Thought, Language, and Communication Disorders

I. Clinical Assessment, Definition of Terms, and Evaluation of Their Reliability

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• **Bleulerian psychiatry has considered thought disorder to be a pathognomonic symptom of schizophrenia. Evaluation of the Bleulerian perspective has been severely handicapped by the lack of any standard and widely agreed-on definition of thought disorder. Consequently, the conceptualization of thought disorder has tended to be quite diverse, and evaluation of thought disorder has tended to be quite unreliable. This report presents a set of definitions of linguistic and cognitive behaviors frequently observed in patients. These definitions derive from clinical experience, use an empirical approach, and avoid making inferences about underlying processes of thought. They attempt to define the broad range of language, thought, and communication behaviors observed in patients and are not limited to those considered characteristic of schizophrenia. The reliability of these definitions has been assessed using both tape-recorded and live interviews with patients, and it has been found to be quite good for most of the terms defined.**

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The concept of thought disorder was given preeminence in Bleuler's conceptualization of schizophrenia, and prior to the recent neo-Kraepelinian revival, Bleuler's influence on American psychiatry has been unrivaled. In Bleuler's view, a characteristic disturbance in thinking, due to associative loosening, was always present:

> Certain symptoms of schizophrenia are present in every case and at every period of the illness even though, as with every other disease symptom, they must have attained a certain degree of intensity before they can be recognized with any certainty. For example, the peculiar association disturbance is always present.... As far as we know, the fundamental symptoms are characteristic of schizophrenia, while the accessory symptoms may also appear in other types of illness.[1(p13)]

Following Bleuler, American psychiatrists have traditionally considered thought disorder to be a sine qua non and a pathognomonic symptom in the diagnosis of schizophrenia.

Recently, a variety of studies have begun to question this conceptualization of the relationship between thought disorder and schizophrenia.[2-8] Using a variety of definitions and methods of assessment, a number of investigators have suggested that thought disorder may occur in other psychiatric illnesses, especially mania, and that it may occur in normal individuals as well, particularly highly creative individuals such as writers. Further, other investigators have also observed that not all schizophrenics display thought disorder, especially at every stage of the illness.

One problem that has persistently plagued both researchers and clinicians interested in thought disorder has been the absence of any common ground of agreement concerning its definition. Most investigators have looked for a fundamental underlying deficit and have advanced a variety of competing hypotheses, such as loss of the abstract attitude, overinclusive thinking, defects in attention, or the immediacy hypothesis.[9-15] Clinical evaluation of thought disorder has emphasized a number of formal tests designed to elicit disordered thinking, such as proverb interpretation or projective tests.[16-20] Except for Kraepelin's early descriptions of thought disorder, little emphasis has been placed on simple clinical observation of patient behavior and careful definition of what is observed.[21] Clinicians do not have available any standard and uniformly agreed-on definitions of most terms commonly used to characterize thought disorder, and consequently there is great variation in the use of terminology across the country. Without agreement concerning the meaning of terms used, clinical evaluations of thought disorder are almost certain to be unreliable.

The present investigation was undertaken to provide a consistent set of definitions that could become standard and could be used with high reliability. This article describes the development of such a set of definitions and their clinical evaluation. These definitions will be used in the glossary of DSM-III, and therefore will probably become standard for American psychiatrists eventually. This article presents the definitions themselves, so that they can be available prior to the publication of DSM-III, presents data concerning their reliability, and provides examples from the speech of patients. The frequency of various types of thought disorder in various diagnostic groups will be discussed in a subsequent report.

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This set of definitions narrows the definition of thought disorder down to what is often referred to as "formal thought disorder." Sometimes the term "thought disorder" is used so broadly that it refers to disordered content of thought, including such phenomena as delusions and hallucinations. Both Bleuler and Kraepelin recognized that patients may have disorders in their "form of thought" in addition to their content of thought, and Bleuler's distinction between fundamental and accessory symptoms in fact rests on this distinction between disorders in the form and content of thought. Consequently, the term "thought disorder" is used herein to mean "formal thought disorder."

