Outline of Dr Neff's lectures

Another occupation training scheme which Vernon Briggs may well have utilised was provided by Susan Tracey, whom some credit as being the first occupational therapist of the twentieth century⁴⁹. A trained nurse and

⁴⁸Neff ML. *Résumé of work of 1912 in developing therapeutic occupations in the State hospitals of Massachusetts.*

⁴⁹Reed KL, Sanderson SR. *Concepts of occupational therapy*, 2nd ed. Baltimore: Williams and Wilkins, 1983.

teacher, she established a course in invalid occupations for nurses in 1906 at the Adams Nervine Asylum, Jamaica Plains, Massachusetts, and published her teaching materials in a book first published in 1910⁵⁰. In the introduction to this text Daniel Fuller explains how Tracey stimulated the interest of the nurses she trained, how graduates in private practice came back to consult, and how exhibitions and lectures were provided to superintendents of other training schools. One interesting observation made by Fuller, is that "the elimination from the patient's mind of the idea of 'prescription' or 'remedy' in connection with the occupation is doubtless often much to be desired". He recognised that interest developed for its own sake enabled patients to make it an ongoing part of their life and to maintain and enhance their health⁵¹. This valuable concept became lost as reductionism and professionalism grew, so that 'prescribed occupation' became the accepted norm.

When presenting the proposed legislative change, Vernon Briggs called upon several experts to support his claims, including Adolph Meyer. This 'mental hygienist' is so important to the history of occupational therapy that a brief biography is in order. Adolf Meyer was born in Zurich in 1866, and migrated to America in 1892 after completing his medical studies in Zurich, and studying in England, Scotland and Paris with eminent neurologist Hughlings Jackson and others. He worked first at the Illinois Eastern Hospital for the Insane at Kankakee, and then at Worcester Lunatic Hospital in Massachusetts. In both institutions he instigated far reaching institutional reforms and "began to impose himself as the leader of the advanced guard in American Psychiatry" with a then, radical viewpoint which held that life

⁵⁰"The fundamental point in the psychology of occupation is that it maintains a balance between the intellectual and the practical phases of experience"

⁵¹Fuller DH. Introduction: The need of instruction for nurses in occupations for the sick. In: Tracey SE. *Studies in Invalid occupations: A manual for nurses and attendants*. Boston: Whitcomb & Barrows, 1910, p.2.

experiences play an important role in the aetiology of mental diseases⁵². In repudiating the reductionist, analytical and mechanistic view, Meyer was one of 'the new breed of humanists' who took a holistic view which was strongly influenced by the ideas of pragmatism propounded by William James and the related theories of the newly emerging Chicago School of Functionalism led by John Dewey⁵³. Meyer was committed to the development of a science of psychology which was both academic and practical. He embraced James's revolutionary view that the chief purpose of the mind, "is to enable individuals...to pursue specific interests and achieve specific goals" and that psychologists should study the mind in use, "in the ordinary, practical situations of everyday life"⁵⁴. Along with Mead and Dewey, Meyer professed that "doing, action and experience are being", and that the activities expressed in living demonstrate mind body synthesis⁵⁵. This view rejected commonly held Descartian notions of the time.

Muncie describes the fundamental concept of Meyer's psychobiological approach as being 'integration', with the view that living individuals can only be studied as whole people in action, which of necessity includes society as part of the whole⁵⁶. Meyer also made use of the "concept of habit" as formulated by Pierce, James and Dewey, arguing that the "cumulative effect of early faulty habit patterns was to produce abnormal or inefficient behaviour in later life"⁵⁷.

⁵²Leys R, Evans R, Evans B, editors. *Defining American psychology: The correspondence between Adolf Meyer and Edward Bradford Titchener..* Baltimore and London: The Johns Hopkins University Press, 1990, p.43.

⁵³Leys R, Evans R, Evans B, editors. *Defining American psychology:...*p.59.

⁵⁴Leys R, Evans R, Evans B, editors. *Defining American psychology:...*p.44-45.

⁵⁵Breines E. *Origins and adaptations; A philosophy of practice.* New Jersey: Geri-Rehab, Inc, 1986, p 46. See also: Golley FB. *A history of the ecosystem concept in ecology.* Yale: Yale University Press, 1993.

⁵⁶Muncie W. The psychobiological approach, In: Arieti S, editor. *American Handbook of Psychiatry, Vol. 2.* New York: Basic Books, Inc., 1959.

⁵⁷Leys R, Evans R, Evans B, editors. *Defining American Psychology:...*p46.

Meyer was appointed professor of psychiatry at the Johns Hopkins University in 1908, a position he held until 1941. His psychobiological model of human nature was fundamental to the Mental Hygiene Movement in which he played an important role. This movement expanded the scope of psychiatry into community settings such as the family, schools, workplace and prisons, and ascribed education as an important component of mental health. Estelle Breines explains that it was Meyer's participation in the mental hygiene movement which linked him with social activists, Jane Addams and Julia Lathrop who worked at Hull House in Chicago and were teachers of Eleanor Clarke Slagle, a pioneer occupational therapist who later worked with Meyer at Phipps Clinic in Baltimore⁵⁸.

The work of Adolf Meyer is not well known today despite the assertion made by some medical historians that he dominated American psychiatry for the first twenty years of this century and remained influential until his death in 1950⁵⁹. His interest in occupation was demonstrated early in his career. He remarks in his 1921 paper "Philosophy of Occupational Therapy", given at the fifth annual meeting of the National Society for the Promotion of Occupational Therapy, that the first medical paper he presented in the early 1890's sought ideas from his colleagues about appropriate occupations for use with American patients. He describes a long association with occupational programs which his wife Mary, amongst others, organised during the first decade of the twentieth century, as well as an interest in the types of education programs being offered at Hull House to train nurses in play and occupation. Meyer's paper on occupational therapy philosophy was later published in the first edition of the *Archives of Occupational Therapy*⁶⁰. Occupational

⁵⁸Breines E. *Origins and adaptations; A philosophy of practice....*

⁵⁹Leys R, Evans R, Evans B, editors. *Defining American Psychology*: ...p.162.

⁶⁰Meyer A. The philosophy of occupational therapy. *Archives of Occupational therapy* 1922; 1: 1-10;

therapists claim him as their philosopher but, despite his obvious interest, there is little evidence in his mainstream writings that he considered occupational therapy to be the focal point of his life's work. Ironically, occupational therapists are still espousing his philosophies today, whilst mainstream psychiatry has bypassed his ideas in favour of psycho-analysis, behaviourism, and neuro-chemistry, for example. His approaches were, however, remarkably congruent with many 'new' values pertaining to health and well-being.

Several factors alluded to in the outline of Meyers' work require further discussion. These include elaboration of the roles of 'Hull House' in Chicago, the people who worked there such as Jane Addams, and Eleanor Clarke Slagle, and the philosophy of pragmatism. Hull House was a 'Settlement' house developed to meet the social, economic and health problems of new immigrants, and assist them to adjust into the American industrial society of the turn of the Century. The Settlement movement, which aimed at developing and improving community or neighbourhood life as a whole, rather than providing particular social services, began when Samuel Barnett, his wife and invited university students, settled at Toynbee Hall in a poor area of London in 1884. The movement quickly spread to America, Neighbourhood Guild, New York (now University Settlement) being established in 1886, and Hull House in Chicago in 1889⁶¹. The movement continued to grow throughout Europe and Asia, and it can be seen as a forerunner to today's community development movement. Hull House was central to many of Chicago's ethnic communities, and served as a second home to Greek, Italian, Jewish, German, Polish, Russian and Bohemian immigrants. It provided the venue for many mutual aid, professional, trade,

see also: Meyer A. The problems of mental reaction types, mental causes and diseases. (1908). In: Winters EE, editor. *The collected papers of Adolf Meyer*. Baltimore: The Johns Hopkins Press, 1950-52; 2: 598.

⁶¹ Reinders RC. Toynbee Hall and the American settlement movement. *Social Service Review* 1982; 56(1): 39-54.

educational, athletic, theatrical and musical organisations and groups⁶², and was a centre in which, from its inception, 'civic betterment', investigative research, and joint ventures with activist scholars from the University of Chicago towards social reform, took place⁶³.

Hull House was founded and developed by women. As such it was an important stepping stone in the history of feminism and women in the helping professions. Feminism grew from the same 'Enlightenment' ideas that sparked humane and moral treatment, so it is not surprising to discover Mary Wollstonecraft's document *A vindication of rights of women* was published as early as 1792⁶⁴. Early feminist activists concerned themselves with securing legal rights for women in education, marriage and employment, with anti-slavery, and with evangelical movements, and later with the struggle for votes⁶⁵. By the end of the nineteenth century educational opportunities were beginning to open up for women, although courses on the status of women were in their infancy⁶⁶. Jane Addams was educated at one of numerous women's colleges in the American North-East, which, it has been suggested, provided women with the confidence needed to forge a new type of lifestyle for women. It is interesting, from the perspective of this thesis, to note her description of her own experience of occupational deprivation and imbalance which coloured her later beliefs and approaches at Hull House. In a paper given to the Ethical Culture Societies in Plymouth, Massachusetts in 1892 she applied her own experience to that of other

⁶²Holli MG, Jones P, editors. *Ethnic Chicago*. Grand Rapids, Michigan: William B Eerdmans Publishing Co., 1984.

⁶³Fish VK. Hull House: Pioneer in urban research during its creative years. *History of Sociology* 1985; 6(1): 33-54.

⁶⁴Wollstonecraft M. *A vindication of rights of women*. London: J. Johnson, 1792. Reprint with introduction by Kramnick MB, editor. Harmondsworth, England: Penguin Books, 1975.

⁶⁵Grimshaw A. Feminism. In: Bullock A, Stalleybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*, 2nd ed. London: Fontana Press, 1988, p.312.

⁶⁶One of the earliest known courses on the status of women was offered by the Department of Sociology at the University of Kansas in 1892. Reported in Chamberlain M. *Women's studies*. In: Kuper A, Kuper J, editors. *The social science encyclopedia*. London & New York: Routledge, 1989, p.902.

educated young people who "have been shut off from the common labor by which they live which is a great source of moral and physical health. They feel a fatal want of harmony in their lives, a lack of coordination between thought and action" which can be provided by "a proper outlet for active faculties". She recognised that lack of occupational opportunity is not restricted to the poor, and that "this young life, so sincere in its emotion and good phrases and yet so undirected, seems to me as pitiful as the other great mass of destitute lives". She described the Hull House Settlement as "an experimental effort to aid in the solution of the social and industrial problems which are engendered by the conditions of life in a great city...It is an attempt to relieve at the same time, the over accumulation at one end of society and the destitute at the other"⁶⁷.

Addam's beliefs about meaningful occupation, formed by her experience, also led to her involvement in the establishment of the Chicago Arts and Crafts Society in 1897, along with prominent business and professional people, faculty members from the University of Chicago, and the co-founder of Hull House, Ellen Gates Starr⁶⁸. Charles Norton, the first professor of fine arts at Harvard, and a close friend of John Ruskin, is credited with bringing the ideology of Ruskin's and Morris's Arts and Crafts movement to America. Morris's views about work, and a simple life on a 'human scale' away from materialistic, alienating cities found "particularly fertile ground in late nineteenth century America", which had long been influenced along similar lines by functionalist religious groups such as Puritans and Shakers⁶⁹. Different groups accepted the ideology in different ways.

"While Simple-Lifers stressed familiar virtues of discipline and work, aesthetes embodied a new style of high consumption appropriate to the developing consumer economy, and

⁶⁷ Addams J. *The subjective necessity for social settlements*. Paper to the Ethical Culture Societies, Plymouth, Massachusetts, 1892.

⁶⁸ Jackson Lears TJ. *No place of grace*: ...p 67.

⁶⁹ MacCarthy F. *William Morris: A life for our time*. London: Faber and Faber, 1994, p.603.

*educational reformers offered manual training as a therapeutic mode of adjustment to the corporate world of work."*⁷⁰

However, because the Puritan work ethic was so central to American culture, Ruskin's and Morris's conceptualisation of a 'pre-industrial craftsperson', unhurried and absorbed in his own creativity became reinterpreted in America, so that eventually no distinction was made between modern and pre-industrial work habits. "Labor! all Labor is noble and holy" Edward Pearson Pressey, Unitarian minister and the founder of the New Clairvaux handicraft community proclaimed⁷¹. He was not alone in this view, a view which enabled Arts and Craft's leaders, along with their 'Progressive' contemporaries⁷², to draw back from fundamental social change for social justice in favour of "a new kind of reform" which fitted individuals into emerging hierarchies, and aimed instead at "manipulating psychic well-being"⁷³.

This notion of "mental and moral growth" was compatible with 19th century American ideas about individualism which was central to capitalism, its liberal democracy ideology and values focussing on human rights⁷⁴ ⁷⁵. Indeed, individualism, in Arieli's view "supplied the nation with a rationalisation of its characteristic attitudes, behaviour patterns and aspirations. It endowed the past, the present and the future with the perspective of unity and progress"⁷⁶, and it provided an exciting and

⁷⁰ Jackson Lears TJ. *No place of grace*:... p.73.

⁷¹ Pressey EP. New Clairvaux Plantation, Training School, Industries and Settlement. *Country Time and Tide* 3; February 1903: 121-22; This community was named after St Bernard of Clairvaux, a 12th century hero of simplicity.

⁷² See, for example: Link AS, McCormick RL. *Progressivism*. Arlington heights, Illinois: Harlan Davidson, Inc., 1983; Resek C, editor. *The progressives*. Indianapolis and New York: The Bobbs-Merrill Company, Inc., 1967.

⁷³ Jackson Lears TJ. *No place of grace*:...p 79.

⁷⁴ The course of civilization. *United States Magazine and Democratic Review* 1839; VI: 208ff, 211. Cited in: Lukes S. *Individualism*. Oxford: Basil Blackwell, 1973.

⁷⁵ Lukes S. *Individualism*....

⁷⁶ Arieli Y. *Individualism and nationalism in American ideology*. Cambridge, Mass.: Harvard University Press, 1964, pp.345-6.

challenging dream for each of its citizens. Historian John William Draper describes the "wonderful", "unceasing" activity and social development of the North, following the civil war, as "the result of individualism; operating in an unbounded theatre of action. Everyone was seeking to do all that he could for himself"⁷⁷. For R.W. Emerson, America's favourite poet of the late nineteenth century, individualism was "the route to perfection - a spontaneous social order of self determined, self reliant, and fully developed humans"⁷⁸. Not for Draper and Emerson the belief of Marx, Ruskin and Morris, that socialism was the path to fully developed humans in tune with their creative natures.

Similarly, even in Hull House, where Ruskin's and Morris's photographs had pride of place, as evidence of its Founder's respect for their work, the Arts and Crafts ideology was reinterpreted from a socialist to an individualistic focus⁷⁹. For example, Starr, who demonstrated her understanding of Morris's ideals in her essay, 'Art and Labor', devoted herself in her work with immigrants to "the solace of art" rather than "the freeing of the art power of the whole nation and race by enabling them to work in gladness and not in woe"⁸⁰. Likewise, Addams dismissed anti-modernism and accepted the inevitability of the industrial system, so that instead of fighting for social justice against the division of labour and occupational inequities produced by mass production, she sought to revitalise working class lives by education towards best utilising the industrial economy and personal fulfilment⁸¹. Like other Arts and Crafts leaders she accepted that 'manual training' was 'the' solution for industrial problems, focussing on the

⁷⁷Draper JW. *History of the American Civil War*, 3 Volumes. New York: Harper, 1867-70, Vol 1, pp.207-8.

⁷⁸Emerson RW. New England reformers (1844) In: *Complete writings* Vol. 1. New York 1929
Summarised by Lukes S. *Individualism*....pp.29.

⁷⁹MacCarthy F. *William Morris: A life for our time*....p.604.

⁸⁰Starr EG. Art and labor. In: Addams J. *Hull House maps and papers*. New York: Thomas Y. Crowell, 1895.

⁸¹Jackson Lears TJ. *No place of grace*....p.79-80.

"factory hand's need for fulfilment" in contrast to others who "began with the factory owner's need for efficiency. They presented manual training as a practical business proposition - a way to replace shiftless or incompetent employees with conscientious graduates of trades schools"⁸². This focus helped the transformation to the twentieth century work culture which separates 'work' from 'living' and from joyful occupation, reinforcing the belief that the work people do for a living will, and indeed should be, tedious and demanding⁸³.

In terms of the role of women in American society at the time, the direction taken by the women leaders at Hull House was inevitable. In order to establish positions in which they could exercise their previously untapped capacities and potential, women needed to demonstrate their ability to work within dominant social values, rather than lead massive social change, even if they had perceived this to be necessary, which is doubtful. Establishing a female workforce in the professions, and bringing to these a feminine, caring, moral viewpoint that flowed over from their earlier, often unacknowledged, family or charitable duties, was, in itself, sufficiently challenging to the social order. Indeed, these strong women demonstrated their abilities, and right to be where they were, through developing their 'professionalism' in a way that was adaptive and politically expedient.

However, neither the 'capitalist', individualist 'growth' focus nor the anti-modern socialist 'revolution' focus was successful in creating global awareness of the need to consider people's occupational nature in future social planning, although both went some way in that direction. The choice of individual education rather than social revolt can be viewed as one factor which led to the diminution of the development of a broadly based, lasting

⁸²Jackson Lears TJ. *No place of grace*:....p.81.

⁸³Jackson Lears TJ. *No place of grace*:....p.83.

'occupational perspective', and delayed the consideration of this view until the present post-industrial difficulties once more raised some collective consciousness as to its importance. Despite the enormous energy and commitment of strong leaders, the exploration of humans as occupational beings was lost in their zeal to establish practical programs which were based on their own concepts of how humans' occupational natures could be best fitted to emerging social environments. As part of this process, the burgeoning occupational therapy which grew from humanist and socialist ideas, became bound to individualist, and medical, or other models for years to come.

It is not surprising that workers in such an environment, in which the therapeutic benefits of occupation were so well recognised and utilised, instigated classes for attendants and nurses of the insane to learn about 'invalid occupations'. In 1908 Julia Lathrop, Rabbi Hirsch and Dr Graham Taylor held the first Special Course in Curative Occupations and Recreation at Hull House⁸⁴. Eleanor Clarke Slagle completed the fourth class, in 1911, following her enrolment in the Chicago School of Civics and Philanthropy as a social work student⁸⁵. "Her vigorous and unrelenting teaching, organizing, and championing of 'occupational training'...came from exposure to this course and a subsequent commitment to these principles"⁸⁶. She immediately assumed a teacher role herself, before being 'borrowed' to work with Adolf Meyer in establishing "the Phipps Clinic for action"⁸⁷. In 1915 she returned to Hull House to become Director of the Henry B. Favill School of Occupations, which is said to be the first formal school of occupational

⁸⁴ Breines E. *Origins and adaptations: A philosophy of practice...*

⁸⁵ Reed KL, Sanderson SR. *Concepts of occupational therapy....*

⁸⁶ Cromwell FS. Eleanor Clarke Slagle, the leader, the woman: In retrospect on the 60th anniversary of the founding of the AOTA. *The American journal of occupational therapy* 1977; 31(10): 645-648.

⁸⁷ Meyer A. Address in honor of Eleanor Clarke Slagle. In: Serrett KD, editor. *Philosophical and historical roots of occupational therapy*. New York and London: The Haworth Press, 1985, pp.109-113.

therapy⁸⁸. This started as a Community Workshop for cases of "doubtful insanity" whom the courts considered might return to usefulness if given a "proper environment and trade"⁸⁹, and incorporated a programme of study in curative occupations and recreation. Slagle built upon the foundation established by Julia Lathrop, incorporating the ideas of Addams, James and Meyer into a program which focussed on "habit training' through meaningful use of time and purposeful activity"⁹⁰, including the concept that "for the most part, our lives are made up of habit reactions" and that

*"occupation usually remedially serves to overcome some habits, to modify others and to construct new ones to the end that habit reactions will be favourable to the restoration and maintenance of health."*⁹¹

Following the School's closure in 1920 she became Director of the Bureau of Occupational Therapy of the New York State Department of Mental Hygiene⁹². She concentrated much of her effort on "re-education in decent habits of living", following "the same growth and development as normal education", for patients who had deteriorated for many years in the 'back wards' of mental institutions⁹³. Her training programs, which spanned 24 hours each day, had the stated purpose of re-education of "the patient, (a) mentally; (b) physically, and (c) socially according to the individual need and to the highest capability of the patient", with the ultimate aim of the patients return to the community⁹⁴. During her illustrious career she developed and demonstrated her 'professionalism', and furthered the feminist cause, by serving in all the offices of the American Occupational Therapy Association. She is commemorated by the prestigious Eleanor Clarke Slagle Lectureship

⁸⁸ Henry B Favill was a Chicago physician with an interest in social issues.

⁸⁹ Favill J. Henry Baird Favill: 1860-1916. Chicago: Rand McNally, 1917, p.87.

⁹⁰Cromwell FS. Eleanor Clarke Slagle, the leader, the woman:...

⁹¹Slagle EC. *Training aides for mental hospitals*. Paper read at the fifth annual Meeting of the National Society for the Promotion of Occupational Therapy, Baltimore: October 20-22, 1921.

⁹² It is of interest that the Bureau of Occupational Therapy of the New York State Department of Mental Hygiene by 1941 boasted a staff of 255.

⁹³ Slagle EC, Robeson HA. *Syllabus for training of nurses in occupational therapy*. Utica, NJ: State Hospital Press, 1931, pp.30-35.

⁹⁴ Slagle EC, Robeson HA. *Syllabus for training of nurses*p. 19.

awarded annually by the American Association to an occupational therapist who is regarded as having made an outstanding contribution to the profession.

The philosophy of pragmatism propounded by William James was central to Slagle's work⁹⁵. She even quoted his words in her syllabus - "the moment one tries to define what habit is, one is led to the fundamental properties of matter...habit diminishes the conscious attention with which our acts are performed"⁹⁶. This utilisation of James's philosophy is not surprising because of the close association between the University of Chicago, in which, at this time, the study of pragmatism flourished, and Hull House which was a centre where the themes of pragmatism were tried on the community⁹⁷.

Although a philosophy of pragmatism was first articulated by Charles Sanders Pierce (1839-1914), who believed that an idea or the significance of 'meaning' could be understood best by examining its consequences on human activity⁹⁸, William James is the better known pragmatist philosopher⁹⁹. This philosophy, with 'functionalist' and 'utilitarian' overtones, was the antithesis of European metaphysical philosophies, and was closely associated with the American way of life at the turn of the century. James, like Marx, was much influenced by Hegel and Darwin, and occupational therapy was influenced by these same ideas through two routes:

⁹⁵ James W. *Pragmatism, and four essays from the meaning of truth*. Cleveland and New York: Meridian Books, The World Publishing Co., 1970. (*Pragmatism* was first published in 1907, and *The meaning of truth* in 1909).

⁹⁶ Slagle EC, Robeson HA. *Syllabus for training of nurses in occupational therapy*. Habit training is adopted from pragmatism through the Meyer influence, but is also central in Arts and Crafts movement. See: Mayhew KC, Edwards AC. *The Dewey School: The lab school of the University of Chicago, 1896-1903*. New York: Appleton-Century, 1936, p.206.

⁹⁷ Breines E. Pragmatism as a foundation for occupational therapy curricula. *The American journal of occupational therapy* 1987; 41(8): 522-525.

⁹⁸ Pierce CSS. *Collected papers*. Vols 1-6. Edited by Hartshornes C, Weiss P. 1931-1935; Vols 7-8. Edited by Burkes W. Cambridge: Harvard University Press, 1958.

⁹⁹ James W. *Pragmatism: A new name for some old ways of thinking*. New York: Longmans, Green and Co., 1907.

one from Hegel and Darwin, to Marx, to Morris, to Hull House; the other from Hegel and Darwin, to James, to Meyer and Dewey, to Hull House.

The pragmatists John Dewey, and George Herbert Mead worked at the University of Chicago, and Dewey, along with Meyer and James, had significant influence on occupational therapy. This trio's influence was perhaps because of their particular interpretations of pragmatism. Whilst Pierce focused on a scholarly and general concept of the philosophy, and Mead emphasised the "subjective and relational role of the individual in society", James focussed on a psychological approach, as it affected individuals, Meyer, on psychiatric practice which saw "personality is fundamentally determined by performance", and stressed the integration of mind and body, activity and habit, time and environment, in real life, and Dewey on education and social reconstruction seeing knowledge as the result of "experience in life tasks"¹⁰⁰.

Dewey was a trustee of Hull House, and worked there as counsellor and lecturer. Although he left Chicago in 1904 his influence remained strong, and undoubtedly was absorbed into occupational therapy theory¹⁰¹. Indeed Tracey cites Dewey in her text of 1910¹⁰² and it is also easy to appreciate that his belief in active occupation as a modifier of learning and health, his view that a child's mind is "possessed of a number of faculties, such as 'perception', 'memory', 'reasoning', and that these powers develop by training like that required for the fixing of a muscular habit", and that "to learn through work, one experienced happiness, to win that point of view as a daily habit is perhaps the greatest gift bestowed"¹⁰³, were accepted as central tenets of the

¹⁰⁰ Breines E. *Origins and adaptations*:...p.67.

¹⁰¹ Mills CW. *Sociology and pragmatism: The higher learning in America*. New York: Oxford University Press, 1964, p.30

¹⁰² In: Tracey SE. *Studies in invalid occupations: A manual for nurses and attendants*...p.2.'

¹⁰³ Mayhew KC, Edwards AC. *The Dewey School*:...p.459.

profession¹⁰⁴. So too, is the practical understanding that people as creatures of this world, spend their lives with a "succession of here-and-now problems to be solved" The solving of these problems result in adaptation and growth¹⁰⁵. In his early texts he used words such as 'purposive activity' and 'active occupations'¹⁰⁶, and with Meyer anticipated an 'holistic systems approach', all of which remain part of occupational therapy theory and rhetoric today¹⁰⁷.

Despite the threefold objectives formulated at the foundation of the National Society in 1917, mentioned earlier, it appears from papers and books written around the time that interest was much more centred on the therapeutic application of occupation, than upon research and dissemination of knowledge so generated. The founders of occupational therapy and their associates who influenced this focus, were themselves educated, on the whole, in disciplines with a reflective, philosophical orientation. The value of such a base seems to have been taken for granted, so that training programs became based on practice. Slagle, who had a firm concept of the profession's founding philosophies, was responsible for approving all curricula until the 1930's when *The Essentials of an Acceptable School of Occupational Therapy* were adopted by the Council on Medical Education and Hospitals of the American Medical Association in 1935. "The original 'Essentials' stipulated content, but did not stipulate why that content was to be included" and the "principles upon which the 'Essentials' were based became increasingly obscure"¹⁰⁸. This is true not only of the American scene, but of occupational therapy education world-wide. My own experience in England, in the late

¹⁰⁴ Dewey J. *Democracy and education: An introduction to the philosophy of education*. Toronto: Collier-MacMillan, 1916.

¹⁰⁵ Moore TW. *Educational theory: An introduction*. London: Routledge & Kegan Paul, p.43.

¹⁰⁶ Dewey J. *Democracy and education*: ...

¹⁰⁷ "The psychiatrist has to study individuals and groups as wholes, as complex units....We recognise that throughout nature we have to face the general principle of unit-formation, and the fact that the units need not be a mere sum of the component parts..." (Meyer A. Quoted in: Dewey J. *Experience and nature*. New York: W.W. Norton, 1925, p.145.)

¹⁰⁸ Breines E. *Origins and adaptations*: ...p 17

1950's was a case in point. The complexity of ideas which culminated in occupational therapy were perhaps difficult to piece together into a cohesive whole by a small group of people, coming from different backgrounds and working in different centres, miles apart. Indeed, the importance of documenting the foundation of the ideas which contributed to occupational therapy may well have been largely unappreciated as they formed part of the mass consciousness of the era, and because of the seeming 'truth' of the value of occupation to health it may not have been recognised that there was a need to conceptualise this value in philosophical terms. Unfortunately "the diversity of organisation and perspective...in the absence of a well analysed and encompassing philosophical conceptualisation, contributes to the confusion and insecurity experienced by occupational therapists"¹⁰⁹

The lack of a formalised philosophical base did not inhibit the zeal of early workers who, through their actions, demonstrated their assumption that opportunity for expression and self-actualisation through activity is necessary for health. In those formative years occupational therapy was focussed towards activity programs in institutions where inhabitants stayed long term for one cause or another. What the occupants of the institutions were able to do was limited by the physical environment of the institutions and by the reason for the inmates' confinement, such as psychotic disorders, tuberculosis or violent crime. Programs varied from 'real' work such as in the garden or laundry to physical training or dance. Leisure activities such as music or hand-craft were also used regularly. The effects of the Arts and Crafts movement remained powerful, and it is of interest to note that of the thirteen American states known to have at least one Arts and Crafts Society in 1904 nine developed occupational therapy programs before 1920¹¹⁰. The seeds

¹⁰⁹Breines E. *Origins and adaptations*: ...p.14.

¹¹⁰West M. The Revival of handicrafts in America. *Bureau of Labor Bulletin* 1904; 55: 1573-1622; Reed KL. Tools of practice: Heritage or baggage? 1986 Eleanor Clarke Slagle Lecture. *American Journal of Occupational Therapy* 1986; 40(9): 597-605.

were laid early of the widely held belief that occupational therapy is limited to certain types of activity, despite the fact that the assumption relating health with human occupation is of much wider application. This limitation to what was perceived as pleasurable activity not linked to the realities of life, led to the myth that occupational therapy is solely involved in 'diverting' patients minds from their problems. Because of the impetus to meet the needs of those deprived of occupation the profession became associated, also at an early date, with people with long term problems such as the chronically handicapped. The emphasis, whether reality or myth, on diversion and chronicity, eroded the idea of using occupational programs for health and social problems in a wider community context. Many of the ideas about the value of human occupation in community adaptation, in giving a purpose to life, in maintaining a balance in life, and as a modifier of learning and health, were hidden in hospital bound remedial programs, and its potential value to public health on a broad scale appeared to diminish with the passage of time and events. Exploring how these issues, and others, affected the development of the professions fundamental ideas about occupation and about health will be a focus of the next chapter.

Chapter 8

Occupational therapy's relationship with occupation and health

Occupational therapy's view of 'occupation' and of 'health' has fluctuated through its relationship with medicine and according to changing values and needs in the community and structural demands of health service delivery. This chapter explores those fluctuations and developments, in part, as a response to W.H.O. and Australian health authorities' stress on the importance of health professionals reorienting their emphasis of practice towards the positive pursuit of health¹. Health professionals who accept that emphasis take on an obligation to review basic ideologies, current practice and potential for development or change. That kind of review implies an attempt to discover, analyse and understand the present perceptions and attitudes of the profession towards health promotion. Apart from exploring these by analysing ideas which are prevalent in debate within the profession, an inquiry to that end has been carried out in a study of Australian occupational therapists reported briefly in this chapter. The details are found in appendix IV.

