nonsense and sense in schizophrenic language*

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Ask any psychiatrist about the following sample of language, even as read by a person other than the original speaker, and one is likely to be told it sounds schizophrenic:

> (I don't have much continuity. My thoughts are out of order.)[1] Could you build some rapport? I've had an obsession for so long. I'm tired of self-analysis. (which is my sustenance, me, the adjusted me, the adulterated me.) (for it seems I can't remember the yesterday me.)
>
> (I have a difficulty in the interpretation of 6 months of thinking, trying to be consciously aware of my actions, a criticism of efficiency.) I have a goal—to be cool. I have not had a great deal outside of my family—how to forage for myself. (My family is my only reinforcement. I can go there and share a mutual interest in the welfare of each other and not be concerned with petty talk. There is a great exchange of love, a basic communication that you know is always there.) My father is an alcoholic. He's been through a lot. I depended on my mother. Now that I'm 21 society is calling on me to perform certain things and be a useful member.
>
> I'm not stimulated by what others say. I don't get the excitement that I get when I talk to my father's friend about philosophy. . . . Other men don't reciprocate. I want to accomplish one thing, the true me, become involved. At my desk this morning I had been tired. A growing pattern has climbed on me. It is difficult to be away from a girl. I compensate by getting into people.

Ask the psychiatrist *why* it sounds schizophrenic and the psychiatrist will probably say it is a feeling one gets, something one learns to detect when in training. The psychiatrist would be justified in saying this, as there is indeed a high degree of agreement between clinicians in their identification of a language sample as schizophrenic (Maher 1966, p. 396) as compared, for example, to the less valid judgments of undergraduates. If we were to push our specimen psychiatrist to tell us more specifically how the judgment was reached, he or she would probably first say that the language was unintelligible to some degree. The amount of communicability correlates well with the judgment of schizophrenicity of language. Most psychiatrists I know would then add that the language must be concrete or literal in some way that is contributing to its schizophrenic flavor. But the judgment of concreteness versus abstractness does not correlate very well with the clinician's judgment of schizophrenicity, and perhaps quite properly not, as will be discussed further. Another way language is often judged schizophrenic is by its content, and if our psychiatrist were to question the general reference to philosophy, he or she would be on the right track, as schizophrenics use more legal, military, political, religious, and scientific terms—themes that deal with

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Reprint requests should be addressed to the author at Educational Research, N.Y. State Psychiatric Institute, 722 W. 168th St., New York, N.Y. 10032. Training institutions wishing to obtain a videocassette presentation of clinical interviews illustrating the principles of schizophrenic language and thought and narrated by the author should write to the same address requesting "Schizophrenic Language," ER-4, *The Electronic Textbook of Psychiatry.*

[1] All the language in parentheses was handed to me by written notes in the sequence shown.

humanity in general rather than with their own lives and their families' lives. This was determined by a computer that ground up many chunks of schizophrenic language fed to it by Maher et al. (1966) according to the General Inquirer program. Other more subtle trends were fewer words expressing discomfort (even though our speaker made his difficulty known somehow); a tendency toward a lower number of different words, that is to say, toward repetition; more objects per subject; fewer qualifiers per verb; and more varieties of negative words.

Certainly there were other clues in the sample of speech quoted. The content specifically mentions discontinuity, disorder of thought, and confusion as to identity—which of the various "me's" is the true "me." The description of the speaker's family is such a lofty, altruistic picture that it reeks of denial. Really healthy families do not need such protective idealization. What we hear then appears to be a verbal construct, an artificial state of bliss, a house of words in which the patient and perhaps his family dwell.

Of all the features suggesting schizophrenicity of communication I would say the most telling are the deviations in the form of the language, the syntax of the statements, and the diction or word use. The statements, "A growing pattern had climbed on me" and "I compensate by getting into people," and the phrases, "the yesterday me" and "a criticism of efficiency," all seem to violate our expectations of the common parlance. And in a sense, it is easy then to say this language is nonsensical, or not so immediately and specifically intelligible as it might be.

Nonsense in Schizophrenic Language

In the first part of my discussion, I shall consider schizophrenic language as nonsense. Many others before me have done just that, although they may not have said so quite so openly. It is not that they have scorned schizophrenic language as utter gobbledygook, but rather that they have taken a criterion or dimension called sense or ordered thought and found schizophrenics lacking or located somewhere down the line on this dimension.

Kraepelin (1919) and Bleuler (1950), in the heyday of descriptive psychiatry, documented the peculiarities of schizophrenic language as though it were bizarre, but interesting, nonsense. Kraepelin spoke of peculiar syntax, shallowness, incomprehensibility, incoherence; but it is worthy of note that Kraepelin also was fair enough to suggest the schizophrenic's language might be describing concepts for which no words existed. Although Bleuler knew that schizophrenics were not demented, his descriptive phrases suggest a *loss* of meaning. He speaks of aberrations of grammar; errors of word use; ambitendency, or the immediate cancellation or contradiction of what was said; the emptiness and obscurity of ideas; and of course the inappropriateness of affects and loosenings of association.

Sullivan (1944) spoke of the loss of validation by a consensus of other people of the schizophrenic's communication. Sullivan felt the internal auditor of the schizophrenic's speech was "as immature and undeveloped and tortured as the schizophrenic himself."

Ruesch (1957) spoke of a breakdown in metacommunication, tangential responses, and an idiosyncratic symbolization system in schizophrenics; Bateson et al. (1956) described the confusing and contradictory messages with which the schizophrenic's mother puts him in a double bind between wishful words and contradictory affects.

Cameron (1944) described asyndesis, or fragmentation and lack of connections in schizophrenic language; metonymy, or the substitution of one aspect for the whole; overinclusion or underinclusion in concept formulation; and the interpenetration of fantastic material.

Lorenz (1955), speaking of paranoid schizophrenics, found a lack of signposts providing orientation as to time, place, or agent, resulting in what she called "existential" sentences beginning with impersonal constructions, such as "it is" and "they say."

Werner and Kaplan (1963) described less autonomy of word meaning, so that each word depended more on the context in which it was used than on its dictionary meaning. Werner and Kaplan also described what they called "homophonic word realism," in which the schizophrenic, like the child, would take aspects of the sound of a word as the meaning of the word; for example, the word "contentment" has to do with men because it has the word "men" in it.