In a clinical setting, for which these definitions were designed, thought disorder is usually inferred from the patient's language behavior. Operationally, without complicated experimental procedures, we can only infer a person's thoughts from his speech. Consequently, this set of definitions emphasizes the observation of language behavior as a way of evaluating thought disorder. This approach is open to several criticisms and is used with some reservation, but has been selected for its heuristic value. Although such an approach assumes that thinking can be inferred from language, a substantial body of research and clinical experience in aphasia and language acquisition suggests that thought and language are not perfectly correlated.[22-24] Deaf children who have not as yet developed any speech show definite abilities to think conceptually, for example. Aphasic patients often become frustrated with their inability to articulate in language thoughts that are clearly formulated in their minds. Further, anyone can exert conscious control over his language behavior and manipulate it in various ways to conceal or obscure his thoughts. Thus, one cannot in fact infer with certainty that normal language reflects normal thinking or conversely that disordered language reflects disordered thinking. Within the typical clinical practice of psychiatry, however, the term "thought disorder" or "formal thought disorder" is most often used as synonomous with "disorganized speech." Perhaps clinicians should begin to modify their own language behavior to describe their thinking more precisely and to use the term "disorganized speech" instead of "thought disorder," since disorganized speech is a more accurate term for the behavior they are observing. For the moment, however, the term "thought disorder" enjoys wide use, and consequently it has been used in these articles.

WRITING THE DEFINITIONS

Because, in a clinical situation, thought disorder is almost invariably inferred from observation of the patient's speech and language behavior, the definitions were written to describe speech and language behaviors commonly seen in psychiatric patients without any attempt to characterize the underlying cognitive processes unless they were reported by the patient. The definition of blocking, for example, depends on the observation of a break in the patient's train of speech, and in addition on his statement that he somehow lost track of what he meant to say or believed his train of thought to be somehow interrupted. This strictly empirical or observational approach was selected because it was considered likely to improve reliability. Terms selected for definition emphasize the importance of observing speech or language. For example, borrowing from Wing,[25] the traditional "poverty of thought" has become "poverty of speech" and "poverty of content of speech" in this set of definitions.

Although the term "thought disorder" is often used as if it refers to a single phenomenon, the speech and language behaviors through which it becomes manifest are heterogeneous. A number of these language behaviors seem conceptually divergent and often are not correlated in the same patient, such as "poverty of thought" and "loose associations." Consequently, this set of definitions recognizes a potential diversity within the category of "thought disorder" and defines 18 different language behaviors that are all considered to be subtypes of thought disorder. In addition, two language disorders that occur in aphasia—semantic and phonemic paraphasia—are also defined to encourage clinicians to include aphasia in their differential diagnosis.

In selecting terms for definition, an attempt was made to be as comprehensive as possible. The set of terms defined includes the range of language behaviors observed in most psychiatric patients, without any attempt to restrict the set of definitions to those seen only in schizophrenia. This decision grew out of the clinical experience that such language behaviors as clanging or blocking or skipping from topic to topic occur in other psychiatric disorders, such as mania and depression, and they also occur in the speech of people who do not meet criteria for any psychiatric diagnosis. A comprehensive set of definitions written without any particular diagnostic bias has the great advantage that it permits us to determine how common these language phenomena are in various diagnostic groups and to see if any are in fact pathognomonic of any particular diagnosis. (Two definitions, those of phonemic and semantic paraphasia, are exceptions and include diagnostic issues within the definitions. These two definitions were added after the study was completed because our experience in collecting data for this study led us to realize how difficult it may be at times to distinguish disorganized psychotic speech from aphasia. The rationale for this decision is complex and has been discussed in another article.[26])

In choosing which terms to define and how to define them, decisions were sometimes made to redefine, combine, or delete older concepts. These decisions were usually made with the objective of enhancing reliability. For example, the older term "loose associations" has not been used because it is based on an outdated associationist psychology and because it has been used so loosely as to be nearly meaningless. The term "derailment" has been substituted because it is graphically descriptive, carries a minimum of connotative baggage, and yet has a good historical precedent because it was Kraepelin's term.[21] Four other terms that also may at times be equivalent to the older concept of associative loosening are also defined: tangentiality, incoherence, illogicality, and clanging. Since it is probably impossible to achieve good reliability when clinicians must make judgments on how close relationships are between various ideas, definitions that must turn on this judgment have generally been eliminated. Therefore,

for example, the term "flight of ideas" has been dropped and is now subsumed under the concepts of derailment and pressure of speech.