The basic ideologies of occupational therapy are congruent with much current health promotion ideology and the pursuit of healthy and quality lifestyles for clients has always been a major focus of occupational therapy's practice. However, the profession has also been subject to pressures toward reductionist, curative expectations which have affected the use of and value given to occupation. The following account of those pressures on the development of the profession suggests the profession's reaffirmation of basic

¹ One of the five major imperatives proposed in the Ottawa Charter for Health Promotion is the reorientation of health professionals towards the pursuit of health. The Better Health Commission of Australia accepted this proposal in 1988.

ideologies which reflect a health promotion orientation through occupation. It also leads to an appreciation of the ways in which occupational therapists may contribute to community and public health.

"Occupational therapy suffers from a limitation imposed upon it by its origin in the setting of medical care" because it has "regarded itself as part of a larger endeavour masterminded by the medical discipline"². Throughout its twentieth century life, occupational therapy has been subservient to medicine, which dominates other health professions by "subordination", "limitation" and "exclusion" because it has "control over the work situation, professional autonomy within the medical division of labour and occupational sovereignty over related and neighbouring occupations"³. This unequal relationship has influenced decisively the growth, development and changing focus of occupational therapy and has contributed to the medical science orientation of its knowledge base. More recently, the reaction of occupational therapists to that inequality has shaped the drive for professional status and the struggle for recognition. The chapter considers four principle dynamics emanating from this association which have shaped occupational therapy: prescription, the feminine gender bias, the pursuit of professionalism, and scientific reductionism. These will be discussed in some detail in order to clarify the core values of occupational therapy and its potential for development or change.

Dunton, one of the founders and second president of the American National Society of Occupational Therapists, played an important role in establishing the tradition of occupational therapists working within a medical model, under

²Bockhoven JS. Occupational therapy: A neglected source of community rehumanisation. Chapter XII in *Moral treatment in community mental health*. New York: Springer Publishing Company, Inc. 1972, p.218.

³Willis E. *Medical dominance, the division of labour in Australian health care*. Sydney: George Allen and Unwin, 1983; Turner BS. Knowledge, skill and occupational strategy: The professionalisation of paramedical groups. *Community health studies* 1985; 5(1): 38-47,

the direction of physicians⁴. A doctor himself, he gained support from his medical colleagues of the necessity for a prescription or referral for patients to receive occupational therapy which placed occupational therapists in the role of technicians who would carry out treatment, in much the same way as nurses administer medications on a physician's instructions⁵. Indeed, in his book *Prescribing Occupational Therapy* which was aimed at educating physicians about occupational therapy's philosophies and principles, Dunton described occupational therapists as technical assistants whom the physicians would direct⁶. In Dunton's prescription, "the division of labor between physicians and occupational therapists followed traditional patterns regarding men and women", with conceptualisation and the control being in the hands of men, and the 'doing' being firmly in the hands of the women. Because the "conceptualisations and the intellectual foundations" were represented as coming from "outside the boundaries of the profession", it was not hard, in addition, to represent outside instruction of the occupational therapist as a necessity⁷. Technically, prescriptions were still required to practice when I completed my basic training in England in 1961. I recall going through an important 'little' ceremony, as one by one each graduate signed a declaration to the effect that she would administer occupational therapy only according to a medical prescription.

A long term effect of this early division of labour has been that, until recently, intellectual foundations and detailed conceptualisations were not addressed as major components of occupational therapy education. Interest in conceptual matters became more important, in part, because the growth of

⁴ Dunton WR Jr. Occupation as a therapeutic measure. *Medical record* 1913; 83: 388-389; Dunton WR Jr. History of occupational therapy. *Modern hospital* 1917; 8: 380-381.

⁵ Woodside HH. The development of occupational therapy 1910-1929, *The American journal of occupational therapy* 1971; XXV (5): 226-230.

⁶ Dunton Jr WR. *Prescribing occupational therapy* 2nd ed. Springfield: Charles C Thomas, 1928.

⁷ Serrett KD. *Philosophical and historical roots of occupational therapy*. New York: The Haworth Press Inc., 1985, p.19-20.

post- graduate programs provided an environment for serious reflection and debate and the beginnings of a research ethic⁸. This led to a renaissance of the original ideas behind the genesis of occupational therapy, and a renewed focus on the need to develop a science of occupation⁹.

The history of occupational therapy as a prescribed therapy has inhibited adequate research or development of its unique view of health. Because prescribed therapy is mechanical, whereas unprescribed therapy is necessarily inquisitive and imaginative, it has restricted the potential evolution of occupational therapists as service providers¹⁰ so that, in many instances, the "potential to help clients...stagnated at the level of applying technical skills"¹¹. Additionally, because the service was prescribed by another discipline, much of the specialisation that has occurred has "not arisen from, and do(es) not appear to support the development of a core concept or paradigm" which is unique to occupational therapy¹². Although Dunton recognised the need for prescribers to understand the nature and scope of the services requested when he addressed his text to referring physicians, it is unlikely that it became compulsory reading in many medical schools. Perhaps for some years there was a degree of commitment to 'occupational' treatment programs from those intrigued by this 'new' therapy. Indeed, the professional literature of the early years is sprinkled with papers by physicians which describe their occupational

⁸ In 1976 The American Foundation sponsored a seminar on research in occupational therapy in an effort to give impetus and substance to a National research commitment. Yerxa EJ, Gilfoyle E. Research seminar. *The American journal of occupational therapy*. 1976; 30: 509-514; In Australia, a standing committee on research was established in 1979, and AAOT Research awards were established in 1988.

⁹ The first call for a science of occupation was in 1917, as one of the objectives of the American Society for the Promotion of Occupational Therapy.

¹⁰ Rogers JC. Order and disorder in medicine and occupational therapy. *The American journal of occupational therapy*. 1982; 36(1): 29-35. Note: Within the restrictions imposed by prescription, occupational therapists have been very imaginative.

¹¹ Yerxa EJ. 1966 Eleanor Clarke Slagle Lecture. Authentic occupational therapy. *The American journal of occupational therapy* 1967; XXI (1): 1-9.

¹² Gillette N, Kielhofner G. The impact of specialisation on the professionalisation and survival of occupational therapy. *The American journal of occupational therapy* 1979; 33(1): 20-28. Note: The whole of this issue is devoted to the issue of professional specialisation.

therapy programs. However, as the 'newness' of occupational therapy wore off, it is probable that most doctors, simultaneously fascinated by an increasing knowledge base within their own sphere, spent little time considering the benefits of peripheral therapies and 'enablers' such as occupational therapists, operating from a different premise with a conceptual base other than medical science. In fact, at present, occupational therapy receives only passing mention in undergraduate medical training. As a result, prescriptions, if even considered, are limited to superficial requests either very general, or specific to doctors' own treatment interests.

The early literature suggests that occupational therapists welcomed the association with medicine, and showed some pride in the 'prescriptive' application of occupation, which became part of early definitions¹³. This alignment with medicine and acceptance of the need for a medical prescription is considered by Griffin, an Australian occupational therapy educator, to be "a custom in occupational therapy practice" which is now undergoing significant change. Increasingly, therapists recognise that "there are clients who benefit from occupational therapist intervention but who do not need to be referred via medical prescription". For example, medical prescription is inappropriate for people in schools, community centres, local government or industrial settings, or those presenting "to the medical system with problems (such as occupational performance difficulties) which cannot be identified as a disease process"¹⁴. In such cases, clients likely to benefit from occupational therapy will not be referred because of lack of understanding of possible interventions or outcomes.

¹³The first known formal definition of occupational therapy was by a physician, H.A. Pattison. "Any activity, mental or physical, definitely prescribed and guided for the distinct purpose of contributing to, and hastening recovery from, disease or injury". In: Pattison HA. The trend of occupational therapy for the tuberculous. *Archives of occupational therapy* 1922; 1: 19-24.

¹⁴ Griffin S. Conflicts in professional practice. *Australian occupational therapy journal* 1988; 35(1): 5-12.

In common with other 'subordinate' health professions, occupational therapy was identified early in the piece as women's work. Indeed, by 1938 only one training school in America accepted male students and for at least another decade only about 2.5% of occupational therapists were men¹⁵. At the University of South Australia, which is typical of Australian schools, even in the 1990's, male students make up, at the most, approximately 10% of the first year intake. Anderson and Bell suggest that the female nature of the profession may in fact reflect its growth during two world wars when most "able-bodied men" were committed "to the front line", and "their rehabilitation had to be undertaken by women"¹⁶, but Frank argues that this does not account for the very low representation of men in the profession in subsequent decades¹⁷. In common with other 'subordinate' health professions, the founding physicians and therapists claimed that women have special aptitude for such work and that assumption remains widely accepted¹⁸.

The female founders, who blazed a trail for "less educated or advantaged women", were, on the whole, from the upper middle class, well educated, and immersed in the advancement of careers for women as well as the conceptual foundations of occupational theories¹⁹. Despite their proto-feminist impetus and convictions about occupation they accepted subordination to medicine, in a way similar to the gender segregation that was a part of upper middle class domestic arrangements of the day. From about 1750 to 1950, in America,

¹⁵Hopkins HL, Smith HD, editors. *Willard and Spackman's Occupational therapy*. 5th ed. Philadelphia, U.S.A.: J.B. Lippincott, 1978, p.4.

¹⁶Anderson B, Bell J. *Occupational therapy: Its place in Australia's history*. Sydney: N.S.W. Association of Occupational Therapists, 1988, p.2.

¹⁷Frank G. Opening feminist histories of occupational therapy. *The American journal of occupational therapy* 1992; 46(11): 989-999.

¹⁸Dunton WR Jr. *A manual for nurses*. Philadelphia: WB Saunders, 1915; Fuller D, Introduction. In: Tracey SE. *Studies in invalid occupations: A manual for nurses and attendants*. Boston: Whitcomb & Barrows, 1913, p.5.

¹⁹In 1918, candidates for the Boston School of Occupational Therapy were sought through the society pages of Boston and Los Angeles newspapers (Litterst TAE. *Occupational therapy: The role of ideology in the development of a profession for women*. *The American journal of occupational therapy* 1992; 46: 20-25.) See also: Frank G. Opening feminist histories of occupational therapy...

increasing industrialisation, accompanied by a growing demarcation between the world of paid employment and home, generated a "cult of domesticity", a recognition of difference in gender traits and of the 'feminine ideal'²⁰. The attributes of this feminine ideal, such as "a kindly voice, gentleness, patience, ability and seeming vision, adaptability...and...an ability to be honest and firm" were deemed important for occupational therapists²¹, and fostered a 'service to medicine' orientation. The bias cast by the 'feminine ideal' was conducive to therapists tending the sick and infirm, giving particular attention to children and the elderly, and choosing self care and care giving, homemaker and creative occupations in preference to social activism which challenged occupational practices of the day. In some countries, until recently, this was reinforced, in part, by legislation which separated medical and vocational rehabilitation²².

The gender-biased focus remains true of today's practice although the current emphasis on, and legislative changes in, occupational health and safety have opened the doors to increasing numbers of occupational therapists working within the 'employment' arena. Another attribute of the 'domestic cult', which was frequently incorporated into occupational therapy practice until recently, was the skill of 'making-do' to save money, for example, making splints out of discarded materials, or begging for equipment or materials for patient's projects²³. In times of economic hardship such thrift should be admired, yet the most lauded health services reflect the dominance of materialistic values and are those that are technologically advanced and

²⁰Cott NF. The bonds of womanhood: "Women's sphere" In: *New England 1780-1835*. New Haven: Yale University Press, 1977.

²¹Slagle EC. Training aides for mental patients. *Archives of occupational therapy* 1922; 1: 11-17, p.12.

²²Jacobs K. *Occupational therapy: Work related programs and assessments*. Boston / Toronto Little, Brown and Company, 1985.

²³Irene Hollis, a very skilled occupational therapist, specialising in hand rehabilitation at Chapel Hill, USA took pride in her splint making from metal strips salvaged from packing materials. Lecture: SA Institute of Technology, 1980; See also: Anderson B, Bell J.

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hence, very expensive. This privileging of the new and expensive has also contributed to reductions in occupational therapy services whenever economic retrenchment was applied. Similarly, life saving (a medical work) has been protected during retrenchment relative to quality of life (the sphere of subordinate therapies). Such protection is also held to reflect the value given to saving lives (whatever the outcome), over quality of life²⁴. Saving the life of brain damaged motor vehicle accident victims, at great financial and emotional expense, to live the life of a vegetable, is a case in point. The life saving procedure is given preference over economic commitment to long term rehabilitation for them or even for others who are chronically disabled such as for many following stroke, in which programs usually stop after the first couple of months, but potential for recovery continues for at least two years. Occupational therapists, who "are driven by a moral concern for the individual"²⁵, have been (largely unheard) advocates for the long term rehabilitation of the chronically disabled. Bockoven describes occupational therapists as veterans "of many battles fought to win respect for the individual". He suggests they have acquired unique and valuable assets as a result of "many decades of adversity", of "first hand acquaintance of every conceivable kind of deprivation endured by imprisoned, insecure people", and of being forced by circumstances to engage in a token performance because they had available to them "only a tiny fraction of what was needed to meet their needs"²⁶.

In Australia, in a way similar to North America, but a quarter of a century later, "pioneering occupational therapists and members of other female

²⁴ Shannon suggests that the medical model was committed to a science and technology successful in prolonging life but ignoring conditions that make life worth living. (Shannon, PD. The derailment of occupational therapy. *The American journal of occupational therapy*, 1977; 31(4): 229-234).

²⁵ Bockoven JS. Occupational therapy: A neglected source of community rehumanisation. Chapter XII in *Moral treatment in community mental health*. New York: Springer Publishing Company, Inc. 1972, p.220.

²⁶ Bockoven JS. Occupational therapy: A neglected source...p.220.

dominated professions at the time...accepted their role within the health service structure which placed men in the position of power", believing that "only through the medical profession could occupational therapy "receive the status and independence it deserved²⁷. This remained true until the more recent challenges of feminism brought about a questioning of health practices based almost wholly on a male view of the world.

Gender segregation has provided some advantages to women occupational therapists in terms of their own 'economic empowerment', their success in seeking advancement because they were sheltered from male competition, and their contribution to "a professional environment shaped by women's culture, with its emphasis on care rather than competition"²⁸. This caring culture was sympathetic to the needs of mothers to work part-time as more and more occupational therapists, in common with other female professionals, remained in, or returned to, the workforce²⁹. However, some see that these feminine advantages also weakened efforts to upgrade the profession³⁰. Eventually the predominantly female work-force, the small numbers³¹, the difference in the discipline's emphasis, aggravated by the division between concept and implementation, led many occupational therapists to perceive that professional colleagues and society undervalued what they had to offer. This in turn led to them under-valuing their own contribution, tending not to

²⁷Anderson B, Bell J. *Occupational therapy: Its place in Australia's history*....pp.5, 221.

²⁸Frank G. Opening feminist histories of occupational therapy...

²⁹Jantzen A. Some characteristics of female occupational therapists. Part 1- Descriptive study. *The American journal of occupational therapy* 1972; 26: 19-26; Brunyate RW. From the president-After fifty years what stature do we hold? *The American journal of occupational therapy* 1967; 21: 262-267.

³⁰See, for example: Matthewson M. Female and married: Damaging to the occupational therapy profession. *The American journal of occupational therapy* 1975; 29(10): 601-605.

³¹ There has been a long term ongoing shortage of occupational therapists. See: Acquiviva FA. AOTA's ad hoc commission on occupational therapy manpower: Part 1: Summary of findings. *The American journal of occupational therapy*, 1986; 40(7): 455-457; MacKinnon JR. Current supply and future requirements for occupational therapy manpower in British Columbia. *Canadian journal of occupational therapy* 1985; 52(5): 251-257; Taylor S. Summary of national survey of occupational therapy labour force 1981. *Australian occupational therapy journal* 1983; 30(4): 161-164.

broadcast their distinctive and different views, and being willing to adapt these to socially valued and dominant practices.

The most obvious symbol of medical authority was the long standing practice of having physicians at the head of occupational therapy professional associations. With the exception of Slagle, the presidents of the (American) National Society for its first three decades were men, mostly from the medical profession. When the Australian Association of Occupational Therapists (A.A.O.T.) was formed, the Articles of Association required that the president, and one vice president, had to be a member of, or eligible for membership of, the B.M.A.. The South Australian branch of A.A.O.T. had a physician as president until 1976. A collegiate association with medicine might have been one manifestation of occupational therapists seeking professional status, although the classic conflict sociology of professionalism equates professional status with autonomy and self-control³². Medical patronage appeared to provide the security of recognition and acceptance of the 'specialty', growth through referral of clients, and allies in the exclusion of potential competitors³³. It also provided one boundary of professional interdependence from which to negotiate other boundaries with health workers from other disciplines, with whom there was a potential for conflict over division of labour, such as physiotherapists, social workers, nurses and orthotists³⁴. Indeed, tension around issues relating to preservation and expansion of roles amongst health care workers has continued throughout this century³⁵.

³² Friedson argues that a profession is "defined ultimately by its autonomy from external control and this autonomy is determined by power conflicts and not by the elaboration of knowledge" Freidson E. *Profession of medicine: A study of the sociology of applied knowledge*. New York: Harper & Row Publishers, 1970. See also Griffin S. Conflicts in professional practice.... "the fact that professionalism is about the exercise of power is often neglected by allied health groups, who strive for professional status by developing its outward trappings" (p 11).

³³ Freidson E. Foreword. In: Gritzer G, Arluke A. *The making of rehabilitation: A political economy of medical specialisation 1890-1980*. Berkeley: University of California Press, 1985, pp. XIV-XV.

³⁴ Gritzer G, Arluke A. *The making of rehabilitation*: ...pp.107-8.

³⁵ For example: In a forum to discuss territorial imperatives and the boundaries of professional practice in rehabilitation a panel of physiatrists, physiotherapists, nurses, social workers,

Medical acceptance, and preference for particular offerings of such professionals, acted in a way which restricted "autonomy and independent decision making"³⁶.

Professionalism is a much discussed phenomenon of the health domain in the twentieth century³⁷. The next paragraph deals, briefly, with the limited question of whether professionalism has affected occupational therapy's commitment to the association between occupation and health. It is clear that, in order to carry out their work as part of the medical team, it was essential for occupational therapists to aim for parity with other members and therefore to aspire to being a profession. Such parity would give credibility to the proclaimed importance of a relationship between occupation and health and justify "prolonged specialised training in a body of abstract knowledge, and a collectivity or service orientation" based on aspects of this relationship³⁸. On the debit side "the striving of occupational therapy towards professionalisation, based on a male medical model, has led to mental struggle for its practitioners who feel unclear about their role and where they fit into the health care delivery system"³⁹. Indeed, when responsiveness to medicine, professionalism and 'market place' survival assumed more importance than

and occupational therapists agreed on only one issue, that all have experienced a "sense of threat, attack and hostility" with regard to occupational boundaries. See: Rothberg JS. *Territorial imperatives and the boundaries of professional practice in rehabilitation. Archives of physical medicine and rehabilitation* 1971; 52: 397-412, p.397.

³⁶Griffin S. Conflicts in professional practice....

³⁷See, for example: Larson MS. *The rise of professionalism: A sociological analysis*. Berkeley: University of California, 1977; Millerson G. *The qualifying associations: A study in professionalisation*. London: Routledge & Kegan Paul, 1964; Freidson E. *Profession of medicine: A study of the sociology of applied knowledge*. New York: Harper & Row, 1970; Johnson TJ. *Professions and power*. London: MacMillan, 1972; Berlant JL. *Profession and monopoly: A study of medicine in the United States and Great Britain*. Berkley: University of California Press, 1975. Larson MS. *The rise of professionalism: A sociological analysis*. Berkeley: University of California, 1977.

³⁸Goode W. Theoretical limits of professionalisation. In: Etzioni A, editor. *The semiprofessional and their organisation*. New York: The Free Press, 1969, p. 266-313.

³⁹Griffin S. Conflicts in professional practice...p.7; Griffin SD, Rapaich Z. A survey of occupational therapy as a professional group. Unpublished manuscript, School of occupational therapy, Cumberland College of health sciences, Sydney, 1979. Cited in Griffin S. Conflicts in professional practice....

the original premise of occupational therapy, as it did for the large number of occupational therapists who rejected occupation during the sixties and seventies in favour of interventions such as 'counselling', 'handling techniques', or 'biofeedback', occupational therapy reduced its unique contribution to health services⁴⁰. The rejection of occupation illustrates how the need for professional recognition acted, in some way, as a deterrent for practice based on the central concept of the profession during these decades, but ironically it was also responsible for prompting the need for an exclusive body of knowledge which culminated eventually in a return to older values associated with occupation.

At about the same time, an interest was also generated in clinical research, by pressure for scientific proof of effectiveness from the medical profession as a requirement of their recognition of the profession's worth. Occupational therapists seem to have welcomed the pressure from medicine to be 'scientific', to develop a reductionist base for practice and to bring their practice in line with more conventional remedial approaches. Although, in recent times, many are questioning the appropriateness of quantitative, reductionist, research methods in the study of complex and contextual behaviour, research within these boundaries began to occur, and methodological appropriateness was seldom debated.

In the light of current thinking the basic philosophy that actual 'doing' provides people with a vehicle for growth, development, achievement and health appears to be a holistic concept. To earlier occupational therapists this same philosophy appeared compatible with the reductionist, mechanistic and

⁴⁰ A number of key figures in the profession, such as Reilly, Yerxa, and Roberts argued strongly against the 'anti-activity' trends. See, for example: Reilly M. 1961 Eleanor Clarke Slagle Lecture. Occupational therapy can be one of the great ideas of 20th century medicine *American journal of occupational therapy* 1962; 16: 1-9; Yerxa EJ. 1966 Eleanor Clarke Slagle Lecture. Authentic occupational therapy. *The American journal of occupational therapy* 1967; 21(1): 1-9; Roberts CA. Healing the sick-responsibility or privilege - for the patient or the professional therapist. *Canadian journal of occupational therapy* 1962; 29: 5-14.

prescriptive notions of much of the twentieth century. For example, as early as 1914 Barton sought to discover and provide an 'occupation' as specific treatment for diseases of every separate organ, joint and muscle⁴¹, and many early texts describe step by step procedures for particular occupations for particular problems. Swain and Taylor, a case in point, found that "a joint will increase its range of motion with the correct amount and kind of work, but will stiffen if the treatment is the least bit overdone", and so devised a system of measuring joint movement and muscle strength which they recorded on charts. The "work (was) governed entirely by these charts and the condition of the joint"⁴². This type of measurement was also used with tuberculous and neurological patients and is still deemed important today in neurological, cardiac and hand rehabilitation. Even in the treatment of patients with psychological problems a reductionist, analytical emphasis was evident. Canton explains that just as a "psychologist analyses action into steps, emotions into simpler component feelings, a thought process into its various aspects" so should an occupational therapist clearly define and analyse the work into "its various phases"⁴³.

The practice of 'activity analysis', in the 'time and motion' tradition of Frederick Taylor, and in which occupations were systematically analysed for component parts which may be useful for particular 'treatment' effects, was first implemented in the 1920s⁴⁴. Continued growth and diversification of

⁴¹ Barton G. Occupational therapy. *Trained Nurse Hospital Review* 1915; 54: 138-140

⁴² Swain LT, Taylor M. Occupational therapy for the orthopaedic patient crippled by chronic disease. *Occupational therapy and rehabilitation* 1925; IV(3): 171-175.

⁴³ Canton EL. Psychology of occupational therapy. *Occupational therapy and rehabilitation* 1923; 2: 347.

⁴⁴ Wolfe RJ. *History of occupational therapy 1800-1920*. Lecture notes. University of Southern California, 1979. One of the greatest exponents of activity analysis has been Gail Fidler who initially focussed on the psychodynamic properties of occupations such as creativity, hostile and aggressive components, narcissism, reality testing and group relatedness. She later expanded her analysis to include other properties such as motor, sensory integrative, cognitive and socio-cultural components. See: Fidler GS. Psychological evaluation of occupational therapy activities. *The American journal of occupational therapy* 1948; 1: 284-287; Fidler GS, Fidler JW. *Introduction to psychiatric occupational therapy*. New York: Macmillan, 1954; Fidler GS, Fidler JW. *Occupational therapy: A communication process in psychiatry*. New

occupational therapy using this methodology was encouraged within the medical model. To ensure the most 'certain' and 'rapid' recovery from disease or injury, occupational therapists became experts in occupational 'reductionism', analysing the rates of respiration and blood circulation resulting from activities, measuring the character, strength and extent of movements utilised by activities, and judging the quality of mental processes such as motivation, reasoning, judgement, attention and emotion which may be demanded by or result from activities⁴⁵. Kielhofner and Burke suggest that occupational therapy was limited for many years to psychoanalytical, kinesiological and neurological treatment models, which provided precise and extensive methodology, despite loss of the profession's underlying philosophy⁴⁶. This adherence to medical science reductionist models and priorities, Shannon argues, resulted in 'the derailment of occupational therapy'⁴⁷.

However, the reduction of the profession's basic philosophical premise was probably gradual and never complete: although, following prevalent "medical" model values most therapists did evaluate and treat symptoms, it was usual practice to view aims of treatment from the perspective of a client's social as well as psychological and physical needs. In 1938, Russell, for example, described activity as nature's best physician because activity also provided a medium for patients to gain self esteem and happiness, to learn to relate effectively with others, and to re-establish a path towards the realities of

York: Macmillan, 1963; Fidler GS. From crafts to competence. *The American journal of occupational therapy* 1981; 35: 567-573; Fidler GS. The activity laboratory: A structure for observing and assessing perceptual, integrative and behavioral strategies. (p.195-207) In: Hemphill B, editor. *The evaluation process in psychiatric occupational therapy*. Thorofare, NJ.: Charles B Slack, 1982.

⁴⁵ Dunton Jr WR. *Prescribing occupational therapy*, 2nd ed. Springfield: Charles C Thomas, 1946.

⁴⁶ Kielhofner G, Burke JP. Occupational Therapy After 60 Years. *American journal of occupational therapy* 1977; Vol. 31(1): 675-689.

⁴⁷ Shannon, P D. The derailment of occupational therapy *The American journal of occupational therapy*, 1977; 31(4): 229-234.

community life⁴⁸. This view prevailed into the time of my own experience when working in physical rehabilitation in the early sixties, in an occupational therapy program established by Mary S Jones, a founding British occupational therapist who had originally trained as a physiotherapist⁴⁹. Despite a very reductionist orientation which, for the hundred patients who attended five days a week for a large part of each 'working day', included specific attention to a dysfunctional body part, the intervention used occupation for treatment which would lead to 'occupational health and wellness' in their everyday lifestyles. For example:

A 21 year old fitter and turner who sustained a fracture of the fibula and tibia in a motor cycle accident progressed through an occupational program working on wood and metal turning lathes, seated on a bicycle stool with his leg slung to strengthen his quadriceps during the non-weight bearing period; standing and progressively increasing the range of movement of his leg, maintaining work tolerance and skills, and ensuring that he could return not only to his paid employment but to his other major interest in football. (See plates 8.1 – 8.6 on the next page.)

A 56 year old man had an arthrodesis of the hip to reduce pain and dysfunction due to osteoarthritis. His occupational program included alternative methods of self care to maintain his independence, re-education of mobility patterns utilising uneven ground in gardening tasks, checking out his potential to return to his former employment as a builder, and developing new skills to

⁴⁸Russell JI. *The occupational treatment of mental illness*. London: Bailliere, Tindall and Cox, 1938.

⁴⁹Jones MS. *An approach to occupational therapy*. London: Butterworths, 1960.



Fig. 8.1: Strengthening quadriceps



Fig. 8.2: Increasing range of movement



Fig. 8.3: Managing uneven surface



Fig. 8.4: Work hardening



Fig. 8.5: Work skills



Fig. 8.6: Leisure skills



Fig. 8.7: Alternative self care skills

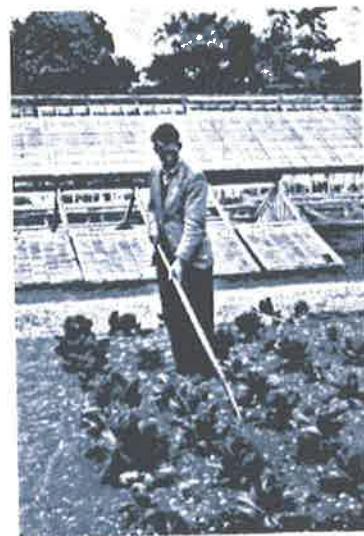


Fig. 8.8: Mobility/balance practice



Fig. 8.9: Assessing potential to return to previous employment



Fig. 8.10: Revision of skills for new employment.



Fig. 8.11: Practicing public transport



Fig. 8.12: New employment

enable re-entry into employment in a different capacity as a building site foreman. (See plates 8.7 – 8.12 on the preceding page.)⁵⁰

In the foreword to Jones's *Approaches to Occupational Therapy* C.W. Guillebaud notes that "the reader is brought to realise how great is the part which occupational therapy...can play in restoring (patients) to an active and productive existence", in providing a "highly useful and valuable economic as well as human service" which is "of the greatest importance for the psychological well-being of the individual"⁵¹. In her final summary Jones identifies the necessity for occupational therapists to experience "wider opportunities for studying productive activities" and to "spread from the corrective to the preventive fields of study"⁵²

As part of the "rapid" expansion of knowledge which developed as a result of the work of specialist therapies during the early part of the century, 'rehabilitation' developed as a new medical specialty with which occupational therapy aligned itself closely, and which remained a clearly identified component of health care for about twenty years⁵³. It grew from the earlier notions of 'reconstruction' which combined education theories with physical medicine and, especially, from the programs which had been developed to rehabilitate the second world war's wounded. The aftermath of this war led to a rapid growth of allied medical services, including occupational therapy, in many countries including Australia⁵⁴. In part, this growth was aimed at

⁵⁰ These examples of patients' occupational programs were photographed for display at the World Federation of Occupational Therapists Conference held in Philadelphia, 1962.

⁵¹ Guillebrand CW. Foreword. In: Jones MS. *An approach to occupational therapy*. London: Butterworths, 1960.

⁵² Jones MS. *An approach to occupational therapy*....p. 312.

⁵³ Krusen FK. History and development of physical medicine. In: Watkins AL, editor. *Physical medicine in general practice*. Philadelphia: JB Lippincott, 1946, pp.5,8.