Whether schizophrenic language in general resembles the language of children has been a complex and controversial question. Later investigators have tended to point out the differences and the retention of adult features.

Whatever the validity of the Whorf-Sapir hypothesis (see Whorf 1964 and Sapir 1964), which states that the nature of one's language determines the nature of one's thought, it is difficult to separate the subjects of schizophrenic language and schizophrenic thought. The language difficulties in childhood schizophrenics underscore the interrelatedness. Studies of congenitally deaf children (Furth 1966), however, suggest that spoken language is not necessary to the early phases of personality and intellectual development, and it seems likely that the peculiarities of schizophrenic language are more effect than cause.

Let us consider some hypotheses to account for schizophrenic thought that seem to imply a shift toward nonsense or away from meaning. The important and influential collection of articles, *Language and Thought in Schizophrenia*, edited by J. S. Kasanin, appeared in 1944. It contained an article by Kurt Goldstein (1944) describing the concrete/abstract dichotomy; in terms of this dichotomy, the schizophrenic was thought to have a concrete attitude, characterized by passivity, immediateness, and inability to generalize or plan, while the normal person had an abstract attitude, characterized by activity, the ability to shift voluntarily from one aspect of a situation to another in the mind, and the capacity to generalize and think symbolically. The concrete attitude was said to be governed by the random stimuli of the external world.

This parameter has been widely accepted for schizophrenia by psychiatrists even though their daily experience contradicts it, and a number of studies have shown so-called concreteness to be related to low intelligence and poor education rather than schizophrenia. It is true that highly intelligent schizophrenics will show an improvement on tests of proverb abstraction after treatment with phenothiazines. But proverbs are samples of metaphorical language, or poetry, and they pose certain problems. One problem is that many normal people do not choose to make an abstract response to proverbs, taking what we might call poetic license with the poetic language to talk about something that is more interesting to them. Only the highly obsessive and intellectual patients are so schooled to obedience that they stick to the point. Thus, for most people the proverb is useful, but as a projective test. As a result, psychiatrists doing mental statuses or interviewing patients at Board examinations seldom fail to give proverbs for the patient to paraphrase and are quick to interpret as concrete or nonsensical anything a schizophrenic patient says. Another problem is that many psychiatrists do not have a clear idea what a good answer to a given proverb is supposed to be. I. A. Richards (1929), the literary semanticist, described how he submitted metaphorical language in the form of poems (by such poets as Longfellow, Millay, and Hardy) to a large number of Cambridge undergraduate honor students in English and found that less than 30 percent of them understood the poems well enough to paraphrase them relevantly. If proverbs are used to test schizophrenics, a more useful criterion is the social relevance of their answers. Schizophrenics often give answers that are overly abstract as well as overly concrete, but their answers strike me as doggedly inappropriate or irrelevant to human social interactions.

A number of hypotheses imply nonsense in describing overgeneralization in schizophrenic speech and tend to follow a behavioral model of stimulus and response. Cameron's (1944) concept of overinclusion, or inability to exclude the irrelevant, especially in acute schizophrenics, resembles the behavioral phenomenon of stimulus generalization.

Chapman, Chapman, and Miller (1964; see also Chapman and Chapman 1973) described a response bias toward the strong meaning of a word regardless of the context; if in response to the word "pit" 92 percent of persons think of a hole and 8 percent think of the stone of a fruit, then the schizophrenic will bring in the idea of a hole when he is talking about an apricot pit. Miller (1974) has attempted to demonstrate that schizophrenic patients do *not* do this more than nonschizophrenics.

Mednick (1958) discussed the role of anxiety in producing increased stimulus generalization in schizophrenics until a chronic state of irrelevant thinking results.

Bannister (1962) used the term "serial invalidation" to describe a process by which parents have repeatedly invalidated the developing schizophrenic's concept formation, leading to vagueness and poverty of ideas. This theory is reminiscent of Sullivan's (1944) idea of a breakdown of consensual validation, the Bateson et al. (1956) idea of the double bind, and Bruch and Palumbo's (1961) observations of the mother telling the schizophrenic child how to feel.

Shakow (1967) feels the schizophrenic fails to habituate to old situations, reacting as if they were new every time, and fails to recognize new situations,

perseverating on recently past experiences and developing neophobia, or inability to cope with the novel. Responses to stimuli may be inappropriate in magnitude.

Perhaps the most direct identification of schizophrenic communication with nonsense, or random meaninglessness, is Shands' (1968) use of the term entropy, borrowed from physics, to compare schizophrenic cognition with the utterly random disarray into which the physical universe may one day expend itself. Along the same line, Joseph Jaffe (personal communication) once showed me some crude approximations to English made by a computer programed according to the statistical occurrence of two letters together. The computer's words, "whey cratict froure birs grocid pondenome," compare favorably with the "unformed phonemal utterances" and "meaningless recurring syllables" reported by Sechehaye (1951) in extreme schizophrenic disorganization, such as "icthion," "gao," "itivare," "gibastown," and "ovede."

Two modifications of the nonsense hypotheses are of particular interest. These have been termed the cipher hypothesis and the avoidance hypothesis by Maher (1968). The cipher hypothesis has been advanced along psychodynamic lines and has postulated coding. For example, Ferreira (1960) has said the schizophrenic develops "schizophrenese"—that is, either his own language or his former language reshuffled—so as to be able to express publicly but in concealed fashion dangerous and forbidden things, such as a guilt-provoking relationship with the mother. (As an example of this kind of development, we may recall the language Yri in Hannah Green's (1964) book, *I Never Promised You a Rose Garden*, which was derived, like Esperanto, from known languages.) Thus, the language is not nonsense because it is a code. Translation into everyday meanings may reflect the listener's imagination as well as the speaker's.

The avoidance hypothesis is that the nonsense or incomprehensibility of the language is its meaning, because the speaker is trying to drive his listeners away or, as Haley (1963) has explained it, hold a conversation while simultaneously disclaiming that any conversational relationship is occurring. The theater of the absurd in modern drama sometimes resembles this kind of communication in artistic form.