PILOTING THE DEFINITIONS AND ASSESSING RELIABILITY

After the definitions were written, a four- or five-point rating scale was developed for each. These definitions were then piloted for reliability and clarity of description, using a library of tape-recorded interviews about recent experiences and personal interests with a series of 44 patients with diagnoses of mania (n = 13), depression (n = 16), or schizophrenia (n = 15). Two raters listened to these tape-recorded interviews and recorded their ratings for each. One of the raters had originally collected and transcribed the recordings, but the other (N.C.A.) had not heard them previously and was blind as to diagnosis.

After this pilot study was completed, the results were analyzed using weighted κ. Agreement was sufficiently good to warrant continuation of the investigation. After the pilot study was completed, the definitions were reviewed by both raters and minor revisions made to introduce improvements that had been suggested by the piloting.

During the second phase of development, the definitions and rating scale were used to evaluate the speech of 69 patients during a live interview. A standardized interview was developed that did not contain any questions concerning symptomatology, so that interviewers would be blind as to the patient's diagnosis. The interview began by inviting the patient to talk without interruption for about ten minutes, after which a variety of questions were asked, ranging from the abstract ("Why do people believe in God?") to the concrete ("How far did you go in school?") and the impersonal ("What do you think of President Nixon?") to the personal ("Tell me about your first sexual experience."). Each interview lasted for approximately 45 minutes; each was tape-recorded and transcribed, but the tapes were not used to assist in making ratings. These were all done live, with the recognition that fine details or nuances of disorder might be missed, since the live rating would most closely approximate the usual clinical situation. The original pilot study convinced us that evaluations of language behavior can only be done well through a live or videotape interview. Using either transcripts or audiotapes appeared to make evaluations very difficult and perhaps to make the patient seem more disorganized, since the clinician lost visual and auditory cues that might make the patient's statements seem more sensible. This problem is especially serious when transcripts alone are used.

The patients were drawn from three different centers to maximize variance: Iowa City Veterans Hospital, Iowa Psychiatric Hospital, and Mt Pleasant Hospital (a large state hospital approximately 60 miles from Iowa City). To assess reliability, two raters were present at every interview. To maintain blindness, the patients were identified and invited to participate in the study by a third interviewer, who determined the diagnosis, discussed the study with the patient, and obtained informed consent. Patients were drawn from three diagnostic groups: mania (n = 19), schizophrenia (n = 30), and depression (n = 20). On completion of data collection, the data were again analyzed, using both unweighted and weighted κ. Because the results did not differ statistically significantly between the pilot study and the final study, the data from both studies are pooled in this report.

Kappa Values of Definitions of Thought Disorder in 113 Psychiatric Patients

	Full-Scale Weighted κ	Present-Absent Unweighted κ
Poverty of speech	.81	.75
Poverty of content of speech	.77	.62
Pressure of speech	.89	.82
Distractible speech	.78	.78
Tangentiality	.58	.49
Derailment	.83	.71
Incoherence	.88	.91
Illogicality	.80	.69
Clanging	.58	.53
Neologisms	.39	.49
Word approximations	−.02	−.02
Circumstantiality	.74	.80
Loss of goal	.70	.65
Perseveration	.74	.46
Echolalia	.59	.42
Blocking	.79	.71
Stilted speech	.70	.32
Self-reference	.50	.36

The κ values for each of the definitions appear in the Table. As that Table indicates, interrater reliability for most of the definitions is excellent. Of the 18 definitions, only six have weighted κ values below .6, the figure often considered an acceptable cutoff point for good reliability: tangentiality, clanging, echolalia, self-reference, neologisms, and word approximations. Except for tangentiality, these language behaviors tended to occur very infrequently, thus making accurate assessment of κ difficult because the data did not contain enough variance. The disorders that did occur frequently, such as derailment or poverty of content of speech, tend to have excellent κ values. Unweighted κ, used to determine the reliability of judgment concerning presence or absence of the subtypes, is also quite good or at least acceptable (>.5) for most subtypes. Full-scale unweighted κ was also calculated to determine how well raters agreed on actual scores (ie, to rule out the possibility that although the raters could agree on which patients were high or low on a particular variable, this high agreement was compromised because one rater consistently rated higher than the other). These full-scale unweighted κ values were of course somewhat lower, but consistently similar to the full-scale weighted κ and the present-absent unweighted κ, suggesting that rater response bias was not a problem.