⁵⁴ See for interest: Cooke GR. The Arts and Craft Society of Queensland, part 2: Whatever happened to it? *Craft Australia* 1986; (Summer): 73-76.

Although occupational therapy did not 'get off the ground' in Australia until the nineteen forties, the Arts and Crafts movement was established and influential here as it was in the USA. "The Arts and Crafts Society of Brisbane became involved with remedial teaching for

meeting patients' complex, multiple physical, psychological, social, vocational and economic needs. Occupational therapy benefited from being obviously in tune with the stated rationale of rehabilitation but it was the 'physical' aspects of rehabilitation which became the dominant factor, rehabilitation's medical specialty being known as 'physical medicine'. An indication of this dominance is available in a study by Canadian occupational therapists who reviewed articles published in their national journal between 1950 and 1969 and found 73% focussed on some aspect of physical medicine, and only 27% on psychosocial concerns⁵⁵.

The biased emphasis on the physical aspects of rehabilitation was part of the reason why the "vogue enjoyed by physical medicine and rehabilitation in the late 1940's and early 1950's passed quickly. The specialty has since been rejected by much of mainstream medicine", and by the 1980's only a few "pockets of institutional strongholds" remain⁵⁶. In Australia, the huge rehabilitation centres built for the Commonwealth Rehabilitation Service have been closed down in favour of a 'case management' system which buys in specialist services according to individual need⁵⁷. The newer model meets the needs of those with recent problems, rather than those of the chronically disabled who were seen as a major target group for rehabilitation. There are now few services for this latter group, but Shannon suggests that the rehabilitation movement was not able to achieve its holistic goal of total care of the chronically disabled because it too was pressed into a reductionist mould, and also because it was poorly resourced. The poor resourcing, even at a time of apparent public affluence, reflects medicine's lack of "professional

returned servicemen in the early years of the 1914-1918 war and, in fact, went into recess to fully devote itself to these aims" (p.73).

⁵⁵Brintnell ES, et al. The fifties and sixties...

⁵⁶Gritzer G, Arluke A. *The making of rehabilitation...*p.158.

⁵⁷This organisation is the largest single employer of occupational therapists in Australia.

"enthusiasm" in the specialty which, to some extent, became the 'dumping' ground for medicine's castoffs^{58 59}.

There can be no doubt that ongoing responsiveness to a philosophical base other than that which occupational therapy originally espoused, and prescriptive interventions applied 'second hand', encapsulated occupational therapy for many years as a profession working to remediate sick people within institutional settings operating on a medical model. During the long association with medicine occupational therapy adapted its practice as new ideas and developments occurred. It particularly embraced the concepts of psychobiology, reconstruction, rehabilitation, neurophysiology, normal development and, more recently, community health care. Specialist treatment programs waxed and waned according to medical progress, priorities, interest and fashion. For example Meyer's psychobiological theories, which meshed so well with occupational therapy, were gradually discarded as "naive and oversimplified" in favour of Freudian psychoanalysis which fitted better with reductionist fervour⁶⁰. Although less comfortable with this approach, occupational therapists worked at opening "avenues for need fulfilment and ego maturation", and included regression in treatment activities so that patients could achieve "actual or symbolic gratification" to meet unsatisfied needs⁶¹. Graduated activity, according to physical and respiratory demands which were developed for the treatment of people with tuberculosis, declined

⁵⁸Piersol GM. Editorial, The doctor shortage in physical medicine. *American journal of physical medicine* 1956; 35(8): See also Howard Rusk's statements about the very few physicians who attended his lectures addressing the topic of rehabilitation in Rusk HA. Tomorrow is not yesterday. *Archives of physical medicine and rehabilitation* 1966; 47(5):

⁵⁹Shannon, P D. The derailment of occupational therapy *The American journal of occupational therapy*, 1977; 31(4): 229-234.

⁶⁰Serrett KD, editor. *Philosophical and historical roots of occupational therapy* New York: The Haworth Press, 1985, p.22; See as an example of the process and effects of the change from psychobiological to psychoanalytical approaches: Kubie L. *The Riggs story*. New York: Hoebart Press, 1960.

⁶¹Kielhofner G. *Health through occupation: Theory and practice in occupational therapy*. Philadelphia: FA Davis Co. 1983, p.36: Fidler G. Some unique contributions of occupational therapy in treatment of the schizophrenic. *The American journal of occupational therapy* 1958; 12(9): 36.

as chemotherapy reduced the incidence and prevalence of the disease⁶². With the increase of 'modern epidemics' such as cardiovascular disease graduated programs have been reinvented to assist people affected by such diseases to return to 'normal living'. Specific techniques which were developed to overcome the physical problems of children following the polio epidemics of the 1940s became obsolete for that purpose with the decline of the disease following the Sabin or Salk vaccine prevention programs. However these techniques provided the basis for other work aimed at neurologically-impaired children and adults with physical disability. As patients with permanent or temporary physical or psychological disability began to be discharged to their homes and jobs more frequently and earlier⁶³, occupational therapists expanded their practice to include activities of daily living (ADL) and of work.

From the late 1950's to the present, occupational therapists increasingly followed compensatory rather than remedial objectives for all types and age groups of clients, as retraining in activities of daily living (ADL), aimed at independent self care, assumed priority in a health care environment committed to 'fast turnover' of patients. It is arguable that ADL is currently the term used by the majority of occupational therapists to describe the central focus of their domain of concern, although it is a term used in a variety of ways according to the focus of the intervention ranging from self care activities such as showering and dressing to the whole range of domestic or vocational pursuits⁶⁴.

62 Anderson B, Bell J. *Occupational therapy: Its place in Australia's history*. ... pp. 39,154,156,158,200-202,223.

63 Dargan F. Taking stock. *Bulletin*, July 1955. In this article Frank Dargan, a Sydney trained occupational therapist discusses "startling reversals of old theories" such as patients being encouraged to get out of bed soon after surgery, and being enabled to return to home and work. (The 'Bulletin' was the first official communication of the Sydney Occupational Therapists' Club)

64 Thornton G, Rennie H. Activities of daily living: An area of occupational therapy expertise. *Australian occupational therapy journal* 1988; 35(2): 49-58.

Occupational therapy has also been adaptive to the influences of other professions with which it has been closely associated throughout its history, in particular to educators, psychologists, physiotherapists and social workers. Integrated within the profession's programs are interventions and strategies based around work as diverse as that of Piaget, Ericson, Frostig, Voss, Kabot, Brunnstrom, Bobath, Kubler Ross, Maslow, Rogers, Skinner, Luria, Benedict Mead, Maxwell Jones and Travis. Its interest in both remedial and compensatory equipment and devices and splints to aid in overcoming disability has also made it receptive to technological development of new materials and computers. Its commitment to an integrated view of mind, body and environment has led to a professional belief that it offers 'holistic' therapy, despite its more obvious concern with 'sick' rather than 'well' populations, and individuals rather than communities.

Within the context of the dynamics which have been discussed in the previous paragraphs, the chapter now turns to consider the renaissance of occupation as central to the profession's theory and practice.

Against a background of western society's widespread dissatisfaction with a materialistic, technologically-driven society, a 'new' critical social science with an activist conception of human beings began to emerge⁶⁵, based on notions propounded by Marx in his earlier works⁶⁶, to a lesser extent on Rousseau's view that humans in a 'state of nature' express 'free will' and a capacity for 'self improvement'⁶⁷ and, more recently, by critical sociologists of the

⁶⁵Frankfurt H. Freedom of will and the concept of a person. *Journal of philosophy* 1971; 67(1): 5-20; Bennett J. *Linguistic behavior*. Cambridge: Cambridge University Press, 1976 (chapter 3). See also Taylor C. *Human agency and language*. Philosophical papers, Series I. Cambridge: Cambridge University Press, 1985, Part 1, 13-114.

⁶⁶See for example: Tucker RC, editor. *The Marx-Engels reader*. 2nd ed. New York: Norton, 1978.

⁶⁷Rousseau JJ. *Discourse on the origin of inequality*. Translated by Cole GDH. London: Dent, 1968.

'Frankfurt School'⁶⁸. Fay argues that critical social science assumes that "humans are active creatures", who as a consequence of their "intelligent, curious, reflective, and wilful" behaviour can "transform themselves and their societies within certain wide limits..."⁶⁹.

Similar social and intellectual discontents were expressed by occupational therapists, who had their own perceptions of the inadequacy of reductionism, began to question the 'medical' establishment and their own direction and, in some cases, returned to the earlier conception of humans as 'occupational (active) beings.' Mary Reilly, an occupational therapy educator at the University of Southern California led the way by looking backwards at the profession's basic premises. In the 1961 Eleanor Clarke Slagle ('Slagle') lecture she proposed that the original hypothesis of occupational therapy can be stated as: "that man through the use of his hands as they are energised by mind and will, can influence the state of his own health"⁷⁰. She postulated that although the 'First Principle', from which medical science draws its premise, explains the nature of humans is to be alive, the 'Second Principle' is for humans to grow and be productive and she maintained that occupational therapy should derive its premise from this principle. The two principles "merge into a concept of function which asserts that both the existence and the unfolding of the specific powers of an organism are one and the same thing". In language in line with my own theories about occupational needs as part of the health-survival 'package' set out in chapters 2, 5 and 6, "the power to act creates a need to use the power, and the failure to use the power results in dysfunction and unhappiness". Reilly's concept was based on the 'sensitivity', 'adaptability', 'durability' and 'creativity' of humans in tune with their environments, based

⁶⁸Horkheimer M. *Critical theory*. 1968 (1972); Marcuse H. *Eros and civilisation*. London: Sphere books, 1969; Habermas J. *Knowledge and human interests..* Translated by McCarthy T. Boston: Beacon Press, 1973.

⁶⁹Fay B. *Critical social science: Liberation and its limits*. New York: Cornell University Press, 1987, p.57.

⁷⁰Reilly M. 1961 Eleanor Clarke Slagle Lecture....

on ideas from theorists such as Lerner and Fromm⁷¹, and laboratory testing such as that on sensory deprivation⁷².

Following this inspiring lecture, in a series of articles over the span of some 15 years, Reilly initiated the development of an 'Occupational Behaviour' paradigm of practice⁷³, which other therapists recognised might help overcome occupational therapy's tendency to compromise "its unique philosophical traditions in order to accommodate to the predominant philosophy" of other medical specialties⁷⁴. Reilly defined 'Occupational Behaviour' as "the entire developmental continuum of play and work"⁷⁵. The definition acknowledged the importance of economic skills, attitudes and interests that motivated and enabled clients to survive in an increasingly complex technological world. Her model, which accepted that occupation is 'wired' into humans through the process of evolution⁷⁶, stressed the importance of examining life roles relative to community adaptation; of identifying the various skills that support these roles; of creating an environment where the relevant behaviour can be evoked and practiced; and using occupation as the integrative focus of behaviour change. By placing emphasis on interpersonal relationships and on individual's ability to cope with the community and with changes in life situations, and because "both the well and the sick population" could be

⁷¹Lerner M. *America as a civilisation*. New York: Simon and Schuster 1957; Fromm E. *The fear of freedom*. London: Routledge and Kegan Paul Ltd, 1960. Note: Fromm is associated with 'critical social science' and the Frankfurt School.

⁷²Solomon P, et al. *Sensory deprivation*. Cambridge, Massachusetts: Harvard University Press, 1961.

⁷³Reilly M. The challenge of the future to an occupational therapist. *The American journal of occupational therapy* 1966; 20: 221-225; Reilly M. The modernisation of occupational therapy. *The American journal of occupational therapy* 1971; 25: 243 -246; Reilly M. A response to: Defining occupational therapy: The meaning of therapy and the virtues of occupation. *The American journal of occupational therapy*, 1977; 31(10): 673.

⁷⁴Laukaran VH. Toward a model of occupational therapy for community health, *The American journal of occupational therapy* 1977; 31: 71.

⁷⁵Reilly M. The education process. *The American journal of occupational therapy* 1969; 23: 299-307.

⁷⁶Reilly M. *Play as exploratory learning*. Beverly Hills, Ca: Sage Publications, 1974.

accommodated "without altering the model", her paradigm offered appropriate structures for developing community health practice of the time⁷⁷.

Reilly's work re-emphasising the importance of occupation and the need for occupational therapists to value their unique base of practice introduced new directions for theory development which recovered some of the professions philosophical foundation. As Director of Graduate programs, Reilly also had a huge influence on the work of her graduate students⁷⁸. Gary Kielhofner's papers and books articulating 'A Model of Human Occupation', for example, grew out of his work as a master's degree student with Reilly. One of the best known figures of occupational therapy today, Kielhofner, now at the University of Chicago, developed his model from one of Reilly's basic assumptions, that "occupation is a central aspect of the human experience" and that "all human occupation arises out of an innate, spontaneous tendency of the human system - the urge to explore and master the environment"⁷⁹. According to his Model of Human Occupation, occupational therapy should provide opportunities for directed experiences, that is, participation in life tasks, for people described as having occupational dysfunction. The therapeutic aims of such programs include improvement in organisation, function, and adaptation within occupational performance, achievable through changes attained in self-image, skill development, new habits, acquired roles and environmental changes. Some of the most important concepts within this frame of reference are that humans are viewed as 'open systems'⁸⁰, that there is a continuum of 'occupational function and

⁷⁷Laukaran VH. Toward a model of occupational therapy...

⁷⁸Van Deusen J. Mary Reilly. Chapter 6. In: Miller BRJ, Sieg KW, Ludwig FM, Shortridge SD, Van Deusen J. *Six perspectives on theory for the practice of occupational therapy*. Rockville, Maryland: Aspen Publication, 1988.

⁷⁹Kielhofner G, Burke JP. A model of human occupation. Part 1, conceptual framework and content. *The American journal of occupational therapy* 1980; 34: 572-581 (p.573).

⁸⁰Kielhofner G. General systems theory: Implications for theory and action in occupational therapy. *The American journal of occupational therapy* 1978; 32(10): 637-645.

dysfunction⁸¹, that engagement in occupation is central to adaptation, so that dysfunction is a threat to health and well-being, and that occupation is governed by three sub-systems, namely volition, habituation, and performance. The concepts are principally applied to occupational therapy practice within traditional health care settings but have potential for wider application. The model entails occupational therapists rethinking their approaches and practices fairly radically and learning a new set of terminology. The recognition Kielhofner's model received following publication established an international trend of the profession back to its philosophical foundation.

In addition to her students, Reilly influenced her colleagues, one of whom, Elizabeth Yerxa, in her 'Slagle' lecture, proposed that 'authentic' occupational therapy should be aimed at client 'self actualisation' through choice, self initiated purposeful activities, reality orientation and perception of self and environment⁸². She became a powerful advocate for the development of a basic science of occupation complementary to the applied science of occupational therapy⁸³. Occupational science is defined by her, and her associates at the University of Southern California, as:

"the study of the human as an occupational being, including the need for and capacity to engage in and orchestrate daily occupations in the environment over the lifespan" ⁸⁴.

She suggested that one of the advantages of such a science to occupational therapy is that:

"by identifying and articulating a scientific foundation for practice, occupational science could provide practitioners with support for

⁸¹ Progressive levels of occupational function include exploration, competence and achievement. Progressive levels of occupational dysfunction include inefficacy, incompetence and helplessness. Kielhofner G, editor. *A model of human occupation: Theory and application*. Baltimore, MD: Williams and Wilkins, 1985, pp.63-75.

⁸², Yerxa EJ. 1966 Eleanor Clarke Slagle Lecture....

⁸³Yerxa developed a doctoral program in occupational science at the University of Southern California.

⁸⁴ Yerxa EJ, et al. An introduction to occupational science:...

what they do, justify the significance of occupational therapy to health, and differentiate occupational therapy from other disciplines."⁸⁵

In setting up specifications and criteria for the emerging science, academics instrumental in the establishment of a Doctoral program in occupational science at the University of Southern California, proposed that it study individuals in interaction with their environment, centre on people, "not on a cell or reflex", be developmental in nature, and address the complexities of occupation⁸⁶. Those criteria mesh with the central ideas considered in this thesis, but, in order for the discipline to be holistic, it is just as relevant for some occupational scientists to study 'occupational humans' at cell or reflex level, as it is to study them at the ecological level. What is important is for occupational scientists to make a subtle change from considering humans who use occupation from a biological or cultural perspective, to considering biological or cultural issues from the broad perspective of the human need for occupation.

The notion of viewing humans from this different perspective holds a particular promise within the arena of public health, not least in challenging many socio-cultural and political structures which deprive or alienate humans from exercising their occupational natures to enhance their health. The following consideration of occupational therapists response to the development of a science of occupation illustrates this challenge and promise.

Despite a degree of acceptance and excitement around the world there is also some diffidence, even conflict, within the profession with regards to the

⁸⁵ Yerxa EJ, et al. An introduction to occupational science:...p.3.

⁸⁶ Clark FA, Parham D, Carlson ME, Frank G, Jackson J, Pierce D, Wolfe RJ, Zemke R. Occupational science: Academic innovation in the service of occupational therapy's future. *The American journal of occupational therapy* 1991; 45(4): 300-310; Yerxa EJ. Occupational science: A new source of power for participants in occupational therapy. *Journal of occupational science*: Australia 1993; 1(1): 3-10.

development of a basic discipline of occupational science⁸⁷. There are a variety of reasons for this lack of acceptance. For example, some occupational therapists view occupational science as just another model or theory which is in competition with their own theory of occupation. They do not support the notion of a many faceted generic science, into which their own model could fit. Others hold to the clinical tradition and close association with either medicine or other already developed social sciences and see no need for a particular 'occupational' perspective. Still others aspire to a simple all-embracing theory which can effectively describe their purpose but individual therapists hold a great variety of views. In addition, they avoid using the word 'occupation' because it is so often misunderstood⁸⁸. On both counts they view with disfavour a generic science of occupation which may increase the complexity of explanation because of contradictory ideas.

If occupational science grows, there is no doubt that it will increase complexity of understanding because it will include many 'models', 'frames of reference', and theories, changing direction according to socio-cultural change and advances in biological knowledge. Complexity will lead to heated debate between scientists, just as behavioural, clinical, experimental, humanist, social, occupational, transcendental, or neuro psychologists all argue with each other but collectively contribute to the science of psychology. Heated debate about the profession's foundation beliefs is not part of occupational therapists'

⁸⁷ There is considerable interest in Australia, where the first international, interdisciplinary journal of occupational science (JOSA) has been instigated; Canada (see for example, Helene Polatajko's Muriel Driver Memorial Lecture: Naming and framing occupational therapy: A lecture dedicated to the life of Nancy B. *Canadian journal of occupational therapy* 1992; 59: 189-200); Japan, to which Florence Clarke, current Chair of Occupational Therapy USC was invited to share information about occupational science, 1995; New Zealand where the Auckland School supports JOSA, and the Dunedin School publishes its own in-house journal 'Occupation'; Sweden which commenced an occupational science course 1995; and the United Kingdom (See for example, Fossey E. The study of human occupations: Implications for research in occupational therapy. *British journal of occupational therapy* 1992; 55(4): 148-152.)

⁸⁸ A group of 25 occupational therapists attending a workshop on occupational science, in exercises based around the notion of 'occupational therapy' as the profession's name, demonstrated 100% agreement on the word 'occupation' being misunderstood by others.

tradition and discussion with therapists reveals a degree of apprehension in moving towards this as a possible scenario. Despite this apprehension, debate and challenge is being voiced in occupational therapy journals about whether there is a need for a science of occupation, whether, indeed, occupation was central in the discipline's early history⁸⁹, or whether occupational science should be developed and resourced by occupational therapists. Anne Cronin Mosey, for example, who in her 'Slagle' lecture advocates for occupational therapists taking pluralistic rather than monistic approaches, and regards 'occupational' models in the latter light⁹⁰, argues for the complete partition of occupational science and occupational therapy⁹¹, a partition with which Florence Clarke and her associates at the University of Southern California disagree strongly⁹². The debate between Mosey and Clarke is representative of division within the profession about this issue.

Despite such debate, different theories pertaining to human's occupational natures have proliferated in recent years⁹³ and there is a large declaratory literature about occupation. Much of this is linked with notions of health and wellbeing as discussed in earlier chapters. I have used some examples to illuminate a range of the disciplines conceptions, including:

⁸⁹For example, George Mocellin, an Australian occupational therapy educator, in a two part overview of the beliefs and values of early American occupational therapists, concludes that the concept of 'competence' rather than 'occupation' provides the philosophical underpinning of occupational therapy (Mocellin G. An overview of occupational therapy in the context of the American influence on the profession. *British journal of occupational therapy* 1992; 55(1): 7-12, and 55(2): 5-60.)

⁹⁰Mosey describes as monistic Lloren's developmental theory, Reilly's occupational behavior, Fidler's purposeful activity, King's adaptive responses, and Keihofner's human occupation

⁹¹Mosey AC. Partition of occupational science and occupational therapy. *The American journal of occupational therapy* 1992; 46(9): 851-853; Mosey AC. Partition of occupational science and occupational therapy: Sorting out some issues. *The American journal of occupational therapy* 1993; 47 (8): 717-23.

⁹²Clark F, Zemke R, Frank G, (1993); Carlson M, Dunlea A. Further thoughts on the pitfalls of partition: A response to Mosey. *The American journal of occupational therapy* 1995; 49(1): 73-81.

⁹³See for example: Nelson DL. Occupation: form and performance. *The American journal of occupational therapy* 1988; 42(10): 633-641; Cynkin S, Robinson AM. *Occupational therapy and activities health: Toward health through activities*. Boston: Little, Brown & Company, 1990; Christiansen C, Baum C, Editors. *Occupational therapy : Overcoming human performance deficits*. New Jersey: Slack Inc., 1991.

- Fidler's ideas about enabling 'doing' to satisfy intrinsic and extrinsic needs and the needs of others;

that 'doing' skills are dependent upon, and change with, age, developmental level, biology and culture⁹⁴;

that competency, mastery, adaptation, self esteem, self value and self worth result from successful 'doing', and are interrelated⁹⁵.

- Mosey's philosophical assumptions about the maturation, social nature and structure of the species;

each individual's need for occupational balance, to reach potential through purposeful interaction with the environment,

each individual's need to be understood within the context of family, community and culture⁹⁶.

- Moore's linking of human's occupational behaviour with limbic system function so that "the normal system maintains a homeostatic balance in favor of pleasurable rewards and away from painful or non-rewarding stimuli";

that occupational behavioural needs vary because of "individual genetic and biochemical differences as well as...multiple and highly variable relationships with..(the) environment"⁹⁷

- Lloren's emphasis on occupational therapy as a growth model of health⁹⁸,

⁹⁴Fidler GS, Fidler JW. Doing and becoming: Purposeful action and self actualisation. *The American journal of occupational therapy* 1978; 32: 305-310.

⁹⁵Fidler GS. From crafts to competence. *The American journal of occupational therapy* 1981; 35: 567-573; Fidler GS. *Overview of occupational therapy in mental health*. Prepared by the American occupational therapy task group of the American psychiatric association on psychiatric therapies, 1981.

⁹⁶Mosey AC. *Psychosocial components of occupational therapy*. New York: Raven Press, 1986, p.6.

⁹⁷Moore JC. Behavior, bias and the limbic system. The 1975 Eleanor Clarke Slagle Lecture. *American Journal of occupational therapy* 1976; 30(1): 11-19

⁹⁸Llorens LA. The 1969 Eleanor Clarke Slagle Lecture. Facilitating Growth and development: The promise of occupational therapy. *The American journal of occupational therapy* 1970; XXIV(2): 93-101.

- do Rozario's conception that occupational therapists focus on 'occupational role and performance', the integration of 'being and doing', and health, well-being and sustainability;

provide an ""empowering and transformational model of practice' as a process in enhancing people's sense of meaning, value and satisfaction in daily life"⁹⁹.

- Townsend's view of "occupational therapy's social vision" which promotes social justice by enabling development of occupational potential and utilising practical approaches so that people can "participate as valued members of society despite diverse or limited occupational potential"¹⁰⁰.

Such contributions have led to academic programs based on the study of human engagement in occupation becoming more common in most western economies¹⁰¹. Indeed, about three quarters of the Australian undergraduate occupational therapy programs have moved in this direction over the last ten years and the change toward 'occupation'-based models of practice is the current trend in Australasia. Evidence of a change in research interest is also emerging, from purely clinically based studies to consideration of occupational issues within the community, such as in patterns and meanings of paid employment or lack of paid employment¹⁰², to studies of how particular

⁹⁹ do Rozario L. Purpose, place, pride and productivity: The unique personal and societal contribution of occupation and occupational therapy. Keynote address, *Australian Association of Occupational Therapists 17th Conference proceedings*. Darwin: 1993, p.51.

¹⁰⁰ Townsend E. 1993 Muriel Driver memorial lecture. Occupational therapy's social vision. *Canadian journal of occupational therapy* 1993; 60(4): 174-183.

¹⁰¹ See: Gilfoyle EM. 1984 Eleanor Clarke Slagle Lecture. Transformation of a profession. *The American journal of occupational therapy* 1984; 38(9): 575-584 ; Schemm RL, Corcoran M, Koldner E, Schaff R. A curriculum based on systems theory. *The American journal of occupational therapy* 1993; 47(7): 623-634.

¹⁰² Jensen H. What it means to get off sit down money: Community development employment projects. *Journal of occupational science: Australia* 1993; 1(2): 12-19; Farnworth L. Women doing a man's job: Female prison officers working in a male prison. *Australian and New Zealand journal of criminology* 1992; 25(3): 278-296; Pettifer S. How engagement in occupation other than paid employment influences the health and well-being of people who are long term unemployed. Masters Degree in Health Science (Occupational Therapy) University of

groupings of people use their time¹⁰³, to broader theses linking occupational concepts to ecological sustainability¹⁰⁴, and occupational behaviour of other primates¹⁰⁵

In the way that previous pages have concentrated on occupational therapists' changing interest in occupation; the next section of the chapter considers their interest in health promotion. These interests are not unconnected, since the evolving fascination of the study of humans as occupational beings grew with changing societal views about health and well-being, and with the emerging objective of the W.H.O. for "the attainment by all peoples of the highest possible level of health"¹⁰⁶. Although W.H.O. was established in 1946 as a "specialist agency for health", the World Federation of Occupational Therapists did not join it until 1959. In a 1963 report in the *British Journal of Occupational Therapy* Henderson points out that W.H.O. "pursues an unlimited ideal and an immense task", but does not discuss the role of occupational therapists in helping to achieve this task¹⁰⁷. Indeed, despite the broad health aims of the W.H.O. most occupational therapists, in line with

South Australia: Thesis in progress. Farnworth L. An exploration of skill as an issue in employment and unemployment. *Journal of occupational science: Australia* 1995; 2(1): 22-29.

103 MacKinnon J, Avison W, McCain G. Rheumatoid arthritis, occupational profiles and psychological adjustment. *Journal of occupational science: Australia* 1994; 1(4): 3-10; Stanley M. An investigation into the relationship between engagement in valued occupations and life satisfaction for elderly South Australians. *Journal of occupational science: Australia* 1995; 2(3): 100-114; Yerxa EJ, Locker SB. Quality of time used by adults with spinal cord injuries. *The American journal of occupational therapy* 1990; 4: 318-326. Pentland W, McColl MA, Harvey A, do Rozario L, Neimi I, Barker J. *The relationship between time use and health, well-being, and quality of life: Multidisciplinary research meeting*. Kingston, Canada: Queens University, 1993.

104 Thomas K. *How do social development facilitators encourage ecological sustainability?* Masters Degree in Applied Science (Occupational Therapy) University of South Australia: Thesis in progress

105 Wood WH. *Environmental influences upon the relationship of engagement in occupation to adaptation among native chimpanzees*. PhD thesis, University of Southern California, 1995.

106 Article 1 of the constitution of the World Health Organisation. World Health Organisation (First) International Health Conference. New York, U.S.A. 19th June-22nd July 1946. In: Commonwealth Department of Community Services and Health. *World Health Organisation: A brief summary of its work*. Canberra: Australian Government Publishing Service, 1988, pp.3-10.

107 Henderson CLE. World Health. *British journal of occupational therapy* 1963; 26(4): 3-4.

most other health disciplines, continued to espouse a role more attuned to reductionist, illness models aimed at individuals, than holistic, wellness models aimed at the health of communities.

However, the W.H.O.'s interest in approaches to improve health and quality of life was in line with community interest which escalated from the early 1960's, along with exploration of alternative lifestyles¹⁰⁸. In common with many modern historians, some occupational therapists have speculated on reasons for this community interest and have suggested that it erupted from the illness-oriented medical model for several reasons, such as the advances in technology and the concurrent escalation of health care costs, the increase of health care knowledge generally leading to the dominant role of physicians being challenged, and technological development producing a societal reaction towards simpler more natural remedies for disease control¹⁰⁹. Johnson suggests that the interest was part of the human potential and countercultural movements, in which many groups, particularly women and minorities, reacted to social forces that seemed to ignore their individual, perceived needs¹¹⁰. She also cites growing dissatisfaction with medicine and perceived dehumanisation in the medical care system as important factors, along with increasing recognition of ways in which the world was being polluted.

So, at about the same time that Reilly was arguing, from an occupational perspective, for occupational therapists to recognise the links between occupation and health, a group of leaders in the field with a preventive and health promotion perspective were encouraging them to aim, through occupation, at "maintaining optimum health rather than...intermittent

¹⁰⁸ Neville R. *Play power*. London, New York: Cape, 1970; Roszak T. *The making of a counter culture*. New York: Doubleday, 1969.

¹⁰⁹ Brown KM. Wellness: Past visions, future roles. In: Cromwell FS, editor. *Sociocultural implications in treatment planning in occupational therapy*, Haworth Press, 1987.

¹¹⁰ Johnson JA. *Wellness; A context for living*, New Jersey: Slack, 1986.

treatment of acute disease and disability"¹¹¹. Wilma West envisaged that health and medical care in the future would "emphasise human development by programs designed to promote better adaptation, rather than technologically-oriented programs offering specific solutions to specific disabilities". She also held that each occupational therapist should function as a "health agent (rather than 'therapist') with responsibility to help ensure normal growth and development", considering more fully the "socio-economic and cultural as well as biological causes of disease and dysfunction", but all in a "new mould" rather than a recast of an earlier prototype¹¹². Shortly afterwards, at the 5th International Congress of WFOT, in 1979, she proposed a health model for occupational therapy practice based on the assumption that health care in the decade ahead would be as concerned with prevention as with rehabilitation. Therefore, she advocated increasing involvement of both client and community in more effective methods to enhance and enrich development of physical, mental, emotional, social and vocational abilities, and suggested a "timely translation" of occupational therapists' "long time focus on activities of daily living for the disabled to advocacy of the balanced regimen of age appropriate, work play activities for man in the pre-disease/disability phase"¹¹³. Her view that such a role required only a "broader application of existing knowledge about the effects of activity - or its absence - on health" was an invitation to occupational therapists to revisit and utilise their underlying philosophy in a way advocated in this thesis.