Maher (1968) finds both the avoidance and cipher hypotheses unsatisfactory because they do not explain why the schizophrenic uses the particular words that he does and not some other "jumbled-up sequence."

Maher (1966) considers the most parsimonious psychological explanation of schizophrenia to be a defect in the ability to pay attention, and he develops this consideration at length in his excellent text, *Principles of Psychopathology: An Experimental Approach.*

In applying his attention hypothesis to schizophrenic language, Maher (1966) draws upon Chapman, Chapman, and Miller's (1964; see also Chapman and Chapman 1973) hypothesis of a response bias toward the strongest meanings of words regardless of context. Thus Maher says a word like "stock" with 42 different meanings becomes a "vulnerable point" for the schizophrenic's poor attention, and his thought processes get derailed in punning fashion—he might be talking about summer stock theater, for example, and suddenly slip into speaking of the Wall Street type of stock. The extra meanings that pop into the speaker's mind are presumably not excluded because of his failure to attend to the point.

Maher (1968) cites an example of schizophrenic speech: "Doctor, I have pains in my chest and hope and wonder if my box is broken and heart is beaten for my soul and salvation and heaven, Amen." What the schizophrenic meant to say, according to Maher, was, "I have pains in my chest and wonder if there is something wrong with my heart." Vulnerable words are *chest*, which in addition to the respiratory cage suggests a box or trunk, and in particular a hope chest, and *heart*, which suggests heart*beat*, heart*broken*, and heart and *soul*, therefore further links down an associative chain to *salvation* and *heaven*, and the statement becomes a prayer, *Amen.*

What Maher's vulnerable point hypothesis seems to say is that schizophrenic language is not just nonsense, but a particular kind of nonsense derived from the multiple meanings, or polysemy, of words in a given language. We shall return to the same example in the second part of this discussion.

Anybody talking about schizophrenia in the present day should explain what is meant by the classification or what is thought of the people so classified. A seldom-mentioned premise upon which genetic studies of schizophrenia partly rely for their justification is that the hereditary contribution to schizophrenia (or at least to some types of schizophrenia that seem to run in families) amounts to a group of *bad* genes. One does not have to go very far from this premise to wonder if the

removal of these factors from the pool of human genes would not be desirable. Even if such a removal were possible through some form of genetic counseling or engineering, it would be most interesting for the definition of schizophrenia to find out what else would be lost if all the persons with these genes but with lesser penetrance, or greater heterozygosity, or just happier circumstances suddenly ceased being born. Genetic studies that focus only on familial schizophrenic pathology, to the exclusion of other traits and especially assets in such families, avoid this question.

One of the finest studies of the heredity of schizophrenia was that by Heston (1966). He studied children separated from their mothers before the age of 1 week and raised in foster homes. Forty-seven of these children had been born to schizophrenic mothers confined in a State hospital. There were 50 controls, carefully matched for sex, occupational class, IQ, time in institutions, and type of foster placement. Heston found that the children of schizophrenic mothers, raised by nonschizophrenic foster mothers, had a much higher incidence as adults of psychiatric illness, either schizophrenia or personality disorders totaling about one-half of these children. But from the other half of the children of schizophrenic mothers, there came a number of notably successful adults, who according to Heston had artistic talents and an imaginative adaptation to life uncommon in the control group.

Kreitman and Smythies (1968) have commented on Heston's work as follows:

> This not only offers clear-cut support to the genetic theory but also offers some confirmation of the old idea that genius is akin to madness. This is not very surprising. The same cerebral processes that in small doses are correlated with imaginative talent may very well become overactive and lead to certain types of schizophrenia in which the imaginative faculties seem to run riot. [p. 6]

To put the matter in reverse, the biological substrate that leads the schizophrenic to his life of idiosyncrasy and nonconformity, his proneness to develop an asocial way of life, and the breakdown of his personality also under more favorable circumstances fosters the development of originality.

Other personality traits come to mind from clinical practice that might be studied in the twins and close relatives of schizophrenics, including obsessiveness, objectivity as an observer sufficiently removed, autonomy, some types of intellectuality (as opposed to intelligence) such as the ability to persist in mental or other work of little immediate utility or emotional relevance, sensitivity (especially in ethical matters), intuition and entrepreneurial savvy about imminent trends, abilities in spatial relations and a craftsman's feel for materials, and perhaps even the ability to perceive and organize hierarchic complexity (tiers of meaning and metaphor) that is both the basis for creativity and a vulnerability for confusion when the characteristic schizophrenic difficulties with orientation, an integrative pleasure deficiency and a proprioceptive diathesis (Rado 1956, pp. 276-283), are present.

In his discussion of the hypothesis of continuity between the schizophrenic and the neurotic and normal, with only quantitative differences, Arieti (1974, pp. 692-693) uses the metaphors of water freezing at a specific point in a continuity of lowered temperature, and of a substance precipitating out of a solution when its concentration reaches a specific point in a continuity of lessening dilution. These metaphors, chosen by one of our foremost authorities on schizophrenia, ought not to be taken lightly. But any metaphor presents limitations along with its possibilities of vehicular travel. Are schizophrenic processes of meaning different from normal and neurotic processes as a frozen solid is different from a fluid, or might that metaphor better serve for the effects on consciousness of degrees of intoxication and anesthesia? In the dimensions of language and thought, I do not know of any features or traits of schizophrenic persons that do not have their attenuated tail in normal analogs or normals' reactions to stress (and I am not referring to sleeping normals). Arieti explains his metaphors further:

> A person may have symptoms similar to those of a schizophrenic, but it is only when he accepts them as part of reality, integrates them into the context of his whole life, and consequently experiences the world and himself in a different way and alters his relationship with others that the total quality changes and the psychosis emerges. [Arieti 1974, p. 694]

I prefer a less holistic and more composite view, especially on the practical grounds of the need to make therapeutic inroads upon a person who has retreated into psychotic rigidities of thinking, and who fortunately is seldom found crystallized to solid ice throughout.

To be sure, many schizophrenics fancy themselves to be partly something other, partly nonhuman, perhaps like the riddling Sphinx; but it is not our job to agree

with them any more than to burn them as witches or whatever eldritch or chimerical identities they have assumed.