Interrater reliability was assessed rather than test-retest reliability for several reasons. Ordinarily, test-retest reliability is a fairer and more stringent test. In the case of thought disorder, however, most of the disagreement arises because two observers do not agree about the nature of what they observe in the same patient, either because they make different inferences about his process of

thought (observation variance) or because they apply different definitions (criterion variance).[27] These are the two sources of variance that produce disagreement and poor reliability, and they are best assessed through examining interrater reliability. On the other hand, many patients show substantial changes in their cognitive functioning over just a few days (occasion variance); this would lead to a poor test-retest reliability that would be meaningless as a measurement of reliability, since it would reflect real changes in the patient.

TEST OF THE DEFINITIONS

These reliability data are based on the following definitions. Most of the definitions include a discussion of the interrelationships between terms. Most also include an example drawn from the transcripts of the speech of the patients studied. Instructions for applying these definitions by using a rating scale, the Scale for the Assessment of Thought, Language, and Communication, are also available on request from the author. Terms that occur more frequently or are more likely to reflect severe psychopathology are listed first. Data concerning frequency and diagnostic significance will appear in a subsequent article.

Poverty of Speech (Poverty of Thought, Laconic Speech).—Restriction in the *amount* of spontaneous speech, so that replies to questions tend to be brief, concrete, and unelaborated. Unprompted additional information is rarely provided. For example, in answer to the question, "How many children do you have?", the patient replies, "Two. A girl and a boy. The girl is 13 and the boy 10." "Two" is all that is required to answer the question, and the rest of the reply is additional information. Replies may be monosyllabic, and some questions may be left unanswered altogether. When confronted with this speech pattern, the interviewer may find himself frequently prompting the patient to encourage elaboration of replies. To elicit this finding, the examiner must allow the patient adequate time to answer and to elaborate his answer.

Example.—Interviewer: "Do you think there's a lot of corruption in government?" Patient: "Yeah, seem to be." Interviewer: "Do you think Haldeman and Ehrlichman and Mitchell have been fairly treated?" Patient: "I don't know." Interviewer: "Were you working at all before you came to the hospital?" Patient: "No." Interviewer: "What kind of jobs have you had in the past?" Patient: "Oh, some janitor jobs, painting." Interviewer: "What kind of work do you do?" Patient: "I don't. I don't like any kind of work. That's silly." Interviewer: "How far did you go in school?" Patient: "I'm still in 11th grade." Interviewer: "How old are you?" Patient: "Eighteen."

Poverty of Content of Speech (Poverty of Thought, Empty Speech, Alogia, Verbigeration, Negative Formal Thought Disorder).—Although replies are long enough so that speech is adequate in amount, it conveys little information. Language tends to be vague, often overabstract or overconcrete, repetitive, and stereotyped. The interviewer may recognize this finding by observing that the patient has spoken at some length but has not given adequate information to answer the question. Alternatively, the patient may provide enough information to answer the question, but require many words to do so, so that a lengthy reply can be summarized in a sentence or two. Sometimes the interviewer may characterize the speech as "empty philosophizing."

Exclusions.—This finding differs from circumstantiality in that the circumstantial patient tends to provide a wealth of detail.

Example.—Interviewer: "Tell me what you are like, what kind of person you are." Patient: "Ah one hell of an odd thing to say perhaps in these particular circumstances, I happen to be quite pleased with who I am or how I am and many of the problems that I have and have been working on I have are difficult for me to handle or to work on because I am not aware of them as problems which upset me personally. I have to get my feelers way out to see how it is and where that what I may be or seem to be is distressing, too painful or uncomfortable to people who make a difference to me emotionally and personally or possibly on an economic or professional level. And I am I think becoming more aware that perhaps on an analogy the matter of some who understand or enjoy loud rages of anger, the same thing can be true for other people, and I have to kind of try to learn to see when that's true and what I can do about it."