At the same congress, and along similar lines, Florence Cromwell stated a need for occupational therapists to think about the global trend towards

¹¹¹West W. The occupational therapists changing responsibilities to the community. *The American journal of occupational therapy* 1967; 21: 312.

¹¹²West W. The 1967 Eleanor Clarke Slagle Lecture. Professional responsibility in times of change. *The American journal of occupational therapy* 1968; XXII(1): 9-15; West W. The occupational therapists changing responsibilities to the community. *The American journal of occupational therapy* 1967; 21: 312.

¹¹³West W. The emerging health model of occupational therapy practice. *Proceedings of the 5th International Congress of the WFOT*, Zurich 1970.

preventive rather than curative programs, about world health care, and about searching for more universal systems of care by considering, for example, how different nations combat the problems facing them¹¹⁴. She said that occupational therapists should move into the arena of 'Well Care', as specialists in human behaviour in ordinary environments where patients live, work and play. Yet another, Geraldine Finn, addressed *The Occupational Therapist in Prevention Programs* as the topic of her 'Slagle' lecture in 1971¹¹⁵. In an update of that paper she observed that, for the majority of therapists who practiced in the community at that time, there was a trend to select programs and services at the levels of secondary and tertiary prevention, an observation which still holds some truth. In order to encourage occupational therapy involvement in primary prevention, in line with Reilly, she proposed the development of a model of practice addressing the issue of the significance of occupation to human life. She argued that, as primary prevention is directed toward an understanding of both the relationship between the basic structural elements of society and health and of what keeps people in a state of health, occupational therapists should make their contribution with a greater understanding of the effects of occupation on health¹¹⁶. These views were compatible with emerging conceptualisations about the nature of health held by other leaders in the field at that time, such as Mosey and Fidler. Mosey defined health needs as "inherent human requirements that must be met for an individual to experience a sense of physical, psychological and social well-being¹¹⁷, and Fidler held that health is the ability to carry out activities which

¹¹⁴Cromwell FS. Our challenges in the seventies. Occupational therapy today - tomorrow, *Proceedings of the 5th International Congress*. Zurich 1970, pp 232-238.

¹¹⁵Finn GL. The 1971 Eleanor Clarke Slagle Lecture. The occupational therapist in prevention programs. *The American journal of occupational therapy*. 1972; 26(2): 59-66; See also: Wiemer RB. Some concepts of prevention as an aspect of community health: A foundation for development of the occupational therapist's role. *The American journal of occupational therapy* 1972; 26(1): 1-9.

¹¹⁶Finn GL. Update of Eleanor Clarke Slagle Lecture: The occupational therapist in prevention programs. *The American journal of occupational therapy* 1977; 31(10): 658-659.

¹¹⁷Mosey AC. Meeting health needs. *The American journal of occupational therapy* 1973; 27: 14-17. (p.14)

are essential for developmentally appropriate self-maintenance and meeting of intrinsic needs according to the social context¹¹⁸.

West's prophecies and encouragement were optimistic: few real changes to practice eventuated, perhaps because economic constraints, which affected health care budgets, curbed the development of new trends towards prevention which were not yet a priority in health planning. Also, as Grosman suggests, the work itself may appear less defined, less sophisticated, less measurable, more isolated in the face of the massive social, economic and political conditions that interfere with health¹¹⁹. The latter issues seem similarly daunting to present day post graduate students considering these issues, despite a recognition that these particular conditions are those that require most emphasis if change is to occur¹²⁰. Laukaran, suggests as other reasons, limited opportunities or lack of professional incentives for service in positions not designated for occupational therapists; competition with other professionals; and inability to cross boundaries to work in community institutions¹²¹. These are compounded by long held values, growing from occupational therapists' association with clinically based medicine, that occupational therapy is concerned with ill rather than well (or even all) people, and that existing occupational therapy models (developing from those values) limit practice, and result in gaps in knowledge and theory¹²². Such values limit occupational therapists' ability to recognise occupational dysfunctions, such as alienation, deprivation, and imbalance, as risk factors which can lead to disease, disability and death, and has meant that such dysfunction has not been identified as a primary prevention focus. Neither has it been appreciated that

¹¹⁸Fidler GS, Fidler JW. Doing and becoming: Purposeful action and self actualisation....

¹¹⁹Grosman J. Preventive health care and community programming. *The American journal of occupational therapy* 1977; 31(6): 351-354.

¹²⁰Class discussion in subjects 'Occupational science' and 'Health promotion for occupational therapists'. Masters degree in Health Science (Occupational Therapy), University of South Australia, 1992-95.

¹²¹Laukaran VH. Toward a model of occupational therapy for community health...

¹²²Laukaran VH. Toward a model of occupational therapy for community health...

people in need of "preventive occupational therapy services", for example, are unlikely to be "referred through medical channels, since they are not diseased but are disengaged from daily life"¹²³.

It is also conceivable that a major change of focus towards community health was inhibited in part, because occupational therapists were caught, in the 1970s, in a conflict between history, tradition and value systems, changes in the health care system and consumer expectations within society¹²⁴. The seventies were a time of crisis because, although the deterioration of its philosophical base was starting to be recognised, the rejection of occupation as central to occupational therapy practice was at its greatest¹²⁵, leaving it with no common unifying concepts¹²⁶. This was made more complex because at the same time 'alternative' ideas about life and health permeating the western world generated fears that reductionism, which occupational therapy had accepted, could not provide all the answers in health care¹²⁷.

The strength of the interest in health promotion amongst its members led the American Association of Occupational Therapists, at the end of the turbulent seventies and, again a decade later, to put out position papers addressing the issues. However, in defining how occupational therapists may be instrumental in health promotion the position papers still articulate a

¹²³Johnson J, Kielhofner G. Occupational therapy in the health care system of the future. In: Kielhofner G, Editor. *Health through occupation: Theory and practice in occupational therapy*. Philadelphia: F.A. Davis Company, 1983, p.191.

¹²⁴Johnson JA. Humanitarianism and accountability: A challenge for occupational therapy on its 60th anniversary, *The American journal of occupational therapy* 1977; 31(10): 631-637.

¹²⁵Margaret Smith (A British occupational therapist) in a keynote address to the 15th federal conference of the Australian Association of occupational therapists in 1988 described the sixties and seventies as 'The age of confidence', but a major disappointment of the era as "the very reason for our being, the therapy of occupation...went right out the window" Smith ME. Why research? Tales of the unexpected. *Australian occupational therapy journal* 1989; 36(1): 4-13.

¹²⁶Gillette N, Kielhofner G. The impact of specialisation on the professionalisation and survival of occupational therapy...

¹²⁷Kielhofner G, Burke JP. Occupational Therapy After 60 Years. *The American journal of occupational therapy*, 1977; 31(10): 675-689; Kielhofner G, editor. *a model of human occupation, theory and application*. Baltimore: Williams and Wilkins, 1985.

model aimed more at the individual than at communities. For example, the 1979 paper states that:

"occupational therapists value the nature and importance of goal directed, productive interchange in the maintenance of health and prevention of disability, as well as in rehabilitation of the handicapped."

The occupational therapist's training instils a respect for the realities of life, for the tasks of living, and for the time it takes the individual to develop modes of coping with those tasks. Occupational therapy makes its unique contribution to health care through accent on fulfilment in human activity, and a special contribution to understanding the significance and worth of human enterprise."¹²⁸

Although many occupational therapists remain concerned about the level of occupational therapists' involvement in health promotion and community health, it is apparent that interest has been ongoing with leading theorists within the profession continuously addressing the topic. For example, Elnora Gilfoyle in *Transformation of a profession* advocates that occupational therapists increase their "awareness to include social, economic, and political factors" towards new understandings of "the value of occupation and the patients' occupational process in promoting their own health"¹²⁹. Johnson and Kielhofner point out that "occupation is a necessary prerequisite to health" arguing that "when social systems or other conditions deprive the individual of satisfying engagement in occupation, there is a clear threat to the mental and physical integrity of the person", and that the responsibility of occupational therapists of the future will be to "remediate the conditions of work and play, and the social, economic, and other factors that disrupt normal patterns of occupation"¹³⁰. Interest is also apparent from the number of articles in

¹²⁸American Association of Occupational Therapists, Position paper on the role of occupational therapy in promotion of health and prevention of disabilities. *The American journal of occupational therapy* 1979; 33: 50 -51.

¹²⁹Gilfoyle EM. The 1984 Eleanor Clarke Slagle Lecture. Transformation of a profession. *The American journal of occupational therapy* 1984; 38(9): 575-584.

¹³⁰Kielhofner G. *Health through occupation: Theory and practice in occupational therapy* ...p.191.

occupational therapy journals which relate to the topic. For example, twelve of sixty four articles (19%) in six *Occupational Therapy in Health Care* journals dated between 1984 and 1989, dealt with topics which can be classified as 'health promotion' or 'disease prevention', and a further twelve can be classified as 'health issues from a socio-cultural perspective'.

The last quarter of this century has provided time for the development of theories of a unique view of health promotion from an occupational therapy perspective but practice still lags behind ideas. A shortage of experienced occupational therapists working as role models and developing frames of reference for younger therapists who are keen to work in the community but are not yet ready for a leadership role, has been identified as a constraint to community health practice. That weakness has been compounded by a lack of knowledge about occupational therapy by community service administrators, lack of professional visibility and identity, role confusion, and lack of occupational therapy input into the planning of community services¹³¹.

In America today occupational therapy practice in the community is limited to the provision of services which are reimbursable according to the 1991 Medicare guidelines¹³². In Britain, although many therapists' work is based in the community, their role is also determined by legislation relating to disability

¹³¹Dasler PJ. Deinstitutionalising the occupational therapist. In: Cromwell FS, Editor. *Occupational therapy in health care* (vol 1). New York: Haworth Press, 1984, pp.31-40; Sabari JS. Professional socialisation: Implications for occupational therapy education. *The American journal of occupational therapy* 1985; 39(2): 96-102; MacKinnon JR. Current supply and future requirements for occupational therapy manpower in British Columbia...; Stephenson L, Vanclay F. Deinstitutionalisation of occupational therapy and health care administrators knowledge. *Australian occupational therapy journal* 1989; 36(4): 193-199; Brintnell ES, Madill HM, Wood PA. What do they think we do? OT functions as perceived by administrators and allied health professionals. *Canadian journal of occupational therapy*, 1981; 48(2): 76-82; Baum CM. Growth, renewal and challenge: An important era for occupational therapy. *The American journal of occupational therapy* 1985; 39(12): 778-784; Tiara ED. After treatment what? New roles for occupational therapists in the community. In: Cromwell FS, editor. *Occupational therapy in health care* (vol 2). New York: Haworth Press, 1985, 13-23; Tompson M. Muriel Driver memorial lecture: Ripples to tidal waves. *Canadian journal of occupational therapy* 1989; 56(4): 165-170.

¹³²Jackson B. Home based occupational therapy: Then and now. *The American journal of occupational therapy* 1992; 36(1): 84-85.

and community care¹³³. Canadian occupational therapists seem to be currently leading occupational therapy initiatives within community health, which is reflective of the health promotion initiatives of their country as a whole¹³⁴, and their recognition that occupational therapy has "the potential to become a major contributor in assisting (the) national vision to become a reality"¹³⁵. Even there, Madill, Townsend and Schultz, who found, as I have, that occupational therapy's client-centred approach meshes well with health promotion as outlined in the Ottawa Charter, propose that substantial occupational therapy educational programs are required to reflect the developments in the field. They note, in particular, the need to generalise "client-centred issues to the broader social and economic environment", suggesting that occupational therapists have a role in community action, prevention, the work place, and in public education¹³⁶.

In Australia, Burnett, in a recent review of Australian community health centres found a paucity of both occupational therapists and literature¹³⁷. Indeed, all of the factors which inhibit the move to community based practice, identified earlier, would seem to have had some bearing on occupational therapy programs, from the time when community initiatives started, nationwide, during the nineteen seventies, up to the present day. Because effective amounts of resources have not been directed away from curative services, jobs within community health are scarce for health professionals such as occupational therapists, whilst jobs in already established, better resourced,

¹³³Richards S. Community occupational therapy: Past dreams and new visions. *British journal of occupational therapy* 1992; 55(7): 257-259.

¹³⁴Townsend E. Developing community occupational therapy services in Canada. *Canadian journal of occupational therapy* 1988; 55(2): 69-74; McColl M, Malcolm C. Community occupational therapists and volunteers: A survey of utilisation and satisfaction. *Canadian journal of occupational therapy* 1985; 52: 52-66.

¹³⁵Edwards J. National perspective: Health promotion; An opportunity for occupational therapy. *Canadian journal of occupational therapy* 1990; 57(1): 5-7.

¹³⁶Madill H, Townsend E, Schultz P. Implementing a health promotion strategy in occupational therapy education and practice. *Canadian journal of occupational therapy* 1989; 56(2): 67-72.

¹³⁷Burnett T. Occupational therapy in community health centres. *Proceedings of the 16th Federal Conference of the Australian Association of occupational therapists*, Adelaide, 1991.

services are still available¹³⁸. This effectively continues to limit the potential of occupational therapy in Australia to working with ill or disabled people.

Occupational therapists do work in the community, but largely in jobs that are related to the management of disability, rather than in programs aimed at 'occupation and health'. Because of lack of understanding of the scope of occupational therapy, community agencies may only consider therapists for jobs if particular ill-health problems are seen as needing to be addressed within any particular community, or may not consider employing them at all. For example, in a survey conducted in South Australia in 1993 the one occupational therapist employed in a metropolitan community health centre was highly valued and her skills and philosophies seen as appropriate. In centres which had never employed an occupational therapist those surveyed were unsure of occupational therapists' skills, convinced their philosophical base was inappropriate, and 60% would not consider employing one if funds were available¹³⁹.

It is somewhat ironical that the notion of 'an interaction between occupation and health' is more in line with the 'new' public health in which occupational therapists do not (on the whole) work, than it is with conventional medicine where they do work. Although compatible with earlier models of health care, and entirely compatible with those proclaimed by public health in documents such as the Ottawa Charter, the idea of 'health and occupation' is largely incompatible with the orientation of the services currently provided by

¹³⁸ Employment opportunities for occupational therapists in conventional health services are becoming fewer as economic rationalism dehumanises health services and reduces lengths of stay to minimum 'life' rather than 'quality of life-style' saving.

¹³⁹ Dean P. Occupational therapy in community health in South Australia. S.A. A.O.T. State Conference Proceedings, 1995; Stephenson L, Vanclay F. Deinstitutionalisation of occupational therapy and health care administrators knowledge...; Brintnell ES, Madill HM, Wood PA. What do they think we do? OT functions as perceived by administrators and allied health professionals....

conventional medicine, and receives little, if any, consideration in community centres.

Additionally although occupational therapists are exposed to population health issues during their education, they are not trained to consider research or intervention from this perspective, and so are unable to translate their core concept in the most meaningful way. Not recognising this, many try to adapt frames of reference developed for and suited to conventional medicine. Alternatively they may address health promotion problems from a perspective identified by other disciplines, thereby providing less effective programs than they could, and thus losing their distinctive focus. They become unsure that what they can contribute to health promotion is of value. This reinforces most therapists continuing with clinical models, in conventional settings, and may be why occupational therapists have, in the past, demonstrated a bias towards programs for 'individual' client problems. From my own experience, particularly from being involved with student education about the topic, there is still an element of excitement and status associated with conventional hospital-based services which is appealing to young students entering the profession. This is built upon, during their training, by most fieldwork experience taking place in conventional settings because of fewer opportunities to experience community, health promoting practice, along with exposure to the many traditional practice frames of reference. The idea of a relationship between occupation and health is addressed in many of these frames of reference, but current economic conditions mean that there is little opportunity to implement them in clinically based services, and the community health frames of reference they consider do not focus on training in population based measures of intervention, in part, because of lack of time¹⁴⁰.

¹⁴⁰ In the last three years the final fieldwork experience in South Australia for graduating students has been undertaken in community agencies or places where OT may not have a well established presence. There they develop programs based on agency (client) need in a

It is hardly surprising, if this is the case, that rather than trail blaze in isolated community agencies most therapists still opt for the security of institutional positions. There are hints of change, however. Papers presented at the 1995 Australian Association of Occupational Therapists Conference suggest a broadening of interest towards programs aimed at health such as a 'model of occupational harmony', applicable to diverse cultures, in which a balance of life roles is taken as the essence of health and well-being¹⁴¹, and to programs aimed at political lobbying. Dwyer, for example, who focussed on the needs of non-English speaking and indigenous people, proposed that to enable them "to exercise their civil and political rights, it could be claimed that they need to be in a state of 'holistic health'. So to be politicised and politically active could be indicative of a state of wellness, physically and mentally"¹⁴². In similar vein, it can be argued that occupational therapists, because of a restriction of their potential within the medical model, have not enjoyed 'holistic health' and 'wellness' as a profession, and that this has inhibited their political activism, although they are not aware of this effect, just as Fay argues that "human history is the story of people who, in trying to satisfy their desires and their ideals, create social institutions and cultures but who are not able or willing to see that that is what they have done"¹⁴³. Those occupational therapists who have taken up the challenge of living and working in the 'new land' of 'community development' have found it exciting, challenging and fulfilling. Such therapists are thriving, "have rediscovered their purpose for being and are making valuable contributions to their 'new society'" so that

research and evaluation mode. This has been extremely effective in changing attitudes and recognising potential.

¹⁴¹Wicks A. Occupational harmony - The essence of well-being: A model for occupational therapy. *The Australian Association of Occupational Therapists 18th Federal and inaugural Pacific Rim Conference Proceedings*, Hobart: 1995.

¹⁴²Dwyer P. Holistic health and politicisation in multicultural Australia in the 21st century. *The Australian Association of Occupational Therapists 18th Federal and inaugural Pacific Rim Conference Proceedings*. Hobart: 1995.

Note: AAOT have in 1995 and 1996 presented workshops for occupational therapists on 'Influencing the policy makers-Empowerment through lobbying.'

¹⁴³Fay B. *Critical social science. Liberation and its limits*. New York: Cornell University Press, 1987, p.53.

none would "return to the hostile, inequitable, under-resourced old world from which they came"¹⁴⁴.

Two surveys, both undertaken in 1989, have explored the perceptions and attitudes of Australian occupational therapists towards health promotion and public health. The first was a survey of 378 Australian occupational therapists which found that attitudes which reflect the 'new public health model', such as client-therapist interaction, client responsibility and holistic attitudes to health care prevail, especially with older, experienced (over thirty) therapists¹⁴⁵. The second, a national survey of a random sample of Australian occupational therapists also found that occupational therapists hold positive attitudes towards health promotion, the benefits they perceive as emanating from it, and their belief that occupational therapists should be involved in it and having a special contribution to make. Whilst the recognition of their potential for health promotion, and of the need to translate the core concept of 'occupation and health' into community action is strong, some change of emphasis in occupational therapy undergraduate education is required. (This study is detailed in appendix IV)

In summary, occupational therapy's assumptions about the relationships between occupation and health have changed throughout the profession's development. This has been, in large part, because of its smallness, its gender imbalance, its dependence on medicine, its difference, and the difficulty of explaining, or understanding its promise without an appreciation of its origins and rich philosophical history. In recent years, as feminist and other social action has challenged and changed some traditional values, and as an

¹⁴⁴ Twible R. Journeying to a new land of hope - A promise for our survival. Keynote address. *The Australian Association of Occupational Therapists 18th Federal and inaugural Pacific Rim Conference Proceedings*. Hobart: 1995.

¹⁴⁵ Adamson BJ, Sinclair-Legge G, Cusick A, Nordholm L. Attitudes, values and orientation to professional practice: A study of Australian occupational therapists. *British journal of occupational therapy*, 1994; 57(12): 476-480.

appreciation has grown of the value of its difference, occupational therapists have begun to articulate theory which has the potential to offer a unique contribution in many arenas, including public health. This can only occur, however, if the profession changes its overwhelming focus towards individuals with disability, to one which recognises, researches and develops practice centred on the occupational needs of all people, communities and cultures. In a way, similar to the increased understanding of the whole population regarding the relationship of nutrition to health, it is only when there is a general appreciation that engagement in occupation is a principle mechanism for health, that real changes can occur. Occupational therapists are still limited, however, by their small numbers, by lack of understanding by others of their potential contribution, and by political, social and economic factors which restrict their practice to within a diminishing institutional scene. Also necessary is an acceptance of the importance of this idea by public health, along with opportunities for occupational therapists to undertake population studies to test and measure the idea, and implement appropriate strategies. The next and final chapter will suggest how occupational therapists could contribute to community and public health if these restrictions were overcome, and if they themselves accepted the value of a public health focus, by taking a strong educational and political stance aimed at social action for change relating to maximising the effects of occupation on health and well-being for the wider community, as well as individuals with disability.

Chapter 9

Occupational therapy and public health

This final chapter brings together the major ideas which have emerged from the explorations of humans as occupational beings, of occupational evolution, of the part occupation plays in ill-health, health and well being and of the theories, values and skills which occupational therapists have to offer to promote health. It suggests that occupational therapists with a well developed concept of the relationship between people's engagement in occupation and health are a primary source of expertise for research and for developing public health practice based on the relationship. The chapter gives examples of existing programs provided by occupational therapists and suggests an action-research framework which, by extending their contribution to take in the broad notions about the relationship between occupation and health discussed in earlier chapters, can be used in many different models of health promotion. Five different models are considered in detail.

it was
In Chapter 8^A made clear that many occupational therapists consider that their role extends beyond the amelioration of illness to the promotion of optimal states of health in line with W.H.O. philosophies, and that they could play an important role in public health as it is currently conceived. However, if occupational therapists are to deliver the promise of the understanding of humans as occupational beings as part of the total picture of an evolving ecology, they should not conform to the present biases of public health as they have to conventional medicine. They must bring to public health their concept of the 'occupational human', and be prepared to challenge and analyse public health research directions and strategies from this perspective. At present, because the distinctive contribution occupational therapists could

bring to health promotion is barely recognised by other public health workers the understanding of the complex interaction between occupation and health is lost¹. The following examples from Australia and North America provide an indication of some recent programs offered by occupational therapists which address concerns of public health but, because they are little known about, are unacknowledged contributions:

- Until its closure, the Mount Lyell Copper Mine in Tasmania employed an occupational therapist full time in occupational health and safety practice. Rudge provided education on health and safety for all levels of the workforce, ergonomic assessment and adaptation of heavy vehicles and mining equipment being used in geographically hostile environments, monitored work methods and practices of employees, and set up an on-site Rehabilitation Centre. She reported challenges such as "a working environment knee deep in muddy, dark, noisy tunnels", "mastering mining terminology and technology", and "gaining an understanding of the implications of living in an isolated mining town"².
- In the New South Wales coal mining industry, Arvier and Bell provide a back injury management and prevention program and report an encouraging trend "in the types of clients attending Back Programs since the Service first began", "from miners with long term or chronic injuries,

¹ Bockoven, a psychiatrist taking a multi-disciplinary look at community mental health in the 1970s, considered that "*acknowledgement of the critical moral importance of occupation in human life demands an in-depth review by the health professions of their own value judgements and practices with respect to identifying which are the means and which are the ends of our endeavors*". He argued that occupational therapy is "*a neglected source of community rehumanization*" which was "*blocked from perceiving either the depth or the breadth of its role as a moral and scientific force*". This role has even more central importance to future human development than could possibly be claimed by any existing scientific specialty which neither has nor claims a moral basis". He considered that occupational therapists are the health professionals most skilled to advance this concept because they have "*acquired a body of moral perspectives and occupational lore of unique value to society*" which "*can be more effectively utilized if it is not limited to being a service solely for sick people*". (Bockhoven JS. Occupational therapy: A neglected source of community rehumanization. Chapter XII in *Moral treatment in community mental health*. New York: Springer Publishing Company, Inc. 1972, p.219).

² Rudge MA. Occupational therapy in the underground mining industry. *The Australian Association of occupational Therapist's 15th Federal Conference*. Sydney: 1988.

through to uninjured workers who are anxious to learn something of back care,"³.

- Schwartz provided an industrial accident/injury primary prevention program for a group of 110 workers at a major Texas grocery distribution centre, similar to traditional "back school" training, but based upon educational psychology principles. Workers and supervisors were trained in environmental modification, work simplification, and proper body mechanics in small groups at their actual work stations. Results of the program were positive, and the program has continued to expand into a comprehensive accident/injury prevention project within the company⁴.
- In contrast to these work related programs, Deily describes the development and operation of a home safety program for older adults in Virginia, USA. A disproportionately high number of older adults are involved in home accidents at considerable cost to individuals and the nation. The program provided education about ways to modify the environment or activities of daily living to lessen the risk of accidental injury, safety improvements for individual homes, and community education⁵. In South Australia, occupational therapists at the Noarlunga Community Health Service also played a major role in a recent State 'prevention of falls in the elderly' program.
- In a more traditional health setting, Stout outlines an 'Automotive Safety for Children Program' based at a children's hospital in Indianapolis, which

³ Arvier R, Bell A. Back injury management and prevention in the New South Wales coal mining industry. *The Australian association of occupational therapist's 15th Federal Conference*. Sydney: 1988.

⁴ Schwartz RK. Cognition and learning in industrial accident injury prevention: An occupational therapy perspective. In: Johnson JA, Jaffe E, editors. *Health promotive and preventive programs: Models of occupational therapy practice. Occupational therapy in health care* 1989; 6(1): 67-85.

⁵ Deily J. Home safety program for older adults. In: Johnson JA, Jaffe E, editors, *Health promotive and preventive programs*:...pp.113-124.

- meets the demands of federal and state legislation, as well as societal trends, for enabling the safe transportation of children with physical handicaps⁶.
- A parent-child activity group was introduced and developed by an occupational therapist as part of a community outreach program which focused on preschool children at risk for developing psychiatric disorders. The program was instituted collaboratively by a major teaching hospital and a local day care centre in New York, and used play and group process⁷.

These examples clearly illustrate scope for occupational therapists in preventive medicine to reduce work hazards from an occupational health and safety perspective, at retarding the effects of disability, at working with clients and relatives to help reduce at-risk behaviours, and by enabling practice of safe and satisfying activities which may retard progression of disorders and early death.

Some occupational therapists also utilize community development approaches particularly in socially disadvantaged countries. Kerry Thomas, a South Australian occupational therapist, for example, during a few years as regional training adviser for South East Asia, described an integrated rural development project in Pakistan in which she was responsible for training the local trainers, and which included health care training, health education with school aged children, agro-forestry, poultry rearing, vocational training and marketing of local crafts such as carpets. The process of community development was slow because the villagers were mostly illiterate and they needed to see the results of activities of people who were participating before many of them became enthusiastic. Training and education was practical,

⁶ Stout JD. Occupational therapists' involvement in safe transportation for the handicapped. In: Johnson JA, Jaffe E, editors, *Health promotive and preventive programs*:...pp.45-56.

⁷ Olson L, Heanery C, Soppas-Hoffman B. Parent-child activity group treatment in preventive psychiatry. In: *Health promotive and preventive programs*:...29-43.

assisted by role plays, story telling and locally made pictures because of the low literacy skills⁸.

Whilst this type of overseas program demonstrates the principles of community development in empowering local people toward self reliance⁹, occupational therapists closer to home have been using the same principles and theories on a smaller scale. The following Australian examples demonstrate a range of such programs :

- Work with remote and rural aboriginal communities, such as in the Top End of the Northern Territory using community based rehabilitation models, and with the Tjalku Warra Community to improve conditions, promote independence, healthier lifestyles and improved quality of life¹⁰;
- Planning and implementing a 'Community Integration Policy Project' aimed at increasing access for disabled people to Melton Shire Council's programs, employment opportunities, decision making processes and physical facilities. The project progressed through analysis of all the Shire's functions, at all levels, and across all departments; staff development sessions; policy development and implementation¹¹;
- Participation in a Community Liaison Team at Manly Hospital "to assist raising the communities ideas about nursing homes, to support

⁸ Thomas K. A letter from Nepal. In: Wilcock AA, editor. *Health promotion and occupational therapy*. Workbook: World Federation of Occupational Therapists Congress, Melbourne, 1990.

⁹ Burkley S. *People first: A guide to self reliant participatory rural development*. London: Zed books, 1993.

¹⁰ Glynn R. Some perspectives on cross-cultural rehabilitation with remote area Aboriginal people. *Australian occupational therapy journal* 1993; 40(4): 159-162; Pondaag B. Working with the Tjalku Warra community: A project report. *The Australian association of occupational therapist's 15th Federal Conference*. Sydney: 1988; Walker V. An occupational therapist's contribution to Aboriginal health worker training *The Australian Association of occupational Therapist's 15th Federal Conference*. Sydney: 1988.

¹¹ Johnson V. The occupational therapist as a tertiary consultant in a local government agency. *The Australian association of occupational therapist's 15th Federal Conference*. Sydney: 1988.

- community groups and to assist patients discharged from formal treatment to involve themselves in the community"¹²;
- Design, development and implementation of a quality of life project with the elderly for the Department of Veterans Affairs, Sydney, based on 'Nominal Group Technique'¹³. Consumer participants (422 people from 11 locations over 6 weeks) identified issues which affected the quality of their everyday lives¹⁴, and the process empowered them to establish a "Getting Out and About Club"¹⁵.

Communal 'doing' for the common, and for individual, good has always been part of human activity. In modern societies of the 20th century this has become superseded by governmental initiatives which lack a genuine community base. Occupational therapists, as community development workers, utilise their philosophical beliefs by enabling people to recognize the needs of others as well as their own, and to take action, to 'do' something, about meeting those needs more effectively¹⁶. This extends occupational therapy into the socio-political arena¹⁷.

¹² Munro J. Community liaison team, Manly District Hospital. *The Australian association of occupational therapist's 15th Federal Conference*. Sydney: 1988.

¹³ Delbecq AL, Van de Ven AH, Gustaffson DH. *Group techniques for program planning*. Glenview: Scott, Foresman and Company, 1975.

¹⁴ Twible RL. Consumer participation in planning health promotion programmes: A case study using the Nominal Group technique. *The Australian occupational therapy journal* 1992; 39(2): 13-18.

¹⁵ Twible RL. Journeying to a new land of hope: A promise for occupational therapy. *The Australian Association of Occupational Therapists 18th Federal and Inaugural Pacific Rim Conference Proceedings*. Hobart, Tasmania: 1995.