Perhaps we shall come to see schizophrenia as one of two major reactions to the crumbling of our psychical defenses—the other being affective accentuation. Both are extreme distortions, or slippages into another, yet still human, dimension. In the major affective disorders, emotionality is stretched to fit one's needs, whereas in schizophrenia it is the cognitive world of concepts that is rubberized to suit one. It is likely that the so-called perceptual distortions of the schizophrenic are so cognitively tainted as to have no primary basis in perception. I feel there is no clear dichotomy between schizophrenics and the rest of us, especially in language and thought—benign paralogic, "normal" paranoid reactions, and less gross, but definite thinking disorders in the neurotic states have begun to be documented (for example, see Beck 1971, Braff and Beck 1974, and Ianzito 1974).

Although schizophrenics may be overrepresented in the lower socioeconomic classes, there is no dearth of those who have been successful—even fabulously so; and one might question whether the inability to achieve advanced social standing or a higher income in modern society is any more pathological, per se, than the ability to do so is.

The eminent statistician W. Edwards Deming (1968) has calculated that of persons age 15 and upward, 1 in 35 males and 1 in 30 females in New York State will be admitted to a mental hospital with a diagnosis of schizophrenia. Most experienced practitioners I know feel that the number of schizophrenics admitted to hospitals is probably small compared to those who are not admitted. Schizophrenia in its widest definition may be more like a minority group than an illness, per se, even though most of them might at times benefit from phenothiazines or their analogs when carefully titrated to their needs. Some psychiatrists, like Malcolm Bowers (1971 and 1973), feel that the upheaval of acute psychosis may offer growth potential greater than that in neurotic and characterological disorders with fixed defenses, as judged by adaptation following recovery.

Schizophrenic persons in American life are apparent in the creative arts as well as the streets; at times of social disorder, they seem to spearhead new directions in political and mass culture movements, and as singletons and isolates contribute to the diversity without which society itself might be more maddening than it is. When acute and sensitive, or incipient, schizophrenics hurl the first stone or the most extreme epithet on behalf of the rest of us who are much less aware of feelings in the same direction; they initiate trends; they invent words and things. When chronic, schizophrenics may gravitate toward the most routine and unsurprising tasks, avoiding novelty because their attentional apparatus works better that way, fading into the woodwork of society and the closets of their private universes.

Psychiatrists who have been intimately acquainted with other cultures know that some societies may provide different, and possibly better, roles for schizophrenics and other very extreme individualists; but, lest we become too softheaded about this, we may remind ourselves that decompensated schizophrenics are recognized and considered needy of aid practically everywhere in the world (Sartorius, Shapiro, and Jablensky 1974). Kubie's (1961) argument that neurosis interferes with the creative process can be applied a fortiori to schizophrenia. I still remember vividly an invention a hospitalized schizophrenic patient told me about some 10 years ago: It was a shaving machine consisting of whirling razor blades in a concave arrangement into which one would insert one's face.

One reason I have become suspicious of the idea of entropy in schizophrenic language is a defensive ploy I have discovered being used by my patients with obsessive neuroses and character disorders early on in analytic and intensive therapy. The entropy ploy, as I call it, consists of resisting the dynamic implications of the sequence of one's associations by maintaining the pretense that they are just random thoughts—that is, high in entropy and of little meaning. Some patients will later admit they consciously tried to randomize their associations by filling in with intellectual material of a neutral or casual emotional tone when they felt their associations were leading them into the dangerous waters of real feeling.

The productions of schizophrenics often contain seemingly extraneous matter. Cameron (1944) described this overinclusiveness with the implication that unrelated or accidental inclusions were randomizing the message into meaninglessness. The question is whether one will accept the possibility of random or meaningless utterances by a human being.

Maher's (1968) idea of there being vulnerable points in language where extra meanings arise in punning fashion, and are not excluded because of failure to attend to the point, suggests that the extra meanings are

extraneous, randomized, and nonsensical to some degree, but he implicitly is pointing out there is recourse to the common lexicon or language, and therefore ultimately to common sense, to the consensual definitions of words.

This idea is similar to my own observation (1965) that there are extrapsychic and accidental influences upon schizophrenic language by predetermined relationships inherent in language—as, for example, between rhyming or homophonic words that the schizophrenic links in clang associations: He chooses to rhyme but does not choose which words do rhyme in English or Italian or whatever his language is.

Chapman, Chapman, and Miller's (1964; see also Chapman and Chapman 1973) idea of a response bias toward strong meaning responses is similar, based on the wider associational patterns in language use. This again modifies the nonsense theme by showing the schizophrenic's somewhat paradoxical reliance on the general sense of words in the common parlance. All of this was succinctly put by Dr. Hilde Bruch (personal communication), who once told me that whereas the poet is a master of language, the schizophrenic is a slave to it.

In general many of the explanations of schizophrenic language by cognitive psychologists have tried to avoid psychodynamic hypotheses involving motivation and the repression or distortion of drives.

A model of the mental process is implied, I think, that is similar to the artificial intelligence of the computer, a mechanical or electronic information system. (The limitation of this model is discussed later.) The two-filter model of attention proposed by Silverman (1964) and used by Livingston and Blum (1968) to subdivide the schizophrenias resembles radar in its functions of scanning and field discrimination of relevant from irrelevant stimuli.

Livingston and Blum (1968) took series of random words and series of words that were related to one another, such as analogies, opposites, and ascending hierarchies, and submitted them to schizophrenics to fill in the next word on the list. It was found that acute reactive schizophrenics, with extensive scanning and diffuse field articulation, made more errors than the process schizophrenics, who have diffuse field articulation, but a narrowed scanning process. The paranoid schizophrenics, having a wider scan but also a highly differentiated field articulation, did better than nonparanoid schizophrenics. A most interesting finding was that the errors were not so much inappropriate as inexact, or missing the mark; they were related to the nonrandom lists rather than unrelated. This suggests not total irrelevance or meaninglessness, but rather a failure of fine discrimination; not inattention so much as a diffusion of attention to include other concepts as meaningful that are in the same category. Livingston and Blum point out that the schizophrenic must experience these stimuli as meaningful or he would not be attending to them.