Pressure of Speech.—An increase in the amount of spontaneous speech as compared with what is considered ordinary or socially customary. The patient talks rapidly and is difficult to interrupt. Some sentences may be left uncompleted because of eagerness to get on to a new idea. Simple questions that could be answered in only a few words or sentences will be answered at great length, so that the answer takes minutes rather than seconds and indeed may not stop at all if the speaker is not interrupted. Even when interrupted, the speaker often continues to talk. Speech tends to be loud and emphatic. Sometimes speakers with severe pressure will talk without any social stimulation and talk even though no one is listening. When patients are receiving phenothiazines or lithium carbonate, their speech is slowed down by medication, and then it can be judged only on the basis of amount, volume, and social appropriateness. If a quantitative measure is applied to the rate of speech, then a rate greater than 150 words per minute is usually considered rapid or pressured. This disorder may be accompanied by derailment, tangentiality, or incoherence, but it is distinct from them.

Distractible Speech.—During the course of a discussion or interview, the patient repeatedly stops talking in the middle of a sentence or idea and changes the subject in response to a nearby stimulus, such as an object on a desk, the interviewer's clothing or appearance, etc.

Example.—"Then I left San Francisco and moved to.... Where did you get that tie? It looks like it's left over from the '50s. I like the warm weather in San Diego. Is that a conch shell on your desk? Have you ever gone scuba diving?"

Tangentiality.—Replying to a question in an oblique, tangential, or even irrelevant manner. The reply may be related to the question in some distant way. Or the reply may be unrelated and seem totally irrelevant. In the past, tangentiality has been used as roughly equivalent to loose associations or derailment. The concept of tangentiality has been partially redefined so that it refers only to

questions and not to transitions in spontaneous speech.

Example.—Interviewer: "What city are you from?" Patient: "Well that's a hard question to answer because my parents. . . . I was born in Iowa, but I know that I'm white instead of black so apparently I came from the North somewhere and I don't know where, you know, I really don't know where my ancestors came from. So I don't know whether I'm Irish or French or Scandinavian or I don't I don't believe I'm Polish but I think I'm I think I might be German or Welsh. I'm not but that's all speculation and that that's one thing that I would like to know and is my ancestors you know where where did I originate. But I just never took the time to find out the answer to that question."

Derailment (Loose Associations, Flight of Ideas).—A pattern of spontaneous speech in which the ideas slip off the track onto another one that is clearly but obliquely related, or onto one that is completely unrelated. Things may be said in juxtaposition that lack a meaningful relationship, or the patient may shift idiosyncratically from one frame of reference to another. At times, there may be a vague connection between the ideas; at others, none will be apparent. This pattern of speech is often characterized as sounding "disjointed." Perhaps the commonest manifestation of this disorder is a slow, steady slippage, with no single derailment being particularly severe, so that the speaker gets farther and farther off the track with each derailment without showing any awareness that his reply no longer has any connection with the question that was asked.

Although less severe derailments (ie, those in which the relationship between juxtaposed ideas is oblique) have sometimes been referred to in the past as tangentiality or as flight of ideas when in the context of mania, such distinctions are not recommended because they tend to be unreliable. Flight of ideas is a derailment that occurs rapidly in the context of pressured speech. Tangentiality has been defined herein as a different phenomenon in that it occurs as the immediate response to a question.

Exclusions.—Derailment differs from circumstantiality in that each new subject is only obliquely related or even unrelated to the previous one and is not a further illustration or amplification of the same idea or subject. It may lead to loss of goal, but the speaker may also realize that he has gotten off the track and return to his original subject, and this should also be considered derailment.

Example.—Interviewer: "What did you think of the whole Watergate affair?" Patient: "You know I didn't tune in on that, I felt so bad about it. I said, boy, I'm not going to know what's going on in this. But it seemed to get so murky, and everybody's reports were so negative. Huh, I thought, I don't want any part of this, and I was I don't care who was in on it, and all I could figure out was Artie had something to do with it. Artie was trying to flush the bathroom toilet of the White House or something. She was trying to do something fairly simple. The tour guests stuck or something. She got blamed because of the water overflowed, went down in the basement, down, to the kitchen. They had a, they were going to have to repaint and restore the White House room, the enormous living room. And then it was at this reunion they were having. And it's just such a mess and I just thought, well, I'm just going to pretend like I don't even know what's going on. So I came downstairs and 'cause I pretended like I didn't know what was going on, I slipped on the floor of the kitchen, cracking my toe, when I was teaching some kids how to do some double dives."