¹⁶ For example: "Support", a group learning project, conceived and designed by patients who completed a twenty-four hour occupational therapy stress management program offered at a community mental health day treatment centre in New York. The patients had become a very "close knit" group because of the nature and intensity of therapeutic activities. As they moved to ex-patient status and to a self-directed group they perceived a need to strengthen their community networks. They anticipated familial and community stressors and sought resources to provide knowledge and practice for themselves and their families in the management of those stressors. (Hill L, Brittell TD, Kotwal J. A community mental health group designed by clients. In: Johnson JA, Jaffe E, editors, *Health promotive and preventive programs*:...pp.57-66).

¹⁷ Twible RL. Journeying to a new land of hope:...

In the last quarter of the twentieth century public health has been defined by Last, who might be called a biographer of public health, as "the combination of sciences, skills and beliefs that is directed to the maintenance and improvement of the health of all the people". He suggests that it is a "dynamic discipline" which has to be responsive to a "rapidly changing social and biological environment" where many factors set public health goals, such as the "historical and cultural context", "available facts about perceived human need", "social values", and "scientific and technical capability to intervene effectively"¹⁸.

For public health to accept the conceptualisation of occupation as a powerful influence on health it is necessary to suggest a direction that occupationally based public health can espouse. Articulation of this direction forms the main thrust of this chapter. I propose an action-research approach which grew from the exploration of ideas presented in this thesis, many of which already have a place in occupational therapy as demonstrated in the examples given above. However this new synthesis extends these ideas and provides a more integrated view of occupational therapy as an important tool in public health practice. It requires therapists, among others, to re-assert occupation's fundamental role, to change their attitudes, extend the domain of their concern to include all people (sick or well) and a commitment to action-research which is applied to groups, communities and the global population, as well as individuals.

The starting point is a clear description of the key features and factors to be incorporated into this alternative approach to health promotion. These are:

- a balance of physical, mental and social well-being attained through valued occupation

¹⁸ Last JM. *Public health and preventive medicine*. Connecticut: Appleton and Lange, 1987, p.3.

- enhancement of species common, and individually unique capacities and potential
- occupational and social support and justice for all people and communities
- community cohesion through politically supported and socially valued, well-balanced, occupational opportunity
- research and action aimed at enabling, mediating and advocating for healthy public policy which is responsive to human needs rather than materialistic wants all within, and as part of, a sustainable ecology
- health care aimed at the maintenance and enhancement of physical, psychological, spiritual and social functioning of individuals and communities towards maximum potential and quality in everyday living, in interaction with the natural world that sustains all creatures, and in a way which ensures its healthy survival¹⁹.

I advocate an action-research approach in line with critical social science, which recognises people as "participants in the socio-historical development of human action and understanding"²⁰. Action-research aims at facilitating social change through self reflective inquiry and consciousness raising which enlightens participants about equity and hegemony issues, collective sharing of critical self reflections, dialogue and questions, leading to collective planning and action^{21,22}. I suggest this approach because critical social science has beliefs in common with my occupational perspective, specifically the assumption that "humans are active creatures" and that people shape both natural and social

¹⁹ These six points cover most of the five major directions of the Ottawa Charter, namely to develop personal skills, create supportive environments, strengthen community action, build healthy public policy and reorient health services toward the pursuit of health.

²⁰ Comstock D. A method for critical research. In: Bredo E, Feinberg W, editors. *Knowledge and values in social and educational research*. Philadelphia: Temple University Press, 1982, p.377.

²¹ McCutcheon G, Jung B. Alternative perspectives on action research. *Theory into practice* 1990; 29(3): p.147.

²² Comstock D. A method for critical research....Comstock suggests that such research includes 'repeated movement' through several phases - the interpretive, the empirical-analytical, the critical-dialectical, and the practical-educational and political-action phases - in its progress towards increased understanding and social action.

environments through their activity. Because people are largely unaware of themselves or their cultures as "the 'objects' they have created", their activity "is carried out in a disorganised and often self defeating way" which can result in less than optimum conditions or opportunities²³. To overcome the problems associated with this lack of awareness, it is essential to use approaches which raise consciousness, as well as providing support for reflection and informed action. Environments, and health services, can be shaped through participatory action-research. If occupational therapists adopted such an approach, it would enable the communities they worked with to create a way of life, in balance with the ecology, in which individuals as well as their communities would be able to meet their needs for occupational satisfaction, increased well-being and health.

The action-research model I espouse includes four interlinking phases, research, awareness and education, activism, and occupational change by individuals and communities as well as at socio-techno-political levels. These phases are never complete, each one leading to the next, but available to be revisited to check or alter as new evidence suggests new possibilities. The phases may be fleshed out as follows. The research phase centres on exploring issues about occupational deprivation, alienation, imbalance, meaning, capacities, potentials, balance and satisfaction, at individual, community, national, global and ecological levels, using quantitative or qualitative methodologies. The awareness and education phase involves a multi-level educational strategy to raise consciousness of this way of viewing health, technology, societies and global activities. The phase of activism aims at gradual social change towards human occupation (on a global scale) which is in line with biological needs, social justice, intra-species flourishing and a sustainable ecology. The final phase is occupational change through socio-

23 Fay, B. *Critical social science: Liberation and its limits....*p.47-53.

techno-political response to the global and local needs of people as part of the natural world rather than materialistic and power-based wants.

The interlinking involves ongoing research and exploration to monitor the effects, to feed back into education, activism, socio-techno-political change and so on in a continuous spiral. The components of the approach are not compartmentalised, and interaction between them is ongoing, reflective and dynamic, in order to investigate and act according to multiple truths in a way which is flexible and able to anticipate needs or meet them as they occur, and which can take corrective action when required. The research and awareness raising phases will now be considered separately. The action and occupational change phases will be considered within the five models discussed later.

The exploratory phase would utilise whatever methodologies are most suited to the research question. Public health has always favoured an epidemiological approach and this remains an approach of choice for clinically based aspects of occupation studies. Such empirical studies can be used to inform the action-research participants, and the public at large, and used in combination with other types of exploration. Occupational scientists, in contrast to public health epidemiologists, have favoured qualitative approaches in order to explore the complexities of humans as occupational beings, their experiences and the individual meaning given to engagement in occupation²⁴. This preference is strong because of the fear that reductionist study will remain predominant to the detriment of in-depth work on the complexities of people interacting with their environment²⁵. Indeed, the preference for qualitative research has arisen because of concern that occupational therapists have been overly influenced by the positivistic assumption that "all true knowledge is scientific, in the sense of describing the

24 Yerxa EJ, et al. An introduction to occupational science...

25 Personal communication (Yerxa to Wilcock, Adelaide1990).

coexistence and succession of observable phenomena"²⁶, and that philosophical and theoretical observations are only significant if they are constructed from empirical, preferably numerical, data. This has limited occupational therapists' research, in the past, to explorations such as surveys or clinical trials in the medical science tradition; as a result, many questions of an holistic nature, important from the professions philosophical foundations, remain unanswered. Qualitative approaches have the potential to answer some of these questions because they "extend traditional views of 'truth' to include multiple realities, values and meanings" from a participant's point of view. Data can be collected, for example, by interviews, story telling, time-diaries, experience sampling, observation, documenting conversations, interactions and activities, focus groups, searching out and reviewing records and written documentation²⁷, all of which can "produce meaningful descriptions and interpretations of social processes", "offer explanations of how certain conditions came into existence and persist", and provide "the basis for realistic proposals" for improving social environments²⁸.

In the proposed action-research approach no one methodology is favoured: rather, appropriate combinations of research methods would allow for the research to be exploratory, descriptive or explanatory, and for analysis to be empirical, interpretative or critical²⁹. Qualitative researchers, particularly, recognise the complementary value of quantitative and qualitative approaches rather than their incompatibility. In combination they can add rigour and breadth and provide a more complete picture than either approach can used

²⁶ Quinton A. Positivism. In: Bullock A, Stalleybrass O, Trombley S, editors. *The Fontana dictionary of modern thought*. 2nd ed. London: Fontana Press, 1988, p. 669.

²⁷ Wilcock AA. Biological and socio-cultural perspectives on time-use studies. Plenum, chapter in press.

²⁸ Denzin NK. *Interpretive interactionism: Applied social research methods series*, Vol. 16. Newberry Park: Sage Publications, 1989, p.23; Becker HS, Horowitz IL. Radical politics and sociological observation: Observations on methodology and ideology. In: Becker HS, editor. *Doing things together: Selected papers*. Evanston, Ill.: Northwestern University Press, 1986. pp.83-102.

²⁹ Wilcock AA. Biological and socio-cultural perspectives.....

alone³⁰. Different blends will lead to new ways of knowing about humans as occupational beings, and will help to provide different perspectives of people's experience of engagement in occupation, of the organisation and balance of occupations in lifestyle throughout lifespan, and the relationship of each to adaptation, social expectations, life satisfaction and health³¹. Extended methods of inquiry will enable the study of underlying factors which prompt people to do the things they do, day by day, often or occasionally, why different social groups and cultures use time differently, and whether current socio-cultural structures and institutions are based on values which will enable humans to continue evolving in directions which are appropriate and necessary to the ecology and our species survival and well-being.

Whilst occupational science should provide the major research base of an occupational health promotion approach, it will need to draw upon the expanding knowledge of the medical, social and behavioural sciences, as well as the natural and biological sciences. Human occupation crosses all boundaries from genetic codes, cellular system formation, biological capacity and personal ideas, through family, community, social and political domains to have effects upon the world ecology. Within all these domains there is a need for research to begin to understand and influence occupation choices towards healthier bodies, minds, lifestyles, environments, national and international policies.

Findings from this diverse research need to be accessible to the public at large. In action-research terms they must lead to an education-awareness

³⁰Tripp-Reimer T. Combining qualitative and quantitative methodologies. In: Leininger M, editor. *Qualitative research methods in nursing*. Orlando: Grune and Stratton, 1985, p.179; Silverman D. *Qualitative methodology and sociology*. Vermont, USA: Gower Publishing Company Ltd., 1985, p.17; De Landsheere G. History of educational research. In: Keeves JP, editor. *Educational research, methodology and measurement*. Oxford: Permagon Press, 1988, p.10.

³¹Yerxa EJ, et al. An introduction to occupational science:...

phase including approaches which promote healthy behaviour and lifestyle by increasing understanding of how engagement in occupation can prevent illness and promote health and well-being, and demonstrate how political, social and technological structures facilitate or inhibit achievement of occupational satisfaction and potential. Strategies which could be used to increase political, public, community or individual awareness include social planning which, in turn, includes problem solving based on data gathering and goal setting; social action, such as rallies and boycotts, conferences, workshops, seminars, in-service training, health fairs, brochures and circulars in libraries; group discussion and individual counselling in community agencies, health centres, schools, and the workplace, as well as in routine health provider-consumer interactions.

Behaviour modification or mass propaganda principles which provide information about healthy living, such as health warnings on cigarette packets, or in the televised 'Life Be In It' campaigns, assume that at least some people accessing the information will adjust behaviours as a result of the message. The effects of such programs can usually only be expected in the long term and are difficult to measure and, indeed, there are some who would deny this as a health education approach. Green, Kreuter and Deeds suggest that health education requires voluntary participation of the consumer³², and for individuals to change habitual patterns of behaviour this is probably the most effective approach. Unless information is specifically sought by people motivated to utilise it, learning, which is cumulative, can only occur after repeated exposure to an idea. However, in the case of increasing awareness about the relationship between occupation and health it may be necessary to utilise such approaches, because the basic relationship is so little understood. For example awareness can be raised following mass media exposure of the ideas in topical programs, in documentaries, and as themes in 'soapies', in

³² Green L, Kreuter M, Deeds S, Partridge K. *Health education planning: A diagnostic approach*. California: Mayfield Publishing Co., 1980, p.8.

much the same way as other health messages, such as about nutrition or abortion, have been conveyed to the public.

Occupational therapists are not skilled at accessing the media, in part because their health message is not understood in a society which values a medical science 'illness' approach to health. Even for the film 'Gorillas in the Mist' Dianne Fossey, originally an occupational therapist, was portrayed as a physiotherapist. If occupational therapists do take up the challenge of public health practice they will need to develop advocacy and public relations skills to ensure that their health education messages are accessible. Alternatively their public health partners, experienced in disseminating information could become their advocates. In their traditional role, most occupational therapists are skilled in health education because of their daily work with many 'at risk' and disadvantaged individuals and groups. For example, one occupational therapy educational strategy, to assist people with psycho-social dysfunction to change habit patterns, includes 'invalidation' of current patterns of behaviour, exploration of alternatives "through thought and action", followed by habituation and integration over time of the chosen alternative behaviour³³.

Undergraduate occupational therapists are trained in individual and group counselling and teaching skills but, like many other health professions, would not see their primary role as health educators. A greater emphasis on this aspect of practice is required. Jungfer, a general practitioner who pioneered an integrated health service in South Australia, believed that every member of health care teams "must seize every teachable moment to explain fully to the patient the part he must play in maintaining his health", because reinforcement from many sources facilitates increased awareness³⁴. Increased awareness enables people to decide for themselves the most appropriate action

³³Kielhofner G, Barris R, Watts J. Habits and habit dysfunction: A clinical perspective for psychosocial occupational therapy. *Occupational therapy in mental health* 1982; 2: 1-21.

³⁴Jungfer C. Prevention - an attitude of mind. *Australian family physician* 1979; 8: 219-221.

to promote healthy living, to understand and define their own health problems and needs, and to understand what action they can take using their own resources.

Some occupational therapists also provide specific programs aimed at increasing awareness and educating about health matters. Jaffe, for example, describes the Medical Marketplace health promotion and health education program in the American corporate world in which an occupational therapist was the principal investigator. The project was federally funded research designed to assess the effectiveness of a health consumer education and training program on the reduction of health care costs. The training was intended to increase the knowledge and skills of employees, making them wise and informed consumers of health services; to improve the quality of health care, by helping consumers find appropriate care more quickly and directly; and to reduce employee health costs, by eliminating the use of unnecessary or inappropriate services³⁵. In a more traditional context, Breen describes an approach developed for use with elderly people in a nursing home where the concept of self-help arising from traditional programs, which encouraged patients to assist themselves in their daily needs to prevent deterioration and to promote recovery, was expanded into a formal program of patient education in health-enhancing strategies³⁶. Both these examples demonstrate valid approaches which are in line with conventional health promotion ideologies. In contrast, Rosenfeld suggests an approach based on Kielhofner's 'model of human occupation' which utilises "didactic presentation of important lifestyle concepts, self reflection, goal identification, and concrete planning" and includes examination of "the doing process and the development of personal competence,...life roles, the use of time, and four planes of existence (physical,

³⁵ Jaffe ER. Medical consumer education: Health promotion in the workplace. In: Johnson JA, Jaffe E, editors. *Occupational therapy: Program development for health promotion and preventive services*. New York: The Haworth Press, 1989.

³⁶ Breen VW. Education with activity: A health promotion program in a nursing home. *Occupational therapy in health care*, 1989; 6 (1): 101-111.

emotional, intellectual, and spiritual)"³⁷. He suggests that illness or dysfunction which disrupt life processes facilitate an 'occupational shift' because "disruption leads to a novel and clear recognition of intricate occupational patterns, places and circumstances that weave the fabric of life"³⁸.

The education-awareness phase of this public health action-research model requires more than occupational therapists providing information, and more than participants in any one group engaging in a change-growth experience, important though these may be. Just as I have argued for the exploratory phase of the approach to be contextual as well as individual, so I argue for this phase to be context-dependent. The education-awareness phase should link structuralism and individualism, broader social processes with the problems people face in their daily life, occupational behaviours, meanings and health outcomes, and should be viewed as an agent of socio-political structural change which can empower and enhance individual awareness of optimum physiological functioning, role performance, and personal potential³⁹. It should, for example, encompass the occupational determinants which can contribute to health and well-being discussed in chapter 5, or contribute to the pre-clinical health disorders, and ultimately to disease, disability or death, as discussed in chapter 6.

The third, action phase of the approach will vary according to the problem but will be based on 'doing', and on developing techniques and strategies which may facilitate improved personal, community, national and international occupational health. Five models, which are not mutually

³⁷Rosenfeld MS. Occupational disruption and adaptation: A study of house fire victims. *The American journal of occupational therapy* 1989; 43: 89-96.

³⁸Rosenfeld MS. Lifestyle education and revision for the worried well. *Work* 1992; 2(3): 21-27.

³⁹See, for example: Crawford R. You are dangerous to your health: The ideology of victim blaming. *International journal of health services* 1979; 7: 663-680; French J, Adams L. From analysis to synthesis: Theories of health education. *Health education journal* 1986; 45(2): 71-74; Colquhoun D. *Health education politics and practice*. Geelong, Victoria: Deakin University, 1992.

exclusive, are discussed here. See Table 9.1 on the next page for an overview. The models are wellness, preventive medicine, social justice, community development, and ecological sustainability, which are defined in accordance with ideas expressed by a majority of works about each approach. The five approaches represent significant ideas which have emerged during this thesis: an overview of the differing ideologies of each reveals how they might be integrated, and what direction an action-research approach could take from an occupational perspective. This method of dividing out differing aspects of services aiming at health promotion provides us with ways of seeing (understanding), organising (setting objectives and deploying resources) and doing (research, strategies and programs). All are important, and need not be separated in practice.

The wellness model is the first to be considered because, theoretically, it fits most closely with occupational therapist's traditional orientation, and could be utilised in practice in arenas, such as conventional medical environments, where many occupational therapists still work. In 1954 Halbert Dunn, a physician, conceptualised and defined 'Wellness' as "an integrated method of functioning which is oriented toward maximising the potential of which the individual is capable within the environment where he is functioning"⁴⁰. This, plus other definitions which include words such as 'meaning', 'purpose', 'philosophy of living', 'a state of being', and 'holism' are clearly compatible with occupational therapy philosophy⁴¹, but I have chosen to highlight the following definition by Hettler, from the University of Wisconsin because it is

⁴⁰Dunn H. *High level wellness*. Arlington, Va.: RW Beatty, 1954.

⁴¹See, for example: Brown KM. *Wellness: Past visions, future roles. Sociocultural implications in treatment planning in occupational therapy*. The Haworth Press, 1987; 4(1): 155-164; Dossey BM, Guzzetta CE. *Wellness, values clarification and motivation*. In: Dossey BM, Keegan L, Kolkmeier LG, Guzzetta CE. *Holistic health promotion. A guide for practice*. Rockville: Aspen Publishers, 1989; Johnson J. *Wellness and occupational therapy. The American journal of occupational therapy* 1986; 40(11): 753-758; West W. *The emerging health model of occupational therapy practice. Proceedings of the 5th International Congress of the WFOT*, Zurich, 1970.

	Base	Definition	Occupation Action and Research Approach	
			Research	Action
Wellness	Individual Illness – Wellness Reductionist – Holistic Medical / Social / Behavioural sciences Person centred	'An active process through which individuals become aware of and make choices toward a more successful existence.'	Health and Occupational satisfaction / creativity / meaning / purpose / choice / opportunity / balance / challenges / growth / equity / freedom. / potential	Disseminate research findings Individual counselling Personal skill development towards occupational potential
Preventive Medicine	Populations / Individuals Illness, Reductionist Epidemiology / Behavioural Medical / Social science Informative	The application of western medical and social science to prevent disease, prolong life and promote health in the community through intercepting disease processes'.	Underlying Occupational determinants Occupational: Alienation Deprivation Imbalance	Disseminate Research findings Individual and group occupational counselling and programs Social and Individual change of occupational structures
Community Development	Communities Well being Holistic Social - Political science Self sustaining / local resources / person centred / participatory	'Community consultation, deliberation and action to promote individual, family and community wide responsibility for self sustaining development, health and well-being'	Participatory analysis of community occupational structure Local resources Community views on positive and negative occupational determinants.	Disseminate Research findings Facilitate occupational change and growth of community Development of community according to their perceived needs and using local resources
Social Justice	Groups / communities Inequities = Ill health Holistic Social - Political science Person centred / participatory	'Promotion of social and economic change to increase individual, community and political awareness, resources and opportunities for health'..	Participatory analysis of occupational disadvantage Underlying occupational determinants	Disseminate Research findings Facilitate social action for change of occupational policies towards occupational equity Social and political lobbying
Ecological Sustainability	Global Species well being Holistic Biological and Natural sciences Self-sustaining	'Promotion of healthy relationships between humans, other living organisms, their environments, habits, and modes of life'.	Effect of occupational factors, including technology and economic structures on the ecology; locally and globally Alternative occupational constructs which allow for occupational nature of people and needs of all species.	Disseminate Research findings Facilitate social action for change toward sustainable occupational constructs of benefit to all species and occupational health of people.

Table 9.1: Overview of health models.

appropriate to an action-research approach and my occupational theory. Wellness is:

*"an active process through which individuals become aware of and make choices toward a more successful existence"*⁴²

According to Dossey, this health model assumes that every individual has innate capacities for healing, nurture, self reflection, taking risks, and for making change towards wellness; that all people are searching for answers about the life process, about meaning and purpose; and that health is also about individuals being able to live according to their beliefs⁴³. Wellness embraces a multi-dimensional concept of balance, referring to work, play and rest, to nutritional balance, to balance between use of physical, psychological, intellectual and spiritual capacities, as well as within self, environment and culture⁴⁴. The health model is seen by some as synonymous with health promotion and ill-health prevention⁴⁵, especially in America where it has become a preferred approach at many industrial, business and corporate work sites⁴⁶, where programs aimed at preventing illness and 'at-risk' behaviours are the most often described. Its acceptance in the corporate sector reflects the strong 'self responsibility', 'individualist' approach in American society. Another view is that too much emphasis on self responsibility can lead to

⁴²Hettler W. Wellness - the lifetime goal of a university experience. Chapter 79. In: Matarazzo JD, et al., editors. *Behavioural health. A handbook of health enhancement and disease prevention*. New York: John Wiley and Sons, 1990, p.1117.

⁴³Dossey BM, Guzzetta CE. Wellness, values clarification and motivation... p 70.

⁴⁴See for example, Howard RB. Wellness: Obtainable goal or impossible dream. *Post graduate medicine* 1983; 73(1): 15-19; Brown KM. Wellness: Past visions, future roles...

⁴⁵Opatz defined health promotion as:
"systematic efforts by an organization to enhance the wellness of its members through education, behavior change, and cultural support"
Opatz JP. *A primer of health promotion: Creating healthy organizational cultures*. Washington, DC: Oryx Publications, 1985, p.7.

⁴⁶See, for example: Zechetmayr M. Wellness programs and employee assistance programs in industry. *Arena review* 1986; 10(1): 28-42; Conrad P. Wellness in the workplace: Potentials and pitfalls of worksite health promotion. *Milbank quarterly* 1987; 65(2): 255-275; Conrad P, Walsh DC. The new corporate health ethic: Lifestyle and the social control of work. *International journal of health services* 1992; 22(1): 89-111; Walsh DC, Jennings SE, Mangione T, Merrigan DM. Health promotion versus health protection? Employees' perceptions and concerns. *Journal of public health policy* 1991; 12(2): 148-164.

victim blaming which may be unfounded in the light of epidemiological data that points to environmental and social conditions as major contributors to ill-health⁴⁷. European approaches, in contrast to American, emphasise union initiated structural and legislative changes to work site health issues⁴⁸.

In Australia, 'wellness' is not recognised in public health circles as a 'serious' model. Rather, it is viewed as a 'trendy' concept, peripheral to medicine, which displays an encouraging indication of a change in public attitude towards health concerns. This reflects the conservatism of the health care system, in some ways as a result of the dominance of the A.M.A. in health matters. Individualised health promotion strategies are, on the whole, left to the private sector and alternative health providers. This peripheralising of 'wellness' maintains the dominance of an illness approach to individual health within conventional medicine and, once more, a health value which is in accord with occupational therapy is trivialised.

In the light of the complex, interactive nature of the relationship between occupation and health it can be questioned whether an individual wellness approach has any value. I believe it can offer a useful starting point to increase awareness of individual needs and potential and how underlying influences affect health, particularly if research and action consider the context as well as the individual. Additionally, because the wellness model follows the tradition

⁴⁷ Antonovsky A. The sense of coherence as a determinant of health. In: Matarazzo JD, et al., editors. *Behavioural health....*

"...it is disingenuous to, however, to talk about getting enough sleep while disregarding the economic pressures on tens of millions of people, which compel them to moonlight or work extra shifts; to talk about eating well but say nothing of the powerful advertising industry; to talk of not smoking and drinking moderately yet be blind to the manifold social stressors that lead people to use smoking and drinking as maladaptive coping responses" (p.124).

⁴⁸ Weinstein M. Lifestyle, stress and work: Strategies for health promotion. *Health promotion* 1986; 1(3): 363-371.

According to a survey of 11,000 new members of 12 trade unions in the United Kingdom, along with better pay, improved health and safety, equity and social justice were most often reported by members as what they wanted from union membership(Whitston C, Waddington J. Why join a union? *New Statesman and society* 1994; 7(329): 36-38.)

of the 'growth' ideologies discussed earlier, it is an approach suited to all people including those who are handicapped, disabled and disadvantaged⁴⁹: person-centred rehabilitation programs and wellness approaches all aim at self esteem, performance, roles and quality of life skills to promote personal growth and well-being. Dossey explains that "when people are under varying degrees of stress or illness, they can lose their appreciation for life's purpose and meaning. It is at these times that the practitioner facilitates the journey toward understanding the wellness process"⁵⁰. This suggests that the wellness model may be a useful adjunct to conventional medicine⁵¹, to counteract the trend towards increasingly restricted acute care with a focus on high technology which is expensive, and which expects a passive, rather than participatory, attitude from consumers.

Rehabilitation concerned with clients' personal skill development and aimed at maximising potential and quality of life, which was an extension of conventional medicine, has declined in importance over the last twenty years to a token service. Now occupational therapy in conventional medicine is being reduced as bed turn over increases and resources are stretched to cover other more acute and technologically sophisticated specialties. Even in 1966 Reilly recognised that it was becoming harder for occupational therapists to "advocate for patients to practice a healthy balance of work, rest and play within the OT clinic, the institution as a whole, and eventually within the larger community environment"⁵². Occupational therapy interventions are

⁴⁹ Ryan RS, Travis JW. *The wellness workbook*. California: Ten Speed Press, 1981, p.xv.
"A person can be living a process of wellness and yet be physically handicapped, aged, scared in the face of challenge, in pain, imperfect"...Diseases and symptoms are not really the problem. They are actually the body-mind's attempt to solve a problem"..."It is essential to look below the surface signs to address real needs".

⁵⁰ Dossey BM, Guzzetta CE. Wellness, values clarification and motivation.... p.69.

⁵¹ For a critique of the wellness movement as opposed to conventional medicine, see; Levenstein S. Wellness, health, Antonovsky. *Advances* 1994; 10(3): 26-29.

⁵² Reilly M. The challenge of the future to an occupational therapist. *The American journal of occupational therapy* 1966; 20: 221-225; See also Spencer EA. From hospital to community - the health care challenge of the 1980s. In: Johnson JA, Jaffe E, editors. *Occupational Therapy : Program Development for Health Promotion and Preventive Services...*

becoming limited to formalised and pre-determined assessment rather than life skill development and, increasingly, use compensatory and counselling approaches rather than facilitatory remedial approaches which take longer. The types of program which are gradually being 'axed' include evaluation of peoples capacities, values and occupational performance skills, health education relating to occupational balance, symptom reduction through engagement in occupation, retraining in the context of occupations of daily living, environmental modification, self management, relaxation, stress management, and work simplification.

Limitation of practice occurs even in community agencies which conform to a conventional medical model, such as the regional Domiciliary Care Services in South Australia which aim to assist people with long term disabilities, regardless of age, at risk of premature or inappropriate admission to institutions. Limited resources for a large numbers of referrals mean that occupational therapists have experienced difficulty in being able to practically implement their beliefs in health rather than ill-health approaches. Domiciliary care service guidelines establish a clear focus on primary care and rehabilitation but study undertaken in South Australia in 1987 revealed that, although 80% of the occupational therapists surveyed expressed a belief that domiciliary care provides an appropriate base for health promotion programs, which they were keen to offer, only 9% of occupational therapists were able to provide this type of intervention⁵³.

Given these concerns, it is important to consider what direction the proposed action-research approach could take, if public health supported occupational therapy wellness programs. Research, education, and action for this approach could aim at the 'positive influences on well-being' and

⁵³ Wilcock AA. Domiciliary Care, occupational therapists and health promotion. *The Proceedings of the Australian Association of Occupational Therapist's 15th Federal Conference*. Sydney: 1988.

'occupational indicators of health status' as shown in figure 5.1. Other possibilities include exploration of attitudes and practice of health workers in hospitals, of health planners, of state and federal health bodies, of the public, and of consumers, with subsequent awareness raising, action and change; evaluation of the effects of focussing on illness, in the short term, at the expense of long term wellness utilising, for example, longitudinal clinical outcome studies of people with disability who experience wellness, growth and increased potential programs against controls who do not; exploration of the degree of occupational wellness (deprivation, alienation, balance, satisfaction, etc) experienced by accident victims, 'fat file' patients or out-patient attenders, followed by public education and action such as the introduction of 'wellness' groups in hospital wards or in general medical practice or community centres; and, possibly most important, programs aimed at discovering and enhancing the occupational potential of children according to their genetic strengths, whilst enabling them to recognise the links between what they do, how they feel, and the effects on social and ecological environments⁵⁴.

The second model to be discussed, 'preventive medicine', is the most closely linked to public health, both historically and at present. Based on a wide variety of preventive medicine literature I define it as:

'The application of western medical and social science to prevent disease, prolong life and promote health in the community through intercepting disease processes'.

Like conventional medicine it is a reductionist, 'illness' model aimed at individuals although it often utilises population based studies as a foundation

⁵⁴ See for example: Losada CA. Some values in occupational therapy. *Occupational therapy in rehabilitation* 1936; 15: 285-289, in which Losada advocates occupational therapists become involved in collecting and testing aptitudes, with 'other' measures of intelligence such as 'free energy', particularly of those children who perform poorly in education settings, in promoting health; See also Bowden S. Development of a research tool to enable children to describe their engagement in occupation. *Journal of occupational science: Australia* 1995; 2 (3): 115-123.

for its approaches which aim at protection against disease agents by methods such as immunisation, vaccination, screening, and social and environmental engineering. It emphasises early diagnosis with consequent retardation of disability, and focuses on preventing illness rather than promoting wellness, although, as stated earlier, it is viewed, by many, (I believe, erroneously) as equivalent to health promotion⁵⁵.