Experimental psychologists and psychiatrists try to avoid the teleological area of purposes, attempting to explain aberrant language by more testable and manipulable aspects, such as errors of logic. Like most practicing and psychoanalytically trained psychiatrists, I indulge myself in less parsimonious formulations, being reluctant to leave the clinical level of complexity where I believe I can intuit a purpose and a life in language by its effect on me.

Sense in Schizophrenic Language

Discussions of the logic of schizophrenic language, whatever that logic may be, belong under the heading of sense rather than nonsense.

Alfred Storch (1924), who sounded most of the main themes that have been developed since in the study of schizophrenic thought and language, spoke of the sensory image occupying the center of consciousness in schizophrenia instead of the abstract nonperceptual elements of normal thought. Storch also described schizophrenic logic, stating that "a single emphasized feature possessed in common by objects is sufficient warrant for connecting together the most heterogeneous things" (p. 7). This assessment was echoed by Von Domarus (1944) in what became known as Von Domarus's Law: "Whereas the logician accepts identity only upon the basis of identical subjects, the paralogician accepts identity based upon identical predicates" (p. 111). I think this could be put even more precisely: The Aristotelian logician requires all predicates or attributes to be identical, and the paralogician, the schizophrenic, the dreamer, the poet, and all of us now and then tend to be less discriminating lumpers of things together if they have one or only a few attributes in common.

Freud (1953) stated that the means of representation in dreams highly favors the relation of similarity. Freed

from the categories of Aristotelian logic, the dreamer creates new categorizations by far less fussy identifications. Dreamers are lumpers, not splitters.

As Arieti (1955) has pointed out, the selection of a certain predicate, out of numerous possible ones, as an identifying link can be explained by the emotional factors involved. I. A. Richards (1935) said the same thing earlier about associations in poetry.

Sullivan (1944) once wrote that the schizophrenic shows "the autistic type of speech which is probably our second nature, and which we certainly show among our intimates, when we are very tired and safe."

Kafka (1971) reformulated the double-bind hypothesis, which suggested the schizophrenic suffers from too much contradiction in his upbringing—between words and affects, for example. Relying on the work of the mathematician Kurt Godel, Kafka explained that even in formal logic, self-consistency in a closed system leads to triviality; therefore, reduction to one level of abstraction is unthinkable in living human communication. Exposure to paradoxes and ambiguity is therefore necessary for individuation, according to Kafka, and if missing, exposure should be supplied by the therapist in therapeutic double binds. This line of argument leads us to endorse contradiction and illogicality as part of healthy life.

Surely the model of the mind one espouses affects one's view of language, the mind's most telling product. The brilliant mathematician John Von Neumann's (1958) last and incomplete work, written while he was terminally ill, is a clear and cogent comparison of the computer and the brain. It is the differences Von Neumann has found that impress one; the brain has many more, but slower, components and does many things at once in parallel, while the computer works serially; the brain has both digital and analog aspects; the brain is statistical, not digital, in operation and has a low level of precision but a very high level of reliability, so that if something is lost or interfered with, nonsense will not emerge as it may in a computer if but a single pulse is lost. As Von Neumann puts it, the language of the brain is not the language of mathematics. In comparison with the computer's direct addressing and mere four or five levels of hierarchical access, information in the astonishingly larger human memory bank is retrieved by far more complex and multiply modified means.

The ideas of neural hierarchy of Hughlings Jackson, elaborated by Freud (1953), are not much different. When Freud (1950) describes the processes by which dream thoughts are elected into dreams in overdetermined fashion, one can easily hear Von Neumann's statistical model. Smythies, Coppen, and Kreitman (1968) have more recently presented a tiered model of mental function that includes the rhinencephalon.

What is important to note is that nothing that occurs at the level of thought that is language has just popped up without some influences bearing or strings attached. In the many-tiered functional hierarchy that seems likely, such choices as words and word order should be the product of complex and multiple motivational factors acting at several levels. Humans cannot produce random signals, as far as is known. Interference with the process will tend to provoke—not nonsense as in the case of the computer and not mere imprecision—but use of parallel processes to produce circumlocution, the substitution of metaphors, the substitution of metonyms and synecdoche, the part for the whole, and the association for the main thought.

Relevant to this formulation is Weinstein's (1969b) exposition of reduplication delusions in brain damage. Weinstein (1964) also has specified trends for lesions of the dominant hemisphere, in which substitutions of words are made on the basis of sound—such as "love" for "glove"; on the basis of related function—such as "time" for wristwatch, and "temperature gauge" for thermometer; or with loss of categorization—such as "paper" substituted for "paper clip." In lesions of the nondominant hemisphere, on the other hand, and also with damage to the diencephalon and midbrain, the substitutions differed in that they preserved the patterning of categories, often in highly condensed and symbolic form, such as "hydrometer" for "syringe," and in personalized references, as when a housewife referred to a syringe as "an icing device for cake." Whereas dominant hemisphere lesions gave more calculation and spelling errors, these minor hemisphere patients were more often disoriented to time and place. Weinstein (1958, 1967a, and 1969a; see also 1967b) has described the use of personalized metaphors and compensatory pedantry by brain-damaged individuals. Reitan (1966 and 1967) has also been able with remarkable precision to specify the neurological location of lesions by means of the Halstead-Reitan battery of aphasia and speech function tests.