Incoherence (Word Salad, Jargon Aphasia, Schizophasia, Paragrammatism).—A pattern of speech that is essentially incomprehensible at times. The incoherence is due to several different mechanisms, which may sometimes all occur simultaneously. Sometimes the rules of grammar and syntax are ignored, and a series of words or phrases seem to be joined together arbitrarily and at random. Sometimes portions of coherent sentences may be observed in the midst of a sentence that is incoherent as a whole. Sometimes the disturbance appears to be at a semantic level, so that words are substituted in a phrase or sentence so that the meaning seems to be distorted or destroyed; the word choice may seem totally random or may appear to have some oblique connection with the context. Sometimes "cementing words" (coordinating and subordinating conjunctions such as "and" and "although" and adjectival pronouns such as "the," "a," and "an") are deleted.

This type of language disorder is relatively rare. When it occurs, it tends to be severe or extreme, and mild forms are quite uncommon. It may sound quite similar to a Wernicke's aphasia or jargon aphasia; in these cases, the disorder should only be called incoherence (thereby implying a psychiatric disorder as opposed to a neurological disorder) when history and laboratory data exclude the possibility of a known organic etiology and formal testing for aphasia gives negative results.

Exclusions.—Mildly ungrammatical constructions that occur when a person is searching for the right word, phrase, or idea should not be rated as incoherence. (For example, "My father, he, for a long time, well he just started . . . he joined the church and became a, I say he's a Christian now because he used to lie and run around a lot.") Idiomatic usages characteristic of particular regional or ethnic backgrounds, lack of education, or low intelligence should also not be rated as incoherence. ("He ain't got no family." "That there was no good." "The lawn needs mowed." "He took the tools down cellar.")

Incoherence often is accompanied by derailment. It differs from derailment in that the abnormality occurs at the level of the sentence, within which words or phrases are joined incoherently. The abnormality in derailment involves unclear or confusing connections between larger units, such as sentences or ideas.

Examples.—Interviewer: "Why do you think people believe in God?" Patient: "Um, because making a do in life. Isn't none of that stuff about evolution guiding isn't true anymore now. It all happened a long time ago. It happened in eons and eons and stuff they wouldn't believe in him. The time that Jesus Christ people believe in their thing people believed in, Jehovah God that they didn't believe in Jesus Christ that much."

Interviewer: "What do you think about current political issues like the energy crisis?" Patient: "They're destroying too many cattle and oil just to make soap. If we need soap when you can jump into a pool of water, and then when you

go to buy your gasoline, my folks always thought they should get pop, but the best thing to get is motor oil, and money. May may as well go there and trade in some pop caps and, uh, tires, and tractors to car garages, so they can pull cars away from wrecks, is what I believed in."

Illogicality.—A pattern of speech in which conclusions are reached that do not follow logically. This may take the form of non sequiturs (ie, it does not follow), in which the patient makes a logical inference between two clauses that is unwarranted or illogical. It may take the form of faulty inductive inferences. This particular disorder is also quite common among nonpatients. It may also take the form of reaching conclusions based on faulty premises without any actual delusional thinking.

Exclusions.—Illogicality may either lead to or result from delusional beliefs. When illogical thinking occurs within the context of a delusional system, it should be subsumed under the concept of delusions and not considered a separate phenomenon representing a different type of thinking disorder. Illogical thinking that is clearly due to cultural or religious values or to intellectual deficit should also be excluded.

Example.—"Parents are the people that raise you. Any thing that raises you can be a parent. Parents can be anything, material, vegetable, or mineral, that has taught you something. Parents would be the world of things that are alive, that are there. Rocks, a person can look at a rock and learn something from it, so that would be a parent."

Clanging.—A pattern of speech in which sounds rather than meaningful relationships appear to govern word choice, so that the intelligibility of the speech is impaired and redundant words are introduced. In addition to rhyming relationships, this pattern of speech may also include punning associations, so that a word similar in sound brings in a new thought.

Example.—"I'm not trying to make noise. I'm trying to make sense. If you can make sense out of nonsense, well, have fun. I'm trying to make sense out of sense. I'm not making sense (cents) anymore. I have to make dollars."

Neologisms.—New word formations. A neologism is defined here as a completely new word or phrase whose derivation cannot be understood. Sometimes the