Prevention of ill-health through epidemiological research aimed at 'early pre-clinical factors' (a medical science approach to public health) remains the strongest influence, and attracts the most resources, despite a stated commitment to social health. An example of this commitment is provided in the Australian Commonwealth Department of Community Services and Health's brief summary of W.H.O.'s work which states, at Clause 24, that:

*in addition to the availability of suitable health services at a cost the country can afford, it (health for all by the year 2000) also means a personal state of well-being and a state of health that enables each person to lead a socially and economically productive life. Therefore, member states will continue to consider obstacles to health such as ignorance, malnutrition, poor housing, unemployment and contaminated drinking water just as important as other considerations such as the lack of nurses and doctors, drugs, vaccines, or hospital beds.*⁵⁶

Preventive medicine's strong commitment to epidemiology is demonstrated by Last's assertion that although the needs of public health workers such as health educators, industrial hygienists and sanitary engineers are different all "share a common reliance on one scientific discipline, epidemiology". The most fundamental purpose of epidemiology, he says, is to "supply information, and ways to interpret it, for the diagnosis and

⁵⁵ Last, for example writes of the need for "...more effective health promotion programs aimed at smoking cessation, reduced alcohol use, nutrition, exercise, stress reduction, and control of violent behaviour..." Last JM. *Public health and preventive medicine...* p.4.

⁵⁶ Commonwealth Department of Community Services and Health. *World Health Organization: A brief summary of its work.* Canberra: Australian Government Publishing Service, 1988, p.10.

measurement of the health problems of the population"⁵⁷. Whilst occupational therapists do not focus on developing epidemiological research skills at undergraduate level, they could focus intervention on epidemiological evidence provided by other researchers. However the interventions should be interpreted and extended according to an occupational perspective. For example, substance abuse habits could be considered alongside occupational behaviour, the negative effects of occupational deprivation and the underlying determinants which lead to the deprivation. To do this occupational therapists may utilise other research tools of a qualitative nature as adjuncts to epidemiology, just as public health workers interested in social health have done.

In order to realise the implications of the ideas raised in this thesis it will be necessary to challenge many ideas that are central to political, social and health ideologies. This is particularly so, because in post-industrial societies with an economic-technological-power focus, rather than one aimed primarily at meeting the needs of humans in a way which recognises ecological strengths and constraints, highly-technical, illness based health services are fostered and applauded. This type of service encourages people to continue stressful, regulated, time-dictated and unnatural lifestyles because it offers to undo many of the obvious effects of consumer societies with spare parts and chemical remedies: it is essentially anti-dotal. The whole societal configuration inhibits, by default, the establishment of alternative systems which may help prevent illness. This implies that the theoretical foundations of this action-research approach must address structural as well as individual prevention issues.

Occupational therapists have a surprisingly long history of interest in prevention, although many will be unaware that as early as 1934, in Canada, it was being recognised that occupational therapists had a potential role in the

⁵⁷ Last JM. *Public health and preventive medicine* ... p.6.

community in preventing ill-health. At that time Le Vesconte suggested that, in combination with social workers, occupational therapists should be involved in social and economic reorganisation to that end⁵⁸. Unfortunately, this direction got lost in medicalisation of professional offerings, and did not re-emerge until about the time of West's 1969 paper *The growing importance of prevention*. This introduced occupational therapists to the concept of involvement in primary and secondary prevention, to prevent the occurrence and progression of disease or injury, and to not being limited to working at a tertiary prevention level to minimise and reduce disability⁵⁹,

Examples of the types of programs occupational therapists already offer were provided at the start of the chapter. The proposed occupational therapy action-research approach to prevention would extend contributions such as those, aiming at occupational institutions and activities such as 'division of labour', 'technology in daily living' and 'legislation' that lead to 'risk factors impinging on the individual' such as 'lack of opportunity to develop potential', 'occupational imbalance, deprivation and alienation' as well as 'early, pre-clinical health disorders' such as 'boredom', 'burnout', or 'sleep disturbance' as shown in figure 6.1. This may well include: helping individuals to identify occupational factors which lead to stress, drug abuse, child abuse, women in transition, or other crises; practical and effective parenting; developmental screening; youth activities; elder citizens' activity groups and social clubs.

The 'Social justice' model of health is a participatory, community model, which, in light of the literature, I define as the:

⁵⁸Le Vesconte HP. The place of occupational therapy in social work planning. *Canadian journal of occupational therapy* 1934; 2: 13-16; Le Vesconte HP. Expanding fields of occupational therapy. *Canadian journal of occupational therapy* 1935; 3: 4-12.

⁵⁹West W. The growing importance of prevention. *The American journal of occupational therapy* 1969; 23: 223-231.

'Promotion of social and economic change to increase individual, community and political awareness, resources and opportunities for health'.

Social justice is based on the belief that ill health is often an outcome of inequitable distribution of resources and power, resulting from factors such as the type of economy, national priorities and policies and cultural values. It aims to change those underlying determinants of ill-health⁶⁰. In the Alma Ata and Ottawa Charter documents social justice surfaces as one of the fundamental prerequisites of health. Both claim that for 'health for all by the year 2,000' it is essential to "to close the gap between the 'haves' and 'have-nots'" and to achieve:-

"more equitable distribution of health resources within and among countries, including preferential allocation to those in greatest social need so that the health system adequately covers all the population;"⁶¹

The relationship between social justice and health has been the subject of numerous investigations. In one of the most notable Hart found that, in the United Kingdom, the availability of good medical care tends to vary inversely with the need of the population served, and in areas where there is the greatest proportion of illness and death, both general practitioners and hospitals have the largest caseloads and the least resources⁶². A little later the *Black Report* on 'Inequalities in Health' in Britain gave an account of the inverse relation between health status and social location and called for a radical overhaul of health service activities and resources⁶³. Similarly, in Australia, Broadhead

⁶⁰ Moscovitch A, Drover G. *Inequality: Essays on the political economy of social welfare*. Toronto: University of Toronto Press, 1981; Veatch RM. Justice in health care: The contribution of Edmund Pellegrino. *The journal of medicine and philosophy* 1990; 15: 269-287; Young IM. *Justice and the politics of difference*. Princeton, NJ: Princeton University Press, 1990; Bunton R, Macdonald G, editors. *Health promotion: Disciplines and diversity*. London, New York: Routledge, 1992.

⁶¹ W.H.O. *Formulating strategies for health for all by the year 2000...* 1979.

⁶² Hart JT. The inverse care law. *The Lancet* 1971; Feb 27: 405-412.

⁶³ Report of a 1977 working party, chaired by Sir Douglas Black; Hart JT. The Black report: A challenge to politicians. *The Lancet* 1982; Jan 2: 35-36.

found, in an investigation in which occupation, education and affluence were used as variables of social status, that the four indicators of morbidity - recent illnesses, chronic conditions, days of reduced activity, and mental health - showed significant relationships to affluence for both sexes, after standardisation for age⁶⁴. According to Opit, in 1983, approximately 15% of the Australian population suffered from poverty and from lack of autonomy or power, with subsequent anxiety, depression, risk-taking, injudicious alcohol consumption, and premature death all exacerbated by the inability to take advantage of the limited resources committed to their welfare. Those suffering most were Aboriginals, many single parents, the unemployed, large families with a single wage earner, the old, and many recent migrants, and the degree of deprivation and the numbers were increasing⁶⁵. The rhetorical commitment to social justice and egalitarianism in most liberal economies cannot be achieved without structural change and "there is no sign that any Western democracy has the political will to make the massive redistribution involved in recommendations such as those of the '*Black Report*' "⁶⁶.

In the interests of understanding the relationship between health and social justice, Gallagher and Ferrante call for a critical analysis of the cultural processes that shape both the medical care system and the broad social concern with medical care, because standard rehearsals of equity, in the liberal tradition, ignore the underlying determinants and processes of health experiences, and the extent to which they arise from factors beyond individual control⁶⁷. In

⁶⁴Broadhead P. Social status and morbidity in Australia. *Community health studies* 1985; IX (2): 87-98. Cf, earlier, Martin GS. Social/medical aspects of poverty in Australia. Australia. Government Commission of Inquiry into Poverty. Canberra: Australian Government Publishing Service, 1976. Martin's report states that the health and welfare scene in Australia was not well suited to dealing with the complex health and welfare problems which so affect poor people.

⁶⁵Opit LJ. Economic policy and health care: The inverse care law in Australia. *New doctor* 1983.

⁶⁶Bunton R, Macdonald G, editors. *Health promotion: Disciplines and diversity...* p.171.

⁶⁷Gallagher EB, Ferrante J. Medicalisation and social justice. *Social justice research* 1987; 1(3): 377-392; Le Grand J. Equity, health and health care. *Social justice research* 1987; 1(3): 257-

terms of societal preconditions for need satisfaction Doyal and Gough have identified civil and political rights, the right of access to 'need satisfiers', and political participation. In occupational terms I have identified underlying factors such as the type of economy, national priorities and policies, and societal values as determinants of health status. The action-research approach I propose would focus debate on the underlying occupational factors, institutions and activities which reduce occupational choice, satisfaction, balance and meaning, which prevent people from reaching their potential, and which lead to the experience of occupational alienation and deprivation, early pre-clinical health disorders, disease and disability..

Occupational therapists have an implicit concern with social justice as part of their philosophical base but it has not been central in their documented approach to health promotion even though, from my own experience, more clients from socially disadvantaged groups than from affluent groups receive occupational therapy services. Townsend has suggested that occupational therapists need to become conscious of how "the social vision which forms the foundation of occupational therapy" is "narrowed to comply with dominant community, managerial and medical approaches to disability and ageing". She advances the idea that "enabling people to participate as valued members of society despite diverse or limited potential" is central within the vision⁶⁸. According to Hodges, action toward social justice for, and with, the disabled does not occur⁶⁹. Health promoting and risk notification programs "need to be capable of affirmatively motivating and empowering (them) to make appropriate, constructive responses", in order to protect the health of the

274. For an economist's account of the same matters see: Sen A. *Commodities and capabilities*. Amsterdam: Elsevier, 1985.

68 Townsend E. 1993 Muriel Driver Lecture: Occupational therapy's social vision. *Canadian journal of occupational therapy* 1993; 60(4): 174-184.

69 Hodges A. Health promotion and disease prevention for the disabled. *Journal of allied health* 1986; Nov:

disabled and pursue "their justified legal remedies"⁷⁰. These are obvious starting points for occupational therapists to become involved in social justice issues, to promote change to environments as well as people, and to influence the development of person centred policies and laws⁷¹. Another direction involves being more responsive to "the concept of illness as a condition of the total human being, including the spiritual dimension". This would enable therapists to work "with conditions within the patients primary systems...to bring about changes in conditions that are detrimental to health (such as poor living conditions, inadequate infant nutrition, or nuclear proliferation)". Johnson proposes the setting up of laboratories in which "patients acquire skills they need to influence change in their environments"⁷². Such a laboratory could be envisaged as part of critical action, and is in line with the action-research approach I propose.

From an occupational point of view interventions designed to approach social justice might involve developing community awareness about inequities in occupational opportunities through the use of social action involving community groups and the media, along with providing individual and community 'laboratories' to practice relevant skills which lead to political lobbying for structural change. An example of how increasing community awareness can lead to social action comes from Kinnell's account of how rising levels of literacy, which resulted from the increased emphasis on education in England during the late eighteenth and early nineteenth centuries, fostered the growth of trade in children's books. Since the books dealt increasingly with themes such as the right to exercise individual moral judgement and social justice, this development was instrumental in disseminating radical ideas and

⁷⁰Needleman C. Ritualism in communicating risk information. *Science, technology and human values* 1987; 12(3-4): 20-25.

⁷¹Townsend E. 1993 Muriel Driver Lecture...

⁷²Johnson JA. Wellness and occupational therapy. *The American journal of occupational therapy* 1986; 40: 753-758.

raising the level of people's political consciousness and dissent⁷³. This example suggests that information about occupational justice and health, packaged in an attractive and consumer oriented manner, perhaps using internet or popular magazines, might be one way to approach consciousness raising on a population scale.

An occupationally just society would be one which provided opportunity for people to develop their own potential, rather than be expected to fit into socio-economically established roles. Many people are strait jacketed into roles set by their communities: for example, there is enormous pressure on adolescents and even young children to do well at school in a restricted range of subjects, to be fitted for particular jobs or to go to university. In many instances a child's particular talents are set aside in the interests of potential material reward, educational and societal expectations. This scenario is not surprising within basic national frameworks characterized by "economic division of labor organized for private profit rather than human need"; a gender based division of occupation "that separates privatised child rearing from recognised and remunerated work"; "paid labor markets that generate a marginalised underclass"; and a globalised international political economy which increasingly subjugates its poorest workers and must then "engage in crisis management in the form of segmented social welfare concessions"⁷⁴. In addition, legislative changes that reduce risks, individuality, and experimentation also reduce occupational opportunity and satisfaction and can lead to occupational alienation, deprivation and imbalance. Even social justice and equity models are, on the whole, biased towards current social, economic, educational and health opportunities, which can lead to reduced occupational

⁷³ Kinnell M. Sceptreless, free, uncircumscribed? radicalism, dissent and early children's books. *British journal of educational studies* 1988; 36(1): 49-71.

⁷⁴ Denzin NK. *Symbolic interactionism and cultural studies*. Oxford, UK and Cambridge USA: Blackwell 1992, p 145; Fraser N. *Unruly practices*. Minneapolis: University of Minnesota Press, 1989, p.107.

choice. Social justice approaches require expansion to encompass egalitarian ideas about individual and community uniqueness, and occupational therapists could take up this particular aspect of social justice.

Community development is the fourth model to be considered. From definitions, descriptions, and views found in community development literature, I define it as:

Community consultation, deliberation and action to promote individual, family and community wide responsibility for self sustaining development, health and well-being'.

It is an holistic, participatory model, aimed at facilitating a community's social and economic development, based on community analysis, use of local resources, and self sustaining programs. It was widely used in African and Asian colonial administrations after the second world war to stimulate local leadership and, later, in rural programs aimed at mass literacy and education⁷⁵. In the 1960's, in the United States of America and the United Kingdom, community development strategies were adopted for use in socially disadvantaged urban areas to stimulate self help and innovative solutions which were cost efficient⁷⁶.

Similarly, the move towards more community based health care in Australia can be seen as a response aimed at the social and environmental origins of much ill-health and, also, at meeting the growing interest in health issues by large sections of the community. In the 1970's, Australia introduced a Community Health Program which offered a framework for funding public

⁷⁵Marris P. Community development. In: Kuper A, Kuper J, editors. *The social science encyclopedia*. London & New York: Routledge, 1985, pp.137-138.

⁷⁶In the USA community development became national policy under Title II of the Economic Opportunity Act of 1964; see Marris P, Rein M. *Dilemmas of social reform*. 2nd ed. Harmondsworth: Penguin, 1974; Marris P. *Community planning and conception of change*. London: Routledge & Kegan Paul, 1982.

and private group projects for community based preventive, diagnostic, therapeutic and rehabilitation services based in local centres and complemented by home care, day care, health education, mental health, alcohol and drug abuse programs⁷⁷. This resulted in a great variety of community based services, some, like domiciliary care, with traditional health values and others which tended to challenge vigorously conventional health ideologies, as some women's health groups did. Perhaps because of these wide ranging community initiatives, it is common to confuse 'health services based in the community' with 'community development'.

Health services in the community can adopt a community development approach by encouraging community consultation as the basis of the service, and by being responsive to underlying social factors which affect health in the long term. Such an approach is a means of enabling all people to become involved in planning, implementing, questioning and changing circumstances within their own communities so that they are economically and socially advantaged: this, it is believed, leads to improved health and to improved community health care provisions. For this reason, the strengthening of community action is one of the five strategies for health promotion prescribed in the Ottawa Charter which "accepts the community as the essential voice in matters of its health, living conditions and well-being" and asserts that "empowerment of communities, their ownership and control of their own endeavours and destinies" are "at the heart" of the community development process⁷⁸. It is often the restrictions imposed by government funding bodies which inhibit the use of community development approaches, and maintain a 'top down' delivery of services.

⁷⁷ Milio N. *Making policy: A mosaic of Australian community health policy*. Australia: Department of community services and health, 1988.

⁷⁸ Ottawa Charter for Health Promotion...

Initiatives aimed at helping communities develop systems of primary health care that cater for their specific needs, utilise available resources and are sustainable are used more commonly in economically disadvantaged countries with poorly developed health services than in post-industrial societies. Such programs may utilize various approaches such as the prevention and control of diseases through immunisation, the improvement of environmental conditions, the training of local health workers, and the development of skills to make most use of available resources for community growth. An example is provided by a reportedly very successful action-research project in two Egyptian villages which took place between 1986 and 1990. Community members, and especially the women, learned to work within, and as part of, the organisational structure of their local government as they participated in the construction and improvement of local sanitation facilities. At the same time they took part in health education concerned with the need for proper sanitation⁷⁹.

Occupational therapists leading the profession in community development often work in programs similar to the one described above; an example is Thomas's work, outlined early in the chapter. Thomas, who has also worked in Ethiopia, Sudan and Cambodia, as well as in community development programs with Aboriginal groups in Australia, promotes occupational therapy as "one of the best health-related bases" for entry into community development work, because its philosophy is compatible with "independence and self reliance", its "practical and functional approach", the "broad based training" and skills in "responsible problem solving". However she believes specialised post graduate experience or training is required to enhance knowledge of community development processes and particularly to assist in

⁷⁹ el Katsha S, Watts S. Environmental health interventions in Egyptian villages. *Community development journal* 1994; 29(3): 232-238.

analysis and mediation of political, economic and social factors and consequences of interventions⁸⁰.

One good starting point for more occupational therapists to utilise an action-research approach to community development is 'Community Based Rehabilitation' which is defined as "strategy within community development for the rehabilitation, equalisation of opportunity and social integration of all people with disabilities". It is "implemented through the combined efforts of disabled people themselves, their families and communities, and the appropriate health, education, vocational and social services"⁸¹. The occupational perspective should be taken further, however, to include all people, not just those who are disabled. Opportunities for people differ from community to community. Exploration of the underlying reasons for these differences, and how they impact on health and well-being needs to be undertaken using a community development, participatory approach. This is one of the most suitable approaches to increase awareness and promote action about the causes and effects of occupational alienation, deprivation and imbalance, with the advantage of potential to also provide support and encouragement for the self reliant, self chosen occupation which gives meaning, purpose and social approval which, earlier chapters demonstrated, are integral to health and well-being.

The last of the models to be considered is an ecological sustainability model of health. It is, perhaps, the least understood and the most vital in terms of the long term health of all people. Aggregating several definitions, I define it as the:

⁸⁰Thomas K.Comments on working in Sudan and Ethiopia. In: Wilcock AA, editor, *Health promotion and occupational therapy*. Workbook: World Federation of Occupational Therapists Congress, Melbourne, 1990.

⁸¹ W.H.O., ILO, UNESCO. *Definition of community based rehabilitation*. Geneva: W.H.O. 1994.

'promotion of healthy relationships between humans, other living organisms, their environments, habits, and modes of life'.

Based on biological and natural sciences, it, too, is an holistic model with much in common with social justice and community development⁸². Community development workers are recognising the urgency of including ecological sustainability as part of just, people centred initiatives⁸³. For example, Atkinson and Vorratnchaiphan suggest that to redress the socio-economic and ecological imbalance caused in Thailand by development evolving from European priorities, it is necessary to decentralise power and resources to local authorities and communities, and for them to undertake action planning that focuses on improved management of the environment for the benefit of local people⁸⁴.

The 1992 United Nations Conference in Rio de Janeiro on Environment and Development focused world attention on the issue of ecological sustainability but, according to the sustainable development lobby, failed to consider adequately the necessary transformational changes⁸⁵. The lobby argue that the policy prescriptions of a market industrial system based on economic rationalism are unable to deal with emerging world complexity and that that system will lead to a continuation of environmental degradation and an ever

⁸² Potter VR. Bioethics, the science of survival. *Perspectives in biology and medicine* 1970; 14: 127-153.

⁸³ International Institute for environment and development. Whose Eden? Empowering local communities to manage their wildlife resources. *IIED perspectives* 1994; 13: 3-5; Korten DC. *Sustainable livelihoods: Redefining the global social crisis, and Sustainable development strategies: The people centred consensus*. New York: The people centred development forum, 1994; Robertson J. *People centred development: Principles for a new civilisation*. New York: People Centred Development Forum, 1994; Vavrousek J. Human values for sustainable living. Editorial. *The network*. The Centre for our Common Future, 1993.

⁸⁴ Atkinson A, Vorratnchaiphan CP. Urban environmental management in a changing development context: The case of Thailand. *Third world planning review* 1994; 16(2): 147-169.

⁸⁵ The Asian NGO Coalition, IRED Asia, The people centred development forum. *Economy, ecology and spirituality: Toward a theory and practice of sustainability*. 1993

widening gap between the 'haves and the have nots'⁸⁶. Indeed, "those who control accumulated financial credits seek out ecological stocks wherever environmental frontiers remain"⁸⁷, and effect the resubordination of countries that appear to be breaking through to developed status⁸⁸. Such actions support the myth that human survival is an "economic and political science problem" which "assumes that man is free or could be free from the forces of nature"⁸⁹.

The alternative is a reduction of population growth, a restructuring of economic goals and societal values, reformation of resource policies to reflect community interests, a merging of the economic and biological in ecological decision making, and changes to make human activity more sustainable⁹⁰. Figures 9.1 and 9.2, from Bernard Campbell's *Humankind Emerging*, shown on the next page, illustrate the increasing problem of maintaining a sustainable ecology against global population growth, technological progress and resource depletion. Curbing those three processes will require fundamental change to assumptions and values about wealth that are at the heart of business relationships⁹¹. The accumulation of monetary wealth is a major factor in alienating individuals' from a sense of community and place, in the "homogenisation of cultures and of unsustainability. Sustainability requires

⁸⁶ Schroyer T. Research programs from the Other Economic Summit (TOES). *Dialectic Anthropology* 1992; 17(4): 355-390; The Asian NGO Coalition, IRED Asia. *Economy, ecology and spirituality: ...;* MacNeill J. Strategies for sustainable development. *Scientific American* 1989; 261(3): 155-165.

Only 20% of humanity account for an estimated 75-80% of the human burden on earth's ecology, but enjoy its material rewards. The 20% of humanity who live in a state of absolute deprivation, and the other 60% whose traditional lifestyles are disrupted by the promise of 'economic growth' experience ongoing social and occupational injustice.

⁸⁷ The Asian NGO Coalition, IRED Asia. *Economy, ecology and spirituality: ...*

⁸⁸ Bello W. *Dark Victory: The United States, structural adjustment, and global poverty*. London: Pluto (In association with the Institute for Food and Development Policy & Transnational Institute), 1994.

⁸⁹ Potter VR. Bioethics, the science of survival....

⁹⁰ MacNeill J. Strategies for sustainable development...; Egger G, Spark R, Lawson J. *Health promotion strategies and methods*. Sydney: McGraw-Hill, 1990, p.107; Corson WH. Changing course: An outline of strategies for a sustainable future. *Futures* 1994; 26(2): 206-223; Potter VR. Bioethics, the science of survival...

⁹¹ Stead WE, Stead J. Can humankind change the ecological myth? Paradigm shifts necessary for ecologically sustainable business. *Journal of organizational change management* 1994; 7(4): 15-31.

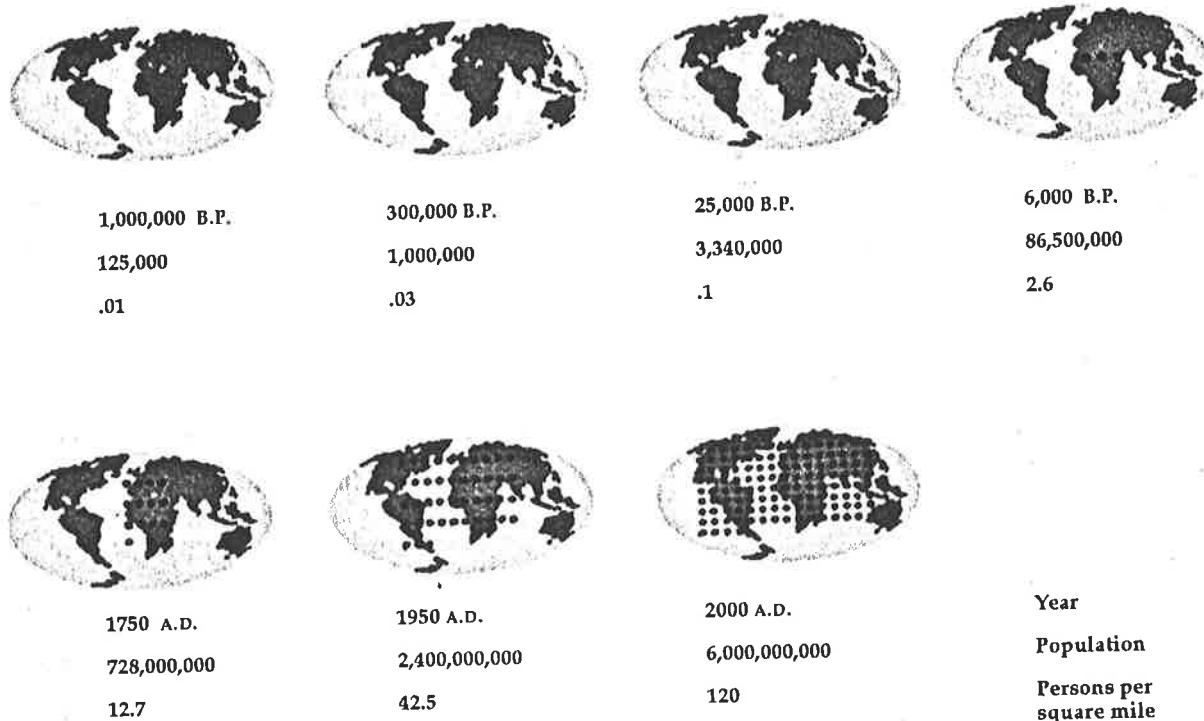


Figure 9.1: Until about 25,000 b.p. humankind was a stable part of the equilibrium existing among animals and plants. With better hunting technology, animal domestication, and agriculture, humankind began to increase dramatically and to destroy the wilderness of which they had been a part. The figures given for the population of the past are of course estimates. That for 2000 A.D. is a projection that might be reduced by an effective, worldwide population-control policy or by extensive famines. (Editor's note: The dots which appear from 6,000 BP onwards present visually the density of population per square mile.)

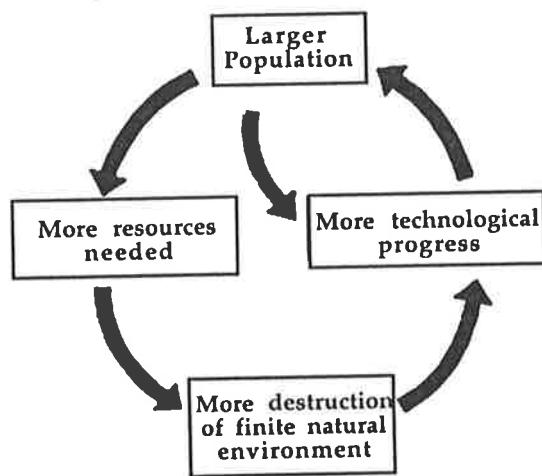


Figure 9.2: This positive feedback loop is the most dangerous to us, since it is accelerating very rapidly and involves environmental destruction. With the resource base of our livelihood seriously depleted, the survival of even our present number is threatened.

decentralisation which "distributes and roots economic power in place and community"⁹².

Public health has long recognized that the health and well-being of people cannot be divorced from the environment. Its greatest triumphs were the identification and virtual eradication of some diseases which emanated from 'sick environments'. The 'sick environments' were, on the whole, the result of human activity, the most obvious of which were the living and working conditions imposed by widespread industrialisation, mentioned in earlier chapters. Improvement in these environments led to improved physical, mental and social health. The ecological sustainability model, which is proactive as well as reactive, extends the public health approach from specific social environments to global, natural environments. New models for public health are emerging to address these concerns⁹³.

Human occupation has been a primary force in ecological degradation and, therefore, requires urgent consideration and change aimed at ecological rehabilitation. Although occupational development served to protect people from the discomfort and unhealthy effects of natural phenomena⁹⁴, people who live in cities and spend their days 'doing' in the 'technosphere of human creation'⁹⁵ have a loss of connection with ecological reality. For example, other animals and plants have become regarded and treated as if their only purpose were to serve humans. The widespread practices of replacing natural plants with exotics, hunting and fishing for sport rather than need, and the

⁹²The Asian NGO Coalition, IRED Asia. *Economy, ecology and spirituality...*

⁹³ Labonte, an international leader of the health promotion movement, for example, uses 'econology' to describe a union between economy and ecology in theories which integrate health and sustainable development. (Labonte R. Econology: Integrating health and sustainable development. Part one: Theory and background. *Health promotion international* 1991; 6(1): 49-64; Labonte R. Econology: Integrating health and sustainable development. Part two: Guiding principles for decision making. *Health promotion international* 1991; 6(2): 147-156).

⁹⁴Ehrenfeld D. *The Arrogance of humanism*. New York: Oxford University Press, 1981. p.10.

⁹⁵Dubos R. *Only one earth*. London: Doubleday, 1988.

killing of any animal that dares to attack a human demonstrate this propensity. In addition, the very successful public health initiatives which condemned animals as the carriers of disease, linked with the hygienic, 'domesticity cult', separated humans still further from other species. It maintained the human superiority argument, and gave permission for material wants to be considered more important than an ecological way of life in which all are dependent on each other. Darwinian theories failed to halt the segregation of people from other species and even today, when researchers are demonstrating substantial health benefits of pets to humans, there remain many rules which restrict human - animal partnerships⁹⁶. The philosophy of humanism is in question here. The drive to "rearrange both the world of Nature and the affairs of men and women so that human life will prosper", despite Nature, is humanism gone awry⁹⁷. Spiritual and occupational alienation, and consequent loss of well-being, is a largely unrecognised sequelae. Many believe that, in the short term, an ecological sustainability model is essential to decrease widespread spiritual alienation resulting from peoples' loss of contact with the natural world which, it is supposed, may account for increasing levels of stress and violence, the use of drugs and addictive responsiveness to marketing strategies⁹⁸. In the long term an ecological sustainability model is also necessary to maintain the requirements for basic sustenance of life.