All of these findings in brain damage are of interest to the study of schizophrenia, which in some cases may be

caused by an organic embarrassment of brain function. But we need not lump schizophrenia with brain damage or with a chemical, autoimmune, or whatever cause to be able to carry over something of use from our understanding of the organic dysphasias. Schizophrenia does interfere with mental function, even if it is nothing more than having one's circuits jammed by too many strong feelings with nowhere to go. It is likely that brain damage merely uncovers fail-safe mechanisms in our parallel-functioning mental apparatus. This means these alternate ways of language are there waiting for anyone, including schizophrenics and the rest of us. Something lying around tends to be used, especially when one is pulling out all stops, as in emotionally charged situations, in embarrassment of brain function, or for that matter in persuasive politics or poetry. Weinstein (1969a) distinguished between the use of jocular and bombastic circumlocutions in a recovering aphasic who was describing his injury and his more usual descriptions of neutral phenomena. Thus, the emotionally charged areas of his deficit receive the compensatory window dressing, rhetorical elaboration, and circumlocution. This is the process I (Forrest 1965) have called "poiesis," the lending of authority and magic to statements by things done to language. Specifically the brain-injured person using the big words is not just unable to think of the smaller, more common word; he is also protesting, "Listen, I am really quite intact and facile, maybe unusually so!" Similarly, one might cite the case of the schizophrenic savant (Forrest 1969) who had been thought to be mentally retarded as a child, and who as an adult took pride in creating the world's longest and most pedantic neologisms, such as "superstylocyclopedic," to describe one who has the mind of a walking encyclopedia, and "stethotypoallegation" for "talk worth getting off the chest."

Even if schizophrenia is characterized by what even in the time of Pierre Janet (see Jung 1959, p. 381) was called a lowering of the mental level, which Carl Jung explained could be produced by a variety of causes, organic or psychological, leading to a weakness of will power, it would be enormously presumptive and reductive to disregard the basically human traits of purpose and meaning altogether in the language of schizophrenics.

It is also unfair to describe the schizophrenic's original uses of standard rhetorical devices by any other terms than the usual ones, because to do otherwise is to suggest that the patients are being peculiar, a suspicion they have enough of. Thus schizophrenics, like the rest of us, use metonymy, the substitution of an attribute or other suggestive term for the name of the thing meant. The patient who calls the bird "the song" is doing the same thing as anybody else speaking of blue collar voting or Kremlin thinking. Patients who invent new meanings of words, often with considerable symbolic appropriateness, are just engaging in polysemia, the normal process of stretching language to serve new uses, as when Shakespeare first said "cudgelling one's brain" and "beggaring all description." Schizophrenics compound neologisms, and condense blends, but so did Lewis Carroll in making slithy from slimy and lithe; so did Los Angeles in making smog from smoke and fog; and speakers of German build compound words to order daily.

The sinophile Dennis Bloodworth (1967) explains that the punning nature of the Chinese language, in which there is a high degree of polysemy, leads the Chinese into "a curious realm of self-delusion, superstition and symbolism in which one thing tends to be represented by another, and therefore to have no reality of its own." Thus the first emperor, building the Great Wall, is told that if he buries a myriad of men in the foundations, the wall will be protected by their spirits and last a myriad years. To avoid a massacre, while accomplishing this, the emperor buries a Mr. Myriad in the wall, a hapless fellow whose name means "ten thousand."

This is surely a paralogical form of thought, but it does not classify hundreds of millions of Chinese as schizophrenic. Although deviations in the form of thought are more valuable indicators of schizophrenia than deviations in the content of thought, as explained by Cancro (1970), I would argue further that the form of thought is also not dichotomous from normal, and especially normal artistic or poetic thinking. Every deviation of form that a schizophrenic tries has been or will be used by others, especially for artistic purpose; schizophrenics are humans and use language the way all humans do or can do; it is only that schizophrenics do not make clear what they are doing and that they so overindulge in their form of artistic license and the privacy of their conceptions that they are difficult to follow.

I once (Forrest 1965) showed that the poet E. E. Cummings has made comprehensible use of practically

every aberration of language described by Bleuler (1950) in the language of schizophrenics, and yet Cummings (1954) wrote perhaps the most totally accessible poetry of our time. He was able to define and redefine his inventions for his readers to share by consistent use in defining contexts; schizophrenic persons are often unable or unwilling to do this.

Much of the time we do not understand because we choose not to, and we so choose, I am convinced, because the schizophrenic frightens us or makes us angry with his conceited way of speech. This is a manifestation of his scorn, as discussed by Searles (1965), and his scorn is his having seen that none of the defenses by which all of the rest of us maintain our sanity are watertight; they have failed the schizophrenic person, and he knows this. In the face of the inevitability of death and loss, as Searles has said, the schizophrenic person realizes that he has not fully lived in human society; realizing he has missed being alive, and that he has lost all of humanity by not being a participating partner, the schizophrenic flees his intolerable sadness, as Arsenian and Semrad (1966) have described it, into the magical, omnipotent world of his psychosis. As he flees society, he flees the common lexicon, using words in more private ways than most of us do and seemingly violating the laws of language. As a restitution, he creates by the process I call poiesis a world of words, a universe of language in which things done to the form of utterances are thought magically to fulfill the wishes expressed. A linguistic order of interrelationships at the surface of language confers authority to wish-fulfilling statements so things are no sooner said than done. Relationships are found among the sounds of words, the matter of their metaphors, and the pictorial elements of their images, so statements are portentous in the way of poetry and the rhetoric of debate.

In the present discussion, if my own associations become a bit loose, I will beg indulgence on the grounds that a discussion of language is relevant to almost anything, and schizophrenia is not far behind language in its general relatedness.

The eminent biologist Colin Pittendrigh (1956, see also Simpson, Pittendrigh, and Tiffany 1957) once said that the word "protoplasm" was about as much an oversimplification as the word "radioplasm" to describe the contents of a radio. Similarly, if you grind up a schizophrenic's brain or a large sample of his language by means of a computer, you may miss the level of the organization and get a mush of ingredients that you cannot put back together into the whole. This is not to say that there is not a profound lawfulness even on the crudest analysis. Jaffe and Feldstein (1970) have demonstrated the mathematical lawfulness of the sound-silence pattern of dialogue, and Robertson and Shamsie (1968) have demonstrated marked regularities in the most disorganized schizophrenic speech, such as regularities of proportion of rational language and gibberish in the same patient, and phonetic regularities from one occasion to another. In a study of a schizophrenic neologist, I discovered his words were regularly trochaic in scansion, whereas the meter of free English speech tends to be iambic (Forrest 1969).

All of biology is pattern and language. Even the neoplasia of a cancer, the biological example of a loss of pattern that I sometimes think is a fair analogy for schizophrenia, is a pattern of another order and kind than the surrounding tissue of its site.