⁹⁶ See for example: Moore JC. 1975 Eleanor Clark Slagle Lecture: Behaviour, bias, and the limbic system. *The American journal of occupational therapy* 1976; 30(1): 11-19; Vombrock J. Cardiovascular effect of human-pet interventions. *Journal of behavioural medicine* 1988; ii(5): 509-517; Hundley J. The use of pet facilitated therapy among the chronically mentally ill. *Journal of psychosocial nursing* 1991; 29(6): 23-26; Harris M. Pet therapy for the homebound elderly. *Caring* 1990; 9(9): 48-51; Chinner T. An exploratory study on the viability and efficacy of a pet facilitated therapy project within a hospice. *Journal of palliative care* 1991; 7(4): 13-20; Fick KM. The influence of an animal in social interactions of nursing home residents in a group setting. *The American journal of occupational therapy* 1993; 47(6): 529-533.

⁹⁷ Ehrenfeld D. *The arrogance of humanism*. p.10.

⁹⁸ Southeast Asian contribution to the Earth Charter. *In our hands*. Southeast Asia Regional Consultation on a People's Agenda for Environmental Sustainable Development: Towards UNCED and Beyond. SEARCA. Philippines 1991.

The occupational action-research approach should, as soon as possible, focus on how people can meet their creative potentials without damaging the environment, so that future health and well-being is ensured⁹⁹. Critical theorists could be potential allies in this process if they heed Bronner's call "to reconsider the notion of progress and human well-being"¹⁰⁰. Other research, education and action would focus on discovering the natural balance of occupation in daily life, of the richness and wisdom of indigenous people with regards to occupation and the ecology, of natural ontogenetic timing of occupational drives and needs, and attributes of humanism which include what promotes the health and potential of all species and environments.

The five models I have just discussed were chosen, in part, because different aspects of occupational health are demonstrated and, in part, because together they represent a holistic paradigm for health promotion practice. They also, in large measure, summarise the outcomes of the exploration undertaken in this history of ideas. Wellness is aimed at individual maintenance and improvement in health, including biological needs and physiological factors such as homeostasis, mental and spiritual growth towards potential and self actualisation within socio-culturally approved and supported mores. Individual patterns of occupation, occupational balance, satisfaction, creativity, choice, and opportunity to meet unique capacities and potential are important here. Preventive medicine is concerned with preventing people from experiencing negative health outcomes and, with limiting risk factors which impinge upon

⁹⁹Loretta do Rozario, for example, as a group leader in a Health Promotion Workshop presented by me (World Federation of Occupational Therapists Congress 1990) developed with her group the following 'Ecological vision of occupational therapy':
"Occupational therapists will work towards the harmonious relationship of people with their environment, by empowering individuals and communities toward health, well-being and sustainability through the use of interaction, occupation and socio-political action"

This is quoted in: do Rozario L. Keynote address. Purpose, place, pride and productivity: The unique personal and societal contribution of occupation and occupational therapy. Australian Association of Occupational Therapists 17th conference proceedings. Darwin, 1993.

¹⁰⁰Bronner SE. Of critical theory and its theorists. Oxford, UK and Cambridge, USA: Blackwell, 1994, p.349

the health of individuals and communities. Individual and community occupations and occupational institutions which erode health and lead to disability, disease and death are central to this approach. Social justice approaches aspire to a more equitable experience of health, equitable access to conditions which are health giving and to health services for all people. Occupational inequities and injustices prevail universally, affecting health outcomes negatively: action-research towards identifying and eradicating both inequities and injustice is required urgently. Community development approaches seek community health and well-being in a broad perspective which concentrates on socio-cultural institutions and activities in conjunction with particular health strategies. Much of this approach is based on development of self sustaining occupational infrastructures which will support community life so that its members experience increased and ongoing health and well-being. Ecological sustainability approaches strive towards the transformation of economic, political, socio-cultural and human values and actions to halt the destruction of the eco-system so that the world and its interdependent life systems and organisms will survive healthily in the long term. As the occupational nature of people is, in large part, to blame for the underlying factors which have lead to the present unacceptable state of the ecology, the transformation of occupational behaviours, which meet both human and ecological needs is essential.

The action-research approach chosen corresponds with the philosophical tradition and directions of the founders of occupational therapy outlined in the 1917 objectives of the American National Society for the Promotion of Occupational Therapy. The exploratory-research phase is in tune with "the study of the effect of occupation upon the human being"; the education-awareness raising phase is in accord with "the scientific dispensation of this knowledge"; and the action and community change phases have much in common with the notion of "the advancement of occupation as a therapeutic

measure"¹⁰¹, if therapy is considered as "activity...intended to remedy or alleviate a disorder or undesirable condition"¹⁰².

The major change necessary from current research in occupational therapy, is to an emphasis on underlying socio-cultural and ecological occupational issues and the use of critical research approaches, and from current practice is an emphasis on communities, occupational justice and socio-ecological-political action. It is debatable whether occupational therapists will make such changes, although they have the philosophical persuasion and the potential to contribute a wide ranging and holistic occupational perspective in the arena of public health. As Bockoven foresaw, if this occurs "the occupational service worker" will be "divorced from medicine" with a "base of growth outside the hospital. He will belong to the educational and economic life of the community, to which he will contribute a much-needed kind of knowledge, and in which he will be a force in fostering respect for occupations"¹⁰³.

This expansion of role would recompense for the failure to act on the challenge posed to human's occupational natures by industry and capital at the time of the profession's genesis, as discussed in chapter seven. I believe that failure to recognise the underlying factors which continue to influence the relationship between occupation and health, and failure to accept responsibility for research and action in this domain would be negligent. However, there is a major problem. Occupational therapy continues to be largely unrecognised as a scientific discipline with a distinctive and important contribution to make to public health, and for it to articulate and follow a direction different from dominant paradigms implies that the profession has 'to stick its neck out'. A

¹⁰¹ Certificate of Incorporation of the National Society for the Promotion of Occupational Therapy, Inc. (1917). *Then and now: 1917-1976*. American Occupational Therapy Association, 1967, pp.4-5.

¹⁰²Therapy: *Funk and Wagnall's standard desk dictionary*. Harper & Row, Publishers 1984, p.701.

¹⁰³Bockoven JS. Occupational therapy: A neglected source of community rehumanization...p.219.

leading Australian social commentator suggests that although in current society there is a "need to encourage new ideas, dissident views, debates and critics", those who argue have had "to speak the same language and work from similar sets of assumptions to those in power"¹⁰⁴. Does this mean that occupational therapists' different views will not be heard unless they modify them? What of making use of the Ottawa Charter's occupational directions? People listening to new ideas often only interpret from their own perspective. In the case of the Ottawa Charter I contend that although it recognises that health is inextricably bound up with what people do, it has been interpreted within public health from its own dominant paradigms, and the occupational elements have been largely disregarded. This leaves a major question as to whether public health will welcome or even recognise the potential contributions of occupational therapy's distinct and different viewpoint.

I started the thesis with a strong belief in a relationship between occupation and health, and a conviction that occupational therapists could make a unique and valuable contribution to public health. However, it was not until after several years of study that I came to understand the relationship in terms of a theory of human nature, and occupational therapist's potential contribution in the broad approach outlined here. Within the confines of the thesis it was possible to explore only some of the more obvious connections and philosophical associations such a theory implies. These have, however, tested the theory in many directions, and in the main, supported its contentions.

A theory of human nature must consider the biological characteristics that all humans share. As well, because I was relating the theory to health and survival, it appeared wise to subject it to other notions about health and survival of a

¹⁰⁴Cox E. A truly civil society: Lecture 1: Broadening the views. *The 1995 Boyer lectures*. Australia: Radio National Transcripts, Tuesday 7th November, 1995.
The Boyer lectures are an analogue, in Australia, to the BBC's Reith lectures.

biological nature which have been subjected to rigorous study by scientists of many disciplines. For this reason I explored ideas held by evolutionary scientists and geneticists, and considered the theory in terms of neuroscientific understanding of human behaviour. This furthered my belief that physiological systems support and promote occupational behaviour to such an extent that the need 'to do' is so natural; so much a part of being, that humans have failed to recognise it as an entity. Instead they have reduced the holistic concept of occupation by dividing it, and then made it more complex by endowing specific aspects with particular value.

The value and the division of occupation has altered with its evolution and because of cultural diversity, in part, because human's occupational nature has immense variability, so that no two people have the same occupational potential or needs, and these are susceptible to and developed according to environmental demands. Despite the variability it was possible to tease out four major functions of occupation which provide for sustenance, self care and shelter; safety from and superiority over predators and the environment; balanced exercise of personal capacities; and the enabling of individual development so that each person and the species will flourish. These form a three way link with survival and health.

The variability between people and cultures made it important to subject cultural evolution to an occupational perspective: this reinforced a view held by many that human action (occupation) shapes culture, and is, in turn shaped by culture. People's potential for new and different pursuits, for exploring ways of making their lives easier, and giving themselves time for chosen occupations has led to a situation in which the products and results of human occupation appear to have assumed a greater importance than 'natural' human need or the health and survival of the ecosystem on which humans depend.

An exploration of the history of ideas which surround health, well-being and ill-health was a natural extension of the issues and concerns arising from chapters 2, 3 and 4. It uncovered underlying determinants which have resulted from human's occupational natures, from the economic base of societies, the ways of structuring them, and the values that emanate from them. The institutions and activities resulting from these foundations, and their effect upon the occupational experience of individuals and communities can lead to positive or negative health outcomes. Although some of these have been recognised by world and public health authorities there is little action to promote the positive or inhibit the negative from an occupational perspective.

In an analysis of the foundation philosophies of occupational therapy and a review of its unique but repressed history, a picture emerges of a profession with particular strengths in conceptualising humans from an occupational perspective. Not only that, they have other assets which have been represented in health promotion rhetoric as essential, such as a person centred, enabling approach which considers environmental as well as physiological factors. In reviewing attitudes to a change of emphasis towards a health promotive approach, most therapists appear to be already committed in that direction. Yet despite all this in their favour, community agencies are hesitant to employ them, and I know of no departments of public health with occupational therapists on their team.

Occupational therapists, whilst interested in health promotion, may not be willing to change direction to the extent of the approach I suggest. It is possible that a modified or less extensive approach may be more appealing. However, I am convinced that the study of health, from this perspective, requires serious and immediate consideration, research and action at individual, community and environmental levels. Action-research developed from the same conceptual base as occupational therapy, and is an obvious choice of

methodology, alongside epidemiology, to explore the underlying determinants of health and ill-health from an occupational perspective.

Dubos observed that humans are faced with a future in which "the biosphere of his inheritance, (and) the technosphere of his creation - are out of balance, indeed potentially in deep conflict"¹⁰⁵. The debate about the conflict between nature and nurture remains critical. Occupation is central in both. This is a matter which will affect health scientists a long way into the future, but will not be solved if the occupational nature of humans is not considered.

¹⁰⁵Dubos R. *Only one earth...*

Appendix I

An exploratory study of people's perception and experiences of well-being.

Introduction.

This appendix reports briefly on a 1991 exploratory study of people's perception and experiences of well-being, by a group of third year occupational therapy students led by me. To reduce repetition, readers are referred to the literature relating to 'wellbeing' in chapter 5.

With the current trend of health initiatives towards the promotion of health it is being recognised that health and 'well-being' are closely related and are linked with everyday life, with opportunity for personal development, and with caring communities¹. However, the literature relating to how people perceive well-being is limited, as most studies assign pre-determined criteria for its measurement. In these, well-being has been variously related to income, financial status, employment, social supports, community cohesion, marital state, education and religious attitudes, beliefs and activities².

Despite the many and various definitions of well-being by 'experts', it is necessary to explore what well-being means to people generally; if it can be defined; or if, like health, it is a feeling that can be experienced differently, and explained in many ways. It is necessary because health professionals need to understand well-being if they are to enable the people with whom they work to maximise this experience, to enhance health and reduce illness.

This study predicts that what constitutes well-being for different people will vary, not only because of the uniqueness of human beings, but because

of the potential for variation in the physical, mental and social dimensions frequently used to describe well-being, and because individuals may assign different levels of significance and meaning to these dimensions.

Method

The study was conducted as a two part questionnaire, in and around the City of Adelaide in South Australia. Section A asked five open ended questions in order to obtain each individual's ideas about well-being, and section B collected demographic data.

Seven convenience cluster samples were selected

High school students	20
Elderly citizen villagers	20
Family units	20
A neighbourhood	20
City mall users	20
Church attenders	20
Fourth year occupational therapy students	30

A questionnaire was designed by the research group, then trialed on twelve people known to them before being finalised. Respondents were asked to complete section A without assistance. If required, the researchers offered clarification for section B which was always completed after section A. This procedure was determined to reduce the risk of demographic questions influencing the content of responses given about well-being.

The specific method of administering the questionnaire varied according to the nature of each cluster, for example the city shopping mall users were approached randomly and asked to participate, but students were given the

questionnaire in a group in a classroom. Each researcher collected data from one cluster.

Results

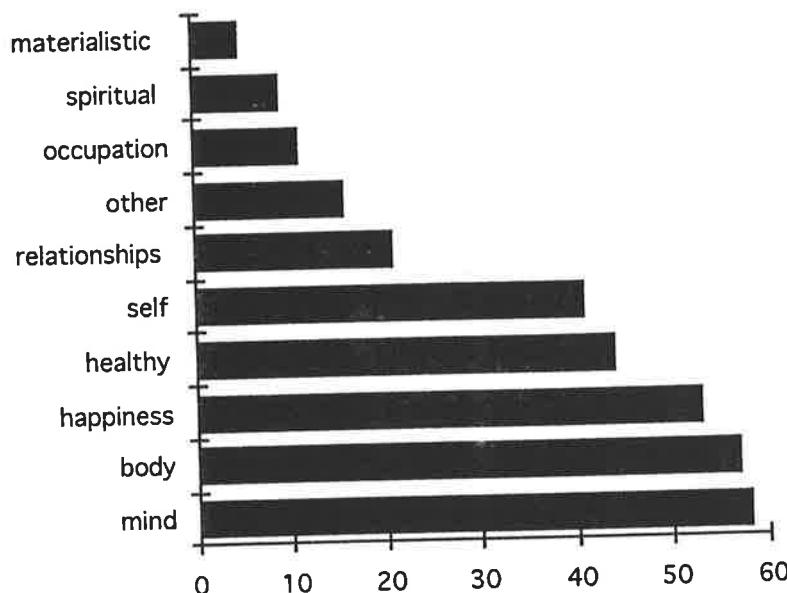
Description of the sample:

The total number of completed questionnaires available for analysis was 138, with 39.1% of respondents being between 13 and 21 years of age, 24.6% between 22 and 35 years, 13.8% between 36 and 50 years, only 5.1% between 51 and 65 years and 17.4% between 66 and 90 years. Sixty nine percent were female, and 31% were male, and 76.8% identified themselves as Australians, with all but 6 of the remainder identifying with areas in Europe. Approximately 37% were in married or in de facto relationships, and 62% were single, divorced or widowed. Seventy-one percent of subjects identified themselves as belonging to a Christian religion, and of these approximately 49% identified themselves as active members. About half of the respondents had not yet completed their formal education, and only 6 identified themselves as unemployed, excluding the retired, volunteer workers and homemakers, and over 75% received some income. These variables were not found to influence the descriptions of well-being in any significant way.

Almost 90% of the responses to how subjects would describe well-being or positive wellness could be coded according to 9 distinct categories. The remainder are included in 'other' (11.6%). The three most common responses described well-being as being mentally sound, having a physically 'good' body and being happy, and the fourth most frequent response was being 'healthy'. The next most popular response concerned concepts such as self esteem, self confidence and 'feeling good about oneself' (These are included in the category 'self'). The range and frequency of categories is displayed in Table 1 and Figure 1, and the total number of responses is greater than the sample because some gave more than one answer.

Table 1: Respondents' descriptions of well-being

Description	mind	body	happi- ness	healthy	self	relation- ships	other	occupa- tion	spiritu- al	material- istic
Frequency	58	57	53	44	41	21	16	11	9	5
Percentage	42%	41.3%	38.4%	31.9%	29.7%	15.2%	11.6%	8%	6.5%	3.6%

Figure 1: Respondents' description of well-being

In answer to a question about whether they had experienced well-being, 127 (94.8%) affirmed they had, seven had not, and there were 4 missing values (see Table 2). Those who had not experienced the feeling were directed to section B because they would be unable to describe what they had not felt.

Table 2: Respondents who experienced well-being (n = 138)

	Yes	No	Missing Values
Total	127	7	4
Percentage	92%	5%	3%

The majority of respondents experienced well-being frequently. Coded under 'frequent' were responses such as '2-3 times a week', '75% of the

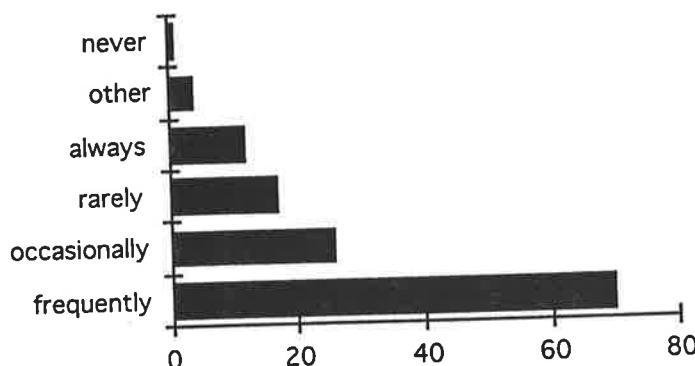
time', 'daily', 'more often than not', and 'most of the time'. See Table 3 and Figure 3.

Table 3 Frequency of respondents' awarenesses of well-being (n=131)

Occurrence	frequently	occasionally	rarely	always	other	never
Frequency	70	26	17	12	4	1
Percentage	50.7%	18.8%	12.3%	8.7%	2.9%	0.75%

(1 missing values)

Figure 3: Frequency of respondents' awarenesses of well-being



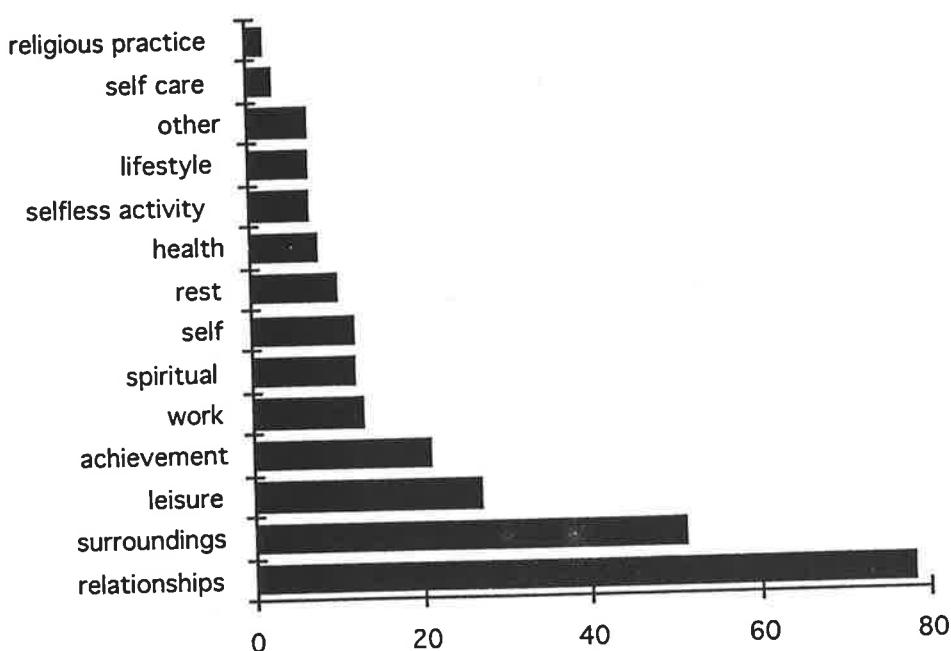
Responses to the type of situations or environments which respondents associated with well-being were coded into 13 categories, with a fourteenth, 'other' category for those which did not fit any of these. The most common responses concerned relationships with others (56.5%) and surroundings (37%). The range of categories are itemised according to frequency in Table 4 and Figure 4. The number of responses is greater than the sample because some respondents gave more than one answer.

Table 4: Situations or environments with which respondents associated well-being

Situation	relationships	surroundings	leisure	achievement	work	spiritual	self
Frequency	78	51	27	21	13	12	12
Percentage	56.5%	37%	19.6%	15.2%	9.4%	8.7%	8.7%

rest	health	selfless activity	lifestyle	other	self care	religious practice
10	8	7	7	7	3	2
7.2%	5.8%	5.1%	5.1%	5.1%	2.2%	1.4%

Figure 4: Situations or environments with which respondents associated well-being

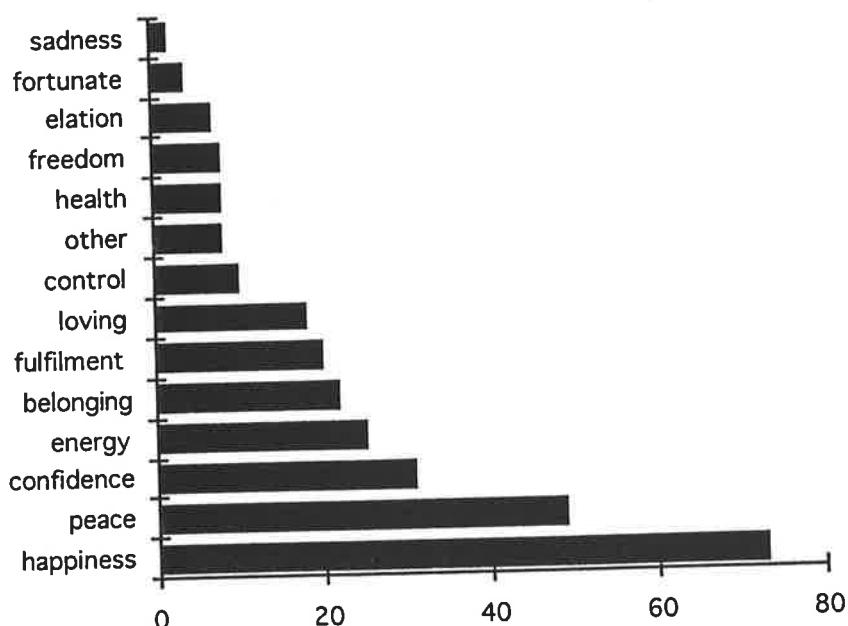


In answer to question 5, which invited respondents to describe the sorts of feeling they associated with the experience of well-being, the outstanding response was happiness (52.9%). Other feelings reported frequently were peace (35.5%), and confidence (22.5%). It is perhaps surprising that sadness was included as a feeling associated with well-being by two of the respondents. The range and frequencies of feelings are displayed in Table 5 and Figure 5. The number of responses is greater than the sample because some respondents gave more than one answer.

Table 5: Respondents' descriptions of feelings associated with well-being.

Feelings	happiness	peace	confidence	energy	belonging	fulfilment
Frequency	73	49	31	25	22	20
Percentage	52.9%	35.5%	22.5%	18.1%	15.9%	14.5%
loving	control	other	health	freedom	relation	fortunate
18	10	8	8	8	7	4
13.0%	7.2%	5.8%	5.8%	5.8%	5.1%	2.9%
sadness	2					
1.4%						

Figure 5: Respondents' descriptions of feelings associated with well-being.



Discussion

The prediction that what constitutes well-being for different people will vary, was indeed, found to be the case, although the descriptions of well-being provided by the respondents to this study are consistent with the literature relating to both health and well-being. Three of the most common responses which described well-being as being mentally sound, having physically 'good' body, and being 'healthy' appear to be reasonably consistent with Blaxters findings ³, and 'being happy' seems to support my argument, in chapter 5, that happiness is a primary human need. The frequency of the responses relating to having a physically 'good' body seems to reflect the fact that a large number of the respondents were under the age of 21 years, and physical aspects of health appear to be more important to this group than to older people.

The fact that most people identified that they experienced well-being and that it was, for over 50% of these people, a frequent occurrence, may also be an artefact created by a sample which was not fully representative of the

population. The age and gender bias, the small numbers of unemployed, the lack of cultural diversity, and the large number of school or university students may well have given a particular cast to the results, and it would be interesting to carry out similar studies with a more representative sample, and with particular groups, such as the unemployed, ethnic communities or the disabled, for comparison.

Despite the inadequacies of the sample, the strength of 'relationships' as a situation which many respondents associated with the experience of well-being supports many other studies which have found that health and social relationships are inextricably and strongly associated with each other. Interesting also are the number of occupational categories such as work, leisure, rest, religious practices, selfless activity, self care and achievement which when added together total 83 responses (60%). This total does not take into account any occupations carried out in conjunction with social relationship or spiritual (as opposed to religious) situations, so it could well be that most of the sample identified some form of occupational situation or environment as one of the circumstances associated with their experience of well-being.

The feeling of happiness that respondents associated with their own experience of well-being was consistent with how they described well-being per se. Some words used reflect those in the Ottawa Charter such as peace and freedom, and other words, such as confidence, energy, control and fulfilment the occupational associations noted above. The descriptions are in line with health promotion rhetoric, but seem far removed from conventional medical priorities. The insights into the experience of well-being provided by this study, notwithstanding the distortions resulting from the sampling, suggests that more than a particular procedure needed to prevent or reverse illness may be required for people to experience well-

being. Two important follow up questions to consider are firstly, whether well-being is the concern of health professionals and secondly, whether well-being, which is a requisite of positive health, has a protective effect against illness and disease.

¹ World Health Organisation. *Constitution of the World Health Organisation*. International Health Conference, New York, 1946; World Health Organisation, Health and Welfare Canada, Canadian Public Health Association. *The Ottawa charter for health promotion*. Ottawa, Canada: 1986.

² Cohen P, Struening EL, Genevie LE, Kaplan SR, Muhlin GL, Peck HB. Community stressors, mediating conditions and wellbeing in urban neighborhoods. *Journal of Community Psychology* 1982; 10: 377-390; Argyle M. *The psychology of happiness*. New York: Methuen & Co., 1987; Koeing H, Kvale J, Ferrel C. Religion and well-being in later life. *The Gerontologist* 1988; 28 (1): 19-27; Ullah P. The association between income, financial strain and psychological well-being among unemployed youths. *The British psychological society*. 1990; Burckhardt C, Woods S, Schultz A, Ziebarth D. Quality of life of adults with chronic illness: A psychometric study. *Research in nursing and health* 1989; 12: 347-354; Isaksson K. A longitudinal study of the relationship between frequent job change and psychoogical well-being. *Journal of occupational psychology* 1990; 63: 297-308; Warr P. The measurement of well-being and other aspects of mental health. *Journal of occupational psychology* 1990; 63 (4): 193-210; Homel R, Burns A. Environmental quality and the well-being of children. *Social indicators research* 1989; 21: 133-158; McConatha JT. McConatha D. An instument to measure self-resposibility for wellness in older adults. *Educational gerontology* 1985; 11: 295-308.

³ Blaxter M. *Health and lifestyles*. London: Tavistock / Routledge, 1990.

Appendix II

Occupational therapist's views of the relationship between health and occupation

This appendix documents a 1991 survey of fifteen occupational therapists who were the total number of attendees at a seminar. They were all female, and their professional experience varied from 1 to 25 years.

Subjects were given an A4 sheet with the question "what is the relationship between occupation and health?". A box in the centre of the sheet held the words OCCUPATION AND HEALTH. From the box eight lines radiated outwards. Subjects were asked to record their immediate responses to the question at the end of each line.

The responses were categorised and eight definite themes emerged. They are mental, physical, social, function, brain/body, quality of life, nature of the relationship between occupation and health, and environment. Responses were grouped under these categories and counted to determine the frequencies. The most common responses were also noted. These are recorded in the table below:

category	frequency	key words (common responses)
mental	28.5%	self esteem, motivation, meaning, satisfaction, purpose, concentration
function	16%	goal directed, skills, talents, opportunities, competence
physical	13.5%	energy, strength, exercise, tone, cardiovascular fitness
social	12.5%	role, status, relationships, value
body/brain	10%	balance, growth, unity, capacity
quality of life	7%	q of L, well-being, positive
nature of relationship	6%	direct, inseparable, complementary, interdependent
environment	2.5%	adaptation, ecological, global
Other	4%	hard to define, occupational therapy

Table 1: Fifteen occupational therapists' views of the relationship between occupation and health.

Appendix III

The relationship between occupational balance and health: A pilot study.

Introduction.

This appendix reports briefly on a pilot study undertaken in 1992 by a group of third year occupational therapy students led by me. The research group investigated one concept of occupational balance and the relationship between it and health. To reduce repetition, readers are referred to the literature relating to balance, physical, mental, and social well-being, sleep and rest which is considered in the body of the thesis.

A balanced lifestyle is widely acclaimed as necessary for health and well-being. This notion is central to the philosophical base of occupational therapy provided by Adolf Meyer in 1922, and reaffirmed many times throughout the profession's history¹. Rogers, for example, in 1984, held that "occupational therapy rests on the belief that a balance of self-care, play, work and rest is essential for healthy living", and that occupation is the means by which balance is achieved, and physical and mental well being attained². Although the validity of the beliefs and claims about the necessity for occupational balance has not been widely researched, anecdotal and observational data tends to support its truth.

Whilst most studies of occupational balance and health have focussed on the interplay of work, rest and leisure, it was decided by the research group that because these terms are culturally defined, with no clear physiological boundaries, they may not truly measure 'occupational balance'. Instead, the researchers chose to consider occupational balance in terms of physical, mental, social and rest occupations, more or less in line with the W.H.O.

definition of health, but including rest, because these categories embrace both biological and socio-cultural factors.

Method

Subjects were chosen using a cluster sampling method, involving seven clusters of people in different living situations and of a broad age range. The sample included three family clusters, a school age group, an elderly group, and two working age groups, one from the city and one from the country. There were 146 respondents, some of whom were known to the researchers and selected because of their particular circumstances, such as belonging to a three generational family. Others were selected by door-knocking, and yet others by asking for volunteers at school or office. Anonymity of subjects was ensured as untreated data was only handled by the research group and kept confidential, and the demographic data did not identify respondents in any way.

Note: The sample was restricted to caucasians because of it's size. Random sampling was not possible within the constraints of this pilot study but would ensure generalisability of results in a larger study and provide interesting comparisons of possible balance variations between cultural groups.

A questionnaire was designed by the researchers. Respondents were asked to rate, on a table as shown below, firstly, their current, and secondly, their ideal involvement in physical, mental, social and rest occupations according to a four point scale - none, low, moderate, and high.

	none	low	moderate	high
Physical				
Mental				
Social				
Rest				

They were also asked to rate their health on a five point scale, where one was poor health and five was excellent health.

Note: A five point scale for the occupation categories, and a six point scale for health with more than two descriptive terms on the scale may have increased the sensitivity of the instrument.

The questionnaire was tested on acquaintances, and adjusted for 'user friendliness' according to their feedback. To improve inter-researcher reliability, the researchers devised procedures for administering the questionnaire and answering respondent's questions.

The work of gathering the data was divided evenly between the student researchers, with each being responsible for a cluster of at least twenty respondents.

Results

The ages of the respondents ranged from 13 to 85 years, with a mean of 40.9 years ($SD=20.57$). Forty-seven point three percent ($N=69$) were male and fifty-two point seven percent ($N=77$) were female. Seventy-four point seven percent ($N=109$) of the respondents were from the Adelaide metropolitan area, and twenty-five point three percent ($N=37$) were from South Australian country areas. The sampling closely mirrored gender and urban/rural distributions in South Australia (See Table 1).

Sample Characteristics	% of the Research Sample	% of the South Australian Population
Gender		
Male	47.3	49.33
Female	52.7	50.67
Environment		
City	74.7	68.33
Country	25.3	31.67

Table 1. Comparison of the research sample to the population of South Australia (Australian Bureau of Statistics, October 1992).

The responses to the questions about current and ideal balance were collected on a table as shown in the methods section. As the level of involvement in physical, mental, social and rest occupations was rated from 0=none to 3=high, two four digit patterns emerged for each respondent, one indicating their current perceived occupational balance and the other their perceived ideal balance. For example a respondent's current balance may be 1322 which indicates they have a low level of involvement in physical occupations, a high level in mental occupations and a moderate level of social and rest occupations. In contrast their ideal occupational balance may be 3333 indicating that a high level of involvement in physical, mental, social and rest occupations is their perceived ideal. Two hundred and fifty-six pattern configurations are possible.

The patterns of current balance showed wide variation among respondents with fifty five different patterns being chosen, but only two of these were chosen more than eight times. The most frequently chosen of the current occupational patterns (10.3% of respondents [N=15]) was moderate involvement in physical, mental, social and rest occupations (2222). The second most frequently chosen pattern (8.2% of respondents [N=12]) was high involvement in mental occupations, with moderate involvement in the other three categories (2322). Nine point three percent of respondents [N=13]

reported a current balance with no involvement in one or more categories. (See table 2).

	Number of pattern configurations	Number of respondents	Percentage of total sample population
2222	1	15	10.3%
2322	1	12	8.2%
Pattern chosen only once	23	23	15.75%
Pattern chosen 2 to 8 times	30	96	65.75%
Total	55	146	100%

Table 2. Current occupational pattern configurations chosen by the total study population.

The patterns of ideal balance showed less variation. Thirty nine different patterns were chosen, with 4 patterns chosen more than eight times. They were 2222, 3322, 3332, and 3333. The most frequently chosen pattern of ideal occupational balance was moderate involvement in all four categories (2222). This was chosen by 42 respondents (28.8%). A pattern of high levels of involvement in all categories (3333) was the next most frequently chosen pattern, and included 13 of respondents (8.8%). Furthermore, 112 of respondents (76.7%) chose an ideal balance configuration consisting of at least moderate involvement for all four occupational categories. (See table 3)

	Number of pattern configurations	Number of respondents	Percentage of total sample population
2222	1	42	28.8%
3322	1	9	6.2%
3332	1	9	6.2%
3333	1	13	8.8%
Pattern chosen only once	22	22	15.1%
Pattern chosen 2 to 8 times	13	51	34.9%
Total	55	146	100%

Table 3. Ideal occupational pattern configurations chosen by the total study population.

For a comparison of ideal and current patterns see table 4.

Ideal	Once only	2 to 8 times	2222	3322	3332	3333	Total
Current							
Once only	8	9	4	-	-	2	23 15.75%
2 to 8 times	12	38	25	3	9	9	96 65.75%
2222	1	1	11	2	-	-	15 10.3%
2322	1	3	2	4	-	2	12 8.2%
Total	22	51	42	9	9	13	146 100%

Table 4. Crosstabulation: Current occupational pattern configurations by ideal occupational pattern configurations for the total study population.

Respondents were asked to rate their health on a five point scale. The mean health score on the five point scale was 3.58 ($SD=.88$), with the scores ranging from 1 to 5. To simplify the comparison of health with occupational balance, those with health scores of 1 to 2 (13 respondents [8.9%]) were classified as having 'poor health', those with scores of 3 to 4 (112 respondents [76.7%]) as having 'fair health', and those with 5 (21 respondents [14.4%]) as having excellent health. (See table 5).

Health	Poor	Fair	Excellent	Total
Current pattern				
2222	-	10	5	15 10.3%
2322	-	10	2	12 8.2%
once only	2	19	2	23 15.75%
2 to 8 times	11	73	12	96 65.75%
Total	13 8.9%	112 76.7%	21 14.4%	146 100.00%

Table 5. Crosstabulation: Current occupational pattern configurations by health for the total study population.

Because no appropriate statistical technique was found which was capable of analysing the composite balance scores, in order to compare health against

current and ideal balance, a score was developed by the researchers for each respondent on the number of occupational categories that changed between current and ideal balance. For example if the current pattern was 1321 and the ideal was 3333 the number of categories that changed is 3, that is physical, social and rest levels changed, but mental levels of involvement did not (see Figure 1).

	Physical	Mental	Social	Rest	
Current pattern	1	3	2	1	
Ideal pattern	3	3	3	3	
Note 1 for any change between current & ideal	1	+	0	+	1 = 3

Figure 1. Example of method to obtain the total number of categories changed between current and ideal patterns.

This score was compared to the three category health scores, using a one-way analysis of variance, and a significant result was obtained ($F=10.476$, $df=2/143$, $p=.0001$).

To further refine this analysis a second score was developed according to how close respondent's current occupational balance was to their ideal balance. This score indicated the total number of changes between current and ideal balance patterns, and was obtained by subtracting the lowest from the highest rating in each category. In the example used above where the current pattern was 1321 and the ideal was 3333 the difference is 5, that is, $2+0+1+2=5$ (see Figure 2). Although a crude measure, this procedure showed that the lower the score the closer current levels of involvement are to the ideal.

	Physical	Mental	Social	Rest	
Current pattern	1	3	2	1	
Ideal pattern	3	3	3	3	
Subtract lowest from highest in each category	2	+	0	+	1 + 2 = 5

Figure 2. Example of method to obtain the total number of changes between current and ideal patterns.

A oneway analysis of variance was also used to compare these scores to the three categories of health. Again this revealed a significant result ($F=10.165$, $df=2/143$, $p=.0001$).

Table 6 illustrates the relationship of these two scores compared with health scores for the three categories of health. It provides the mean difference of the total number of changes between current and ideal patterns, and the mean of the number of categories changed.

Health	mean difference total no. of changes between current and ideal patterns	mean number of categories changed
Poor	3.462	2.923
Fair	2.232	1.973
Excellent	1.238	1.19

Table 6. The mean difference of the total number of changes between current and ideal patterns and the mean of the number of categories changed by health groupings.

A comparison of mean scores for the three categories of health revealed that the less the difference between the two configurations of current and ideal occupational balance, the healthier the group was. Table 7 which shows the mean health score and the most commonly chosen current and ideal occupational pattern configuration for each age group also illustrates this point as the 65-85 age group had the highest health score, and the least difference between current and ideal pattern.

Age group	Number in group	Health score	Current pattern	Number & percentage respondent s	Ideal pattern	Number & percentage respondent s
13-24	46	3.63	2322	7 (15.2%)	2222	9 (15.6%)
24-44	42	3.64	2322	3 (7.1%)	2222	9 (21%)
45-64	32	3.37	2332	4 (12.5%)	2222	12 (37.5%)
65-85	26	3.65	2222	7 (26.9%)	2222	12 (46.2%)

Table 7. The mean health score and the most commonly chosen current and ideal occupational pattern configuration for each age group.

Only 18 respondents (12.3%), had identical current and ideal balances, however each of these respondents reported their health to be fair or excellent. Of those respondents whose health was scored as excellent, 8 (38.1%) were in the group that recorded no change between current and ideal balance.

Discussion

This pilot study reveals some important insights into the relationship between one concept of occupational balance and health which merits further investigation, particularly as those respondents who reported their current and ideal occupational balance to be identical also reported their health to be fair or excellent, whilst none of the respondents who reported poor health rated their current balance as identical to their ideal balance.

The three health groupings were found to be significantly different in terms of the difference between current and ideal balance, and in the number of categories which required change to attain ideal rather than current balance. The difference indicated that health is strongly related to closeness to ideal balance. This was also true according to age groupings, with those who reported the poorest health also recording the greatest difference between their current and ideal balance patterns. These were in the middle age bracket from 45 to 64 years. The oldest group, between 65 and 85 years reported the highest health score and the least difference between their current and ideal balance patterns.

One factor, which, in the light of the history of ideas explored in the thesis, does not seem surprising, is that occupational balance, measured in this way, varies between people. Current occupational patterns showed wide variation among respondents and, for almost 90% of the respondents, current

occupational balance was different to how ideal occupational balance was perceived.

Despite the differences, a picture of ideal occupational balance began to emerge, as over three quarters of the sample chose an ideal balance of moderate to high involvement in all four categories. However a small number of respondents with fair or excellent health reported no involvement in one or more category, which, for a few included no rest. As this appears an unlikely scenario it may be that some respondents did not understand the question fully, and that some of the data is flawed.

These results are promising as they provide some justification for the claims made by occupational therapists, that occupational balance is an important aspect of the health experience. However, further study is required and, from these results, warranted. This should be a large population study with a random sample, because although this sample group was, in some degree, representative of the South Australian population, cultural or socio-economic factors were excluded because of the size of the study.

¹ Meyer A. The philosophy of occupational therapy. *Archives of occupational therapy*, 1922; 1:1-10. In *The American journal of occupational therapy*, 1977; 31(10): 639-642.

² Rogers JC. Why study human occupation? *The American journal of occupational therapy* 1984; 38: 47-49.

Appendix IV

Australian occupational therapists' views on health promotion: A national survey.

Introduction.

This appendix provides a concise report of a 1989 national survey of Australian occupational therapists about their views on health promotion. To reduce repetition, as a background to this study, readers are referred to chapters 7 and 8 which describe occupational therapists' history and interest in health and health promotion .

This study provided the starting point for the thesis, so it too is based on health authority's calls for the reorientation of all health professionals towards the pursuit of health, and for preventive measures to be well integrated with curative, rehabilitative and environmental measures¹. In line with this it has been suggested that health promotion should not be seen as a 'new' discipline, but should be provided by health care teams which are an accepted part of their clients' social networks, which seems sensible and economical².

For such a change of emphasis to become reality it is necessary for occupational therapists as part of health services, agencies and institutions, along with other health professionals, to be aware of the changing emphasis in global health policies, to understand health promotion philosophy and how to incorporate it into their work. Additionally, a clear understanding of their current awareness, attitudes, values and practices is required, so that strategies to facilitate change can be formulated.

As an educator in occupational therapy I am interested in addressing the identified need for a change of emphasis towards health promotion, but feel that to be effective and accepted any proposed change must also be responsive

to attitudes, interests and current professional direction. To this end this study surveyed occupational therapists, throughout Australia, to discover how they feel about health promotion, whether they are already involved in health promotion programs and whether they express a need for postgraduate education on health promotion issues and strategies to meet new policies, attitudes and practices.

Method

Questionnaires were used in a national, cross-sectional study. A random sample of approximately 10% was taken from each state. In 1988 there were approximately 4000 occupational therapists throughout Australia, but because registration is not common to all states, it was difficult to obtain an accurate count. Registration lists were used as the population parameter in Northern Territory, Queensland, South Australia, and Western Australia. The size of the sample population from these states was 155 occupational therapists (see Table 1).

State	Registered OTs	Sample
Northern Territory	29	3
Queensland	670	67
South Australia	303	30
Western Australia	548	55

Table 1: Sample sizes from states with registration

In Australian Capital Territory, New South Wales, Tasmania, and Victoria, which do not have registration, estimates were sought from State Associations, State Health Commissions and the Australian Bureau of Statistics. Population parameters from these states used regression estimated predicted numbers for 1988, based on growth figures in those states with registration between the 1986 Australian Bureau of Statistics figures and 1988 registrations. Adjustment was made to the Tasmanian estimate (no school, island state) based on informed

discussion with practicing therapists. The size of the sample population from these states was 313 occupational therapists (see Table 2).

State	Estimate	Sample
A.C.T.	70	7
New South Wales	1522	152
Tasmania	90	9
Victoria	1450	145

Table 2: Sample sizes from states without registration

The total sample size was 468.

Self administered questionnaires were developed from questions used in a pilot study carried out during 1987 which surveyed S.A. domiciliary care occupational therapists about their attitudes and approaches to health promotion. The questionnaires were posted to occupational therapists randomly selected from listings of those states with registration, and from Association membership lists in the other states. Questionnaires ready for posting were sent to Australian Capital Territory, New South Wales and Victoria for addressing and posting. In the latter two, random selection of names was made by their State Association Officials because of confidentiality requirements. A stamped addressed envelope was included for the reply. Reminder follow-ups were sent for questionnaires not returned.

Results

A total of 252 questionnaires were returned. However, of these only 207 were from those currently employed as occupational therapists, and able to answer all questions. This accounts for the high rate of missing values for some questions. Women made up approximately 95% of the sample which had a mean age of 35 years ($SD\ 8.675$) and a range of 21 to 64 years. The mean number of years in practice as occupational therapists was 10.037 years ($SD=7.174$), ranging from 1 to 34 years. Nearly 35% worked in hospitals or rehabilitation centres, with community health services being the next largest

employers of approximately 13%. The remainder worked in aged care, spastic and crippled childrens centres, private practice, occupational health and vocational rehabilitation, the department of health and, a few, in a range of agencies such as independent living centres, schools, toy libraries, arthritis foundations, and with the deaf, blind or intellectually disabled. See Table 3 and Figure 3.

Workplace	Count (sample 207)	Percentage
Hospitals/Rehab. Centres	72	34.78
Community Health Centres	27	13.04
Aged Care	21	10.15
Occ.Health/Voc. Rehab.	20	9.66
Private practice	20	9.66
Departments of Health	15	7.25
Spastic/Crippled children	10	4.83
Other	22	10.63

Table 3: Organizations in which occupational therapists worked.

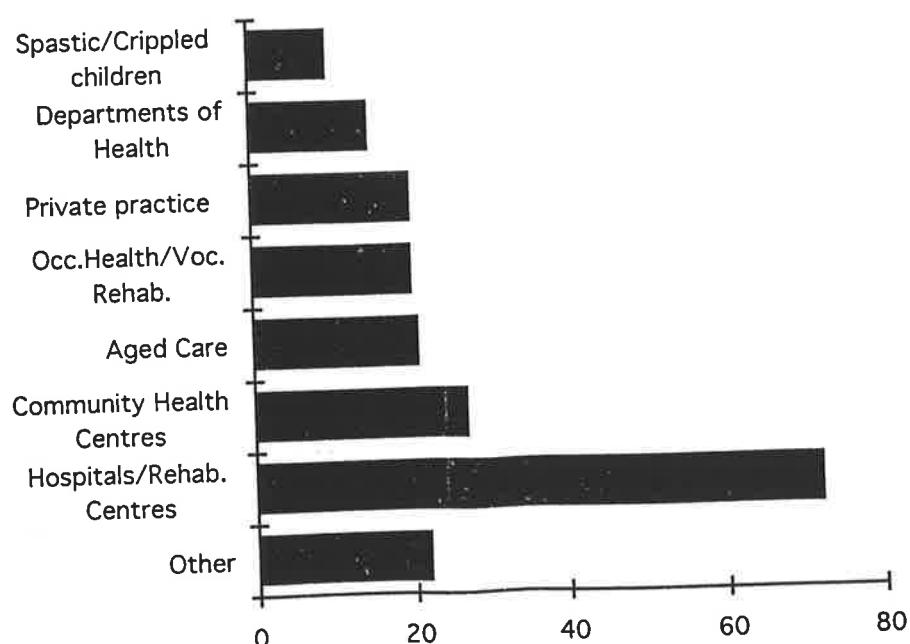


Figure 3: Organizations in which occupational therapists worked.

The client / patient populations with whom the occupational therapists worked was fairly evenly spread across the lifespan, from young children to the very old. Most clients (mean = almost 60%) were Australians, but of these only 1% were Australian Aboriginals, and these were seen by only up to 35% of the occupational therapists who responded. The remainder of the clients were mainly European and British, with about 3% Asian. Approximately 50% of the clients were identified as aged pensioners, pensioners for other reasons, unemployed, or single parents, and 56.7% of therapists visited clients homes in the course of their work.

Thirty percent of the sample responded that they spent no time in activities they would describe as 'health promotion'. In contrast, three therapists (1%) spent 100% of their time on health promotion activity. Seventy percent spent some time on such activities with the mean being 21% ($SD= 25.896$). Forty point nine percent said they were involved in particular health promotion strategies at the time they answered the questionnaire. The types of activity they described as health promotion included health education about back care, joint protection, lifting techniques, head injuries, work positions, diet, activity and exercise, lifestyle, mental health, stress, screenings, smoking and so on; problem solving with clients about access, home safety, building design, crisis situation management, child care to prevent child abuse, etc., counselling and empowerment of clients with cardiac conditions, CVA, head injury, arthritis and others; teaching independent living skills and carers how to handle their disabled child, spouse, aged relative; community advising in shopping centres, schools, service clubs, self help groups and so on.

These, and other activities were coded into categories according to three different criteria - firstly, the conditions given priority by the Better Health Commission for preventive programs, that is cardiovascular disease, diseases of nutrition, injury, cancer, communicable diseases, and mental health³;

secondly, the Ottawa Charter directives, that is personal skill development, creating supportive environments, strengthening community action, reorientating health professionals, and building healthy public policy⁴; and, thirdly, seven different approaches to health promotion, that is within conventional medicine, preventive medicine, health education, social justice, community development, wellness and ecological sustainability⁵. See Tables and Figures 4,5 and 6 for a frequency count of occupational therapists' activities according to these criteria.

BHC Target Disorders	Count (Sample = 207)	Percentage
Communicable diseases	1	0.48
Cancer	4	1.93
Diseases of nutrition	23	11.11
Injuries	61	29.47
Cardio vascular disease	68	32.86
Mental health	89	43.00

Table 4: Occupational therapist activities aimed at Better Health Commission target diseases.

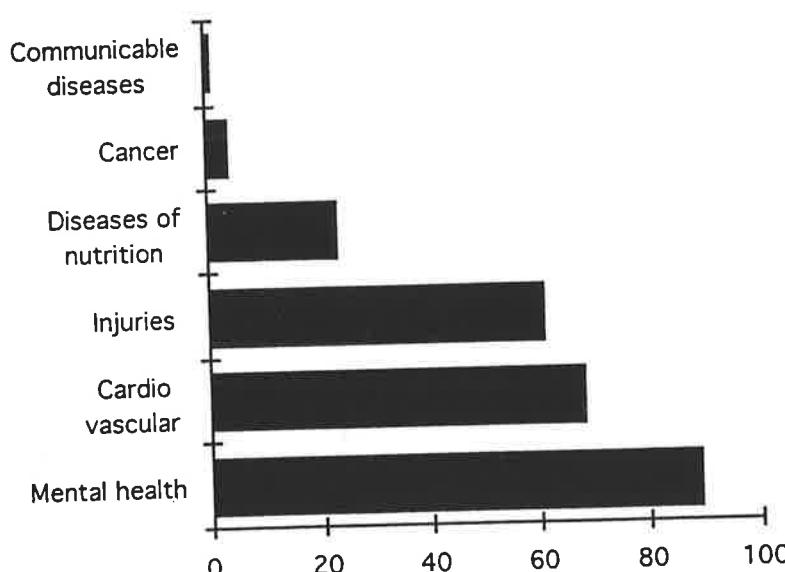


Figure 4: Occupational therapist activities aimed at Better Health Commission target diseases.

Ottawa Charter directions	Count (Sample = 207)	Percentage
Personal skill development	155	74.88
Creating supportive environment	96	46.38
Strengthening community action	13	6.28
Re-orienting health professionals	12	5.79
Building healthy public policy	1	0.48

Table 5: Occupational therapist activities aimed at Ottawa Charter directives

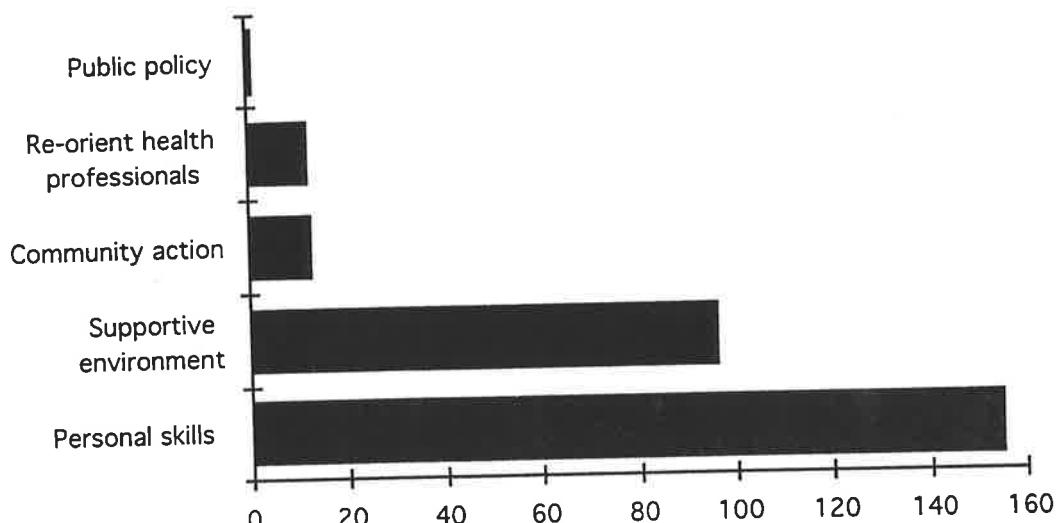


Figure 5: Occupational therapist activities aimed at Ottawa Charter directives

Type of approach	Count (Sample =207*)	Percentage
Preventive medicine	115	55.56
Health education	114	55.07
Wellness	65	31.40
Conventional medicine	48	23.19
Community development	17	8.21
Ecological sustainability	0	0.00
Social equity	0	0.00

Table 6: Occupational therapist activities according to Health Promotion approaches. *Respondents gave more than one answer. Total greater than sample size

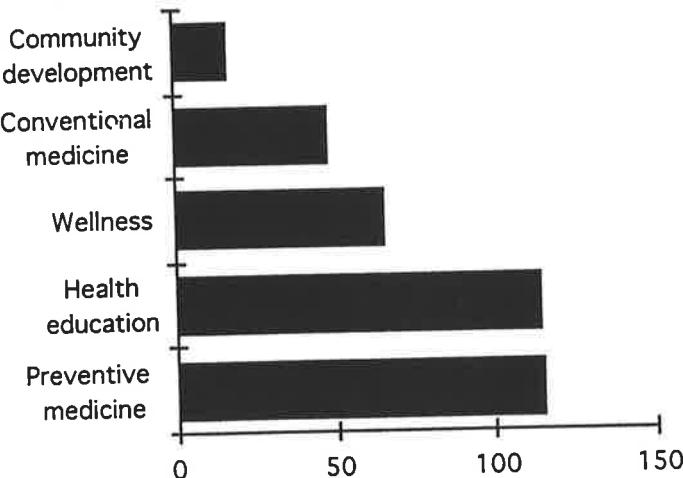


Figure 6: Occupational therapist activities according to Health Promotion approaches.

One hundred and eighty respondents (71.4%) said they were not satisfied with the amount of health promotion they were able to do in the course of their work. In response to a series of questions probing the reasons for this 118 said they were constrained by a heavy workload and lack of time to develop or implement programs, 99 by limited staff and resources, 37 by their employing agency policy, and 15 by fear of invading individual rights. See Table 7.

	Response	
	Count	Percentage
Satisfied with amount of health promotion done in job		
NO	180	72.0
YES	47	18.8
DON'T KNOW	23	9.2
TOTAL*	252	100
Constrained by time to develop/implement program	118	46.8
Constrained by heavy workload	118	46.8
Constrained by limited staff and resources	99	39.3
Constrained by employing agency policy	37	14.7
Constrained by fear of invading individuals rights	15	6.0
Other constraints	18	7.1

Table 7: Constraints to providing health promotion in current work.

*Respondents gave more than one answer. Total greater than sample size

Asked if they had a particular interest in any illness or disability for which a health promotion intervention would be appropriate, 109 therapists(43.3%) said they had, and well over 50% felt that they were able to offer intervention/strategies to minimise or reduce significant health, social or environmental problems they came across in the course of their work. Less than 20% felt they were not able, and the remainder did not answer this question.

The respondents indicated that the benefits of increasing health promotion would include healthier community and individual lifestyles (68.7%), home and community problems being addressed better than currently (52.8%), targetted programs for risk groups (54%), programs for relatives (50.8%), increased client responsibility for their own health (69%), and a reduction in ill health and hospital/institution admissions (61%). See Table 8.

	Response Count	Percentage
healthier community and individual lifestyles	173	68.7
home and community problems better addressed	133	52.8
allow targetted programs for risk groups	136	54.0
provide health promotion programs for relatives	128	50.8
promote client responsibility for own health	174	69.0
reduce ill health and hospital/institution admissions	153	61.0

Table 8: The benefits if health promotion programs were increased.
 *Respondents gave more than one answer. Total greater than sample size

In answer to a question about the adequacy of occupational therapy education as a basis for health promotion practice 36.5% thought it inadequate,

41.3% that it was adequate, and 4.8% that it was very adequate. There were 44(17.5%) missing values. One hundred and sixty eight respondents expressed a need for further education on health promotion strategies. This included education about risk factors (31%), principles of lifestyle modification (41.3%), counselling skills (54%), public policy on health matters (38.5%), multi disciplinary health professional education (44.8%), and multi disciplinary intersectorial education (31.3%). See Table 9.

Asked how important it is for occupational therapists to be involved in health promotion, only one person thought it unimportant, 63(25%) thought it important, and 145(57.5%) thought it very important. Seventeen point one percent gave no answer.

	Response Count Percentage	
Feel need for further training on health promotion strategies		
NO	84	33.3
YES	168	66.7
TOTAL	252	100
Need education on risk factors	78	31.0
Need education on principles of lifestyle modification	104	41.3
Need training in counselling skills	136	54.0
Need education on public policy re health	97	38.5
Need multi disciplinary health professional education	113	44.8
Need multidisciplinary intersectorial education	79	31.3
Need other education and training	50	20.0

Table 9: Further education requirements.

*Respondents gave more than one answer. Total greater than sample size

Discussion

The occupational therapists who took part in this survey present a picture of a profession which is predominantly young and female. Most work in hospitals or rehabilitation centres, which seems to support the historical influences of the philosophy that occupational therapy is concerned with ill rather than well people. However, as about half visit clients' homes in the course of their work and many have contact with relatives, the work is now often carried out in real environments in the community, and addresses the needs of more than just the immediate client group. This picture illustrates a potential workforce for health promotion initiatives, which has access to people who require particular help to achieve wellness, both within acute and long term health care facilities, as well as in the community.

Many of occupational therapist's clients, of all ages, fit into categories found to be socially disadvantaged and at increased risk of ill-health, namely the poor and the aged, such as pensioners, single parents and their offspring, the unemployed, aboriginal and some ethnic groups. If the therapists, who are an accepted part of their clients' social networks, were to be invited, directed and resourced to use health promotion as part of their curative and rehabilitative measures it would seem to be an excellent and economical use of scarce resources.

The fact that so many of the therapists are already identifying what they do as health promoting, are using health promotion strategies, have interest in a particular condition which is appropriate for health promotion intervention, and feel confident in intervening in particular health, social or environmental problems which they encounter in their work, should encourage national and state health authorities and public health departments to recognise that occupational therapists are one health profession with a growing interest and expertise in practical health promotion interventions.

Occupational therapists' direction, at the time of this survey, was in line with some, but not all of the Better Health Commission's priorities, namely mental health, cardio-vascular disease and injury prevention. In terms of the Ottawa Charter directives, those surveyed, not surprisingly, demonstrated particular interest and expertise in personal skill development and creating supportive environments. The lack of activities aimed at community development, the re-orientation of health professionals towards positive health, and in building healthy public policy suggests that these are areas which need to be developed if occupational therapists are to be considered to have a central role in health promotion. Similarly in viewing the total lack of reported activity in social equity or ecologically sustainable approaches, and much lower levels in community development approaches suggests a bias towards individual rather than community concerns, and a lack of interest in the underlying occupational determinants of illness or wellness experiences.

This may be harsh or unfair comment in the light of the reasons given for the large proportion of occupational therapists surveyed who identified their inability to be involved in health promotion as much as they would like because of many reasons, but mostly because of lack of time and resources. This may be yet another example of health resources being unequitably shared between public and conventional health models, or a lack of recognition by public health that occupational therapists have much to offer in terms of health promotion. The particular cast of activities may also be a result of lack of education regarding the scope and dimension of health promotion. Many of the activities provided as examples reflect ideas about prevention and health education which comprise a popular misconception about the nature of health promotion, restricting it to the prevention of illness. Indeed, therapists identified a strong need for further education about health promotion, and in particular about counselling skills, public policy, lifestyle modification and risk

factors. For occupational therapists such education would, in the main, address the underlying occupational risk factors which require both community action and changes to public policy to effect improvement. Since this survey was completed, the number of post graduate opportunities for occupational therapists has increased, and courses addressing some of the identified education needs are now available, although there is no cause for complacency⁶.

The overwhelming result in this survey is the importance given by occupational therapists to health promotion, the benefits they perceive as emanating from it, and their belief that occupational therapists should be involved in it.

Follow up to this study should be the further development of educational opportunities at both undergraduate and postgraduate levels, to meet the need perceived by clinicians, and a program aimed at raising the awareness of national and state health authorities, as well as public health departments, about the interest, skills and commitment of occupational therapists to health promotion.

¹ Better Health Commission of Australia. *Looking forward to better health*. Canberra: Australian Government Publishing Service, 1986; World Health Organisation. *Primary health care*. Report of the International conference on primary health care, Alma Ata: 1978; World Health Organization, Health and Welfare Canada, Canadian Public Health Association. *The Ottawa Charter for Health Promotion*. Ottawa, Canada: 1986.

² Stott NCH. The role of health promotion in primary health care. *Health promotion* 1986; 1 (1)

³ Better Health Commission, *ibid*.

⁴ Ottawa charter, *ibid*.

⁵ Wilcock AA. Biological and socio-cultural aspects of occupation, health and health promotion. *British journal of occupational therapy* 1993; 56(6): 200-203.

⁶ At the University of South Australia, for example subjects such as 'Occupational science', 'Health promotion', and 'The temporal human' address some aspects of these issues.

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