The idea that schizophrenic language is nonsense may be abetted by a general fashion in this era of television of considering practically everything about a person meaningful except what he says. The emphasis in the social sciences upon the choreography of gestures and the shows of facial expression and dress as the most telling communications from everyone, not just schizophrenics, represents a falling away from the *word* as meaningful and interesting. The words of Elvis Presley are not what he says; the manner of politicians may mean more than their mentalities; and I have sometimes thought the clergy would be as well off nowadays conveying the *Face, Gestures,* and *Style* of God as the *Word.*

These channels of information are all useful, and they do proceed in parallel with the language of words, providing glosses in metamessages on what we say in words. But perhaps one can shift one's attention away from verbal language to a perverse degree.

Psychoanalysis once seemed more literary and linguistic than what dynamic psychiatry has become. In the interest of comprehension of emotional man, we have learned a rather reductive and single-minded pursuit of affects through the tangles of therapeutic woods. It is quite proper, based on the assumptions of such great theorists as Sandor Rado (1956 and 1962), who take a biological view of man, that we largely discard the language of words, because we are dealing much of the time with mammalian-vertebrate issues. It follows that

words must be epiphenomena because wordless mammals seem to struggle with the same issues of attachment, loss, fight or flight, and frustration or consummation of drives. But I think there are dimensions of anxiety or futurity of thinking, of symbolic loss, and of schizophrenia that are not fully paralleled in subhuman species, and in the words of the linguist Noam Chomsky (cited by Steiner 1971, p. 61), "Human language is without analogue in the animal world." The eclectic scholar George Steiner (1971) goes further and considers language the "quiddity" of man. At any rate, attempting to understand a man exclusively by his affects and emotions is a little like trying to comprehend the societies of man solely by their climates and weather.

Discussions of language are unsettling or annoying to many people unless they are conducted on levels that are sufficiently trivial or technical to be ignored in daily living. A person's discomfort is probably in proportion to the rigidity of his or her reliance on words and language as substitutes for reality.

Some analysts with long experience in the way people signify, such as Peter Knapp (1969), emphasize the image rather than the word as the vehicle of significance. There is wordless thought and there are imageless thoughts, of course, and even dreams that are words, such as Freud's Autodidasker dream. In addition, people vary greatly as to how eidetic they are and how verbal. Incidentally, one of the newest models of brain function, described by Pribram (1971), is based on holography, an optical information-processing system that is well suited as an analogy to explain the storage and retrieval of significant images. But I would choose to hedge this important question by invoking Richards' (1935) description of the "image bodies" of words, or pictures in the mind's eye of things for which the words stand. The pictures are agreed on by users of a language. I would add that words may then evoke images and feelings; and if I may use a metaphor from physics, words may serve as quanta of known emotional impact and significance by virtue of the images and feelings that are attached to them.

In 1965, I described the process of poiesis in schizophrenic language as a kind of extension of the poetic process used to reify words into a reality that could be believed in (Forrest 1965). Now I think we all do this, but to varying degrees.

In order to demonstrate poiesis in language, let us consider a poem as a concentrated example. Because poetry is the most complex of all semantic phenomena, to quote the language scholar George Steiner (1971), I will begin with one of the simplest quatrains in English letters, written by the greatest English poet, William Shakespeare. When Shakespeare sat down to write his epitaph, he abandoned his heights of rhetoric and prosody in favor of a simple exhortation that anyone could understand, asking that his grave be undisturbed.

> Good friend, for Jesus' sake forbear
> To dig the dust enclosed here;
> Blest be the man that spares these stones,
> And curst be he that moves my bones.

Hubler (1959) dismisses any doubts that Shakespeare could have written such "doggerel." In Shakespeare's defense, we may note that it must have served its purpose, as his remains still lie in the same church in Stratford-on-Avon, while his daughter's were removed.

What does this poem do to lend force to its language? Except for a reversal at the beginning of the line, "*Blest* be the man that spares these stones," the meter is completely regular iambic tetrameter. The device of alliteration, possibly the simplest form of poiesis, is almost maddeningly reused; we have friend, for, forbear; dig, dust; blest be; spares, stones; and moves, my; all in four lines. In addition to the end rhymes forbear-here and stones-bones, there are the inner rhymes be-he and near rhymes dust-blest-curst. The two last lines are completely parallel in syntax. So even in this simple poem the language has an unexpectedly high degree of organization phonetically.

> Good friend, for Jesus' sake forbear
> To dig the dust enclosed here;
> Blest be the man that spares these stones,
> And curst be he that moves my bones.

Although learned men have considered the epitaph doggerel, it tends to have a strong effect on rereading, possibly because it is so simple and bare and each word seems so inevitable that the poem defies any attempt to simplify it further. The high phonetic organization created an inescapable finality to the words chosen, and those words are among the oldest and most common of Anglo-Saxon origin. The effect is similar to that of a sea

chantey or harvesting song that has been worn smooth as stone by long use and simplifying substitutions. Shakespeare knew that simple words used in some regular way could capture the heights of dramatic tension in his plays. Very common language used in strong patterns has the very strong effect of implying the voices of very many people saying the same thing very many times. Maybe Shakespeare knew what he was doing.

I have never met the patient of Brendan Maher (1968) who said, "Doctor, I have pains in my chest and hope and wonder if my box is broken and heart is beaten for my soul and salvation and heaven, Amen" (pp. 32-33). But my experience with schizophrenic language would make me doubt the patient was merely saying he had pains in his chest and wondered if something was wrong with his heart. I would infer a different sentence, as an exegesis of but not an equivalent to what the schizophrenic person did say: "Doctor, I am heartbroken and hopeless, and I pray you will save me." My translation is similar to Maher's in that I accept the associational chains he has dissected out as quite likely, but I have taken the schizophrenic's language, like all language, as metaphor, and I am saying that the schizophrenic, like Shakespeare, or anybody, may be intending more of what he is doing than we give him credit for. Although the metaphors may be unlabeled, as Bateson et al. (1956) have said, the lively images of the patient's speech do their work on us, expressing despair in terms of concrete ills, making a request for salvation that no one can really grant, and in a sad way rescinding the request by changing it into a church prayer. The listener is told, if he has ears for it, what it is like to be schizophrenic and feel the loss and despair, the intolerable sadness and loneliness of not fully being alive; but as no one who is not schizophrenic can fully empathize with this experience, the message is redirected to God's ear. In other words, the associations present in language may be used, may even come more readily to mind, as Maher and I agree, but somehow the language as a whole, as it emerges from the many-tiered pavilions of the mental process, seems to function purposefully after all; the accumulated metaphors become not mere congressional riders, but an integral part of the substance and flavor of the speech.

Maher (1966) seems to take attention as the dimension of normality, as though a person normally progressed through a sentence from subject to predicate with no associations to the richness of the language and as though the metaphorical aspects of the language were of less importance to the meaning. I do not think this is the case, for schizophrenics or the rest of us. The fact that schizophrenics give passing mention to other forks in the linguistic path (or take unexpected forks) is undeniable; so do most of us at times; we all have that ability, but seem to do so only at certain times. I think these are the times when we wish to bring an added dimension to our progress down the path of attention, tapping into the parallel processes by which our minds work. We do this particularly when we wish to affirm our right of choice, which exists in thought and language even when it does not in action. We may look for extra connections in words when we wish to firm up the connection between ideas we feel are related. We especially indulge in poiesis when we wish to lend an impressive echo in another dimension of communication, to convince the other fellow or ourselves that we have considered all the possibilities and are convinced that we are right. A special use of metaphorical language is when we are trying to avoid the somewhat limited conclusions of our formal scientific logic. The schizophrenic gets in trouble by trying to press on others the private linguistic connections he or she has found as the order of things they should accept; social manners demand more relativity of viewpoint than that. Of course, it is difficult to develop proper manners when you are the only inhabitant of a barren asteroid and have to think them up yourself.

The listener may ask, Of what use is the understanding of these language processes in the management of schizophrenia and other disorders? Vetter (1968) suggested that the investigation of schizophrenic language has been disappointing insofar as it has been tied for 40 years to a symptom-oriented, functional approach. Vetter feels that language may not be related to psychopathology in any straightforward way and recommends the participation of specialists in linguistics, psycholinguistics, learning theory, and speech pathology in the further investigation of the causes of schizophrenia. Some recent methods of inquiry, such as Laffal's (1968) use of contextual associates, are included in the collection, which is much like an updated version of Kasanin's (1944) *Language and Thought in Schizophrenia.*

Aside from the problem of etiology and pathogenesis, therapists can gain a great deal by an interest in the language of their patients.

First of all in comprehending a schizophrenic's language it is wise to listen with as much attention or more than you might give anyone else, rather than dismissing it out of hand as a "psychotic production." Schizophrenics often use perfectly proper language that is just unusual and beyond the therapist's more average experience. A dictionary will often surprise one by revealing that the patient's neologism is not new but just unusual. Next, listen with as tertiary an ear as you can muster to the material of the metaphors the patient uses. People give themselves away by their figures of speech. Bruch and Palumbo (1961) found what they called topological expressions in the metaphors of some schizophrenics they studied. These were words for closeness and distance, separation, sequence, continuity, and enclosure, reminiscent of the palpable relationships of the infant 18 months to 2 years old. Such words were thought to express a wish for nearness to the mother. Lorenz (1955) found evidence of primitive aggressive themes in the material of metaphors used by paranoid schizophrenics.

In my opinion (Forrest 1973), the content of the supposedly superficial metaphors of speech is a very rich source of information that many therapists do not pay much attention to, although these metaphors powerfully influence the impression one has of the patient. I find that schizophrenic and nonschizophrenic patients alike tend to do things to their language when they are speaking of the difficult areas in which they need help—so I listen for well-worn phraseology, the occurrence of striking or unusual images or metaphors, or the dull, rigid repetitions of certain everyday phrases; I find that rhetoric covers fear, and alliteration and assonance occur in anxiety- or shame-producing areas. A good rule of thumb is that anything important, painful, or troublesome has come to mind so many times that the patient has refined his terms for those relationships into more efficient tools for the safe handling and disposal of the subject. Therapeutically, rephrasing of these terms in more lively and evocative language can uncover and enhance the emergence of feelings and, in those cases where this is less desirable, early in the therapy of schizophrenia, one may allay anxiety and support defenses by learning the patient's language and even helping to develop the poiesis further. The affects remain one's primary guide; it is just that one may avail oneself, through language, of more precise guideposts and tools to maintain or improve the patients' adaptations.

A major implication of the specific difficulty the schizophrenic person has in abstracting or comprehending the immediate interpersonal situations in which he or she is directly involved is the placement of greater demands on the therapist. The therapist must possess not just empathy but the range of living experiences, and the familiarity with a wide diversity of human situations, ethnic family practices, and behavior of persons of various characters, to be able to flesh out in his imagination the particular situation the schizophrenic patient is clasping and conveying so clumsily with his cognitive tongs, for fear of being burned, rather than grasping and handling it gracefully in consensual and living language.

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new community mental health center directory

A new, pamphlet-size publication, *1975 Directory: Federally Funded Community Mental Health Centers,* has been issued by HEW's National Institute of Mental Health. Prepared by NIMH's Division of Mental Health Service Programs, the *Directory* provides the name, address, phone number, and the name of the Director of each Center in all 50 States, Guam, the Virgin Islands, and the District of Columbia.

Some 87 million Americans—well over a third of the total U.S. population—live in areas where mental health services are provided through the centers. As of mid-1975, 507 centers were in operation, offering direct services of inpatient and outpatient care, partial hospitalization (day, night, or weekend care), and around-the-clock emergency services, plus indirect services such as consultation and education to community agencies and to service professions such as physicians, clergy, and teachers. Many centers also provide rehabilitation and special services for specific patient groups. Each center serves a community area ranging in size from 75,000 to 200,000 persons.

The National Institute of Mental Health is helping communities countrywide develop Comprehensive Community Mental Health Centers so that people with emotional problems can receive appropriate continuing treatment in their home communities. The centers are both planned and run by people in the community. Initial Federal assistance was provided in the form of construction and staffing grants or special grants for children's services.

The *Directory* may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at 75¢ per copy. Handling of orders will be facilitated if the stock number is given: Stock No. 017-024-00449-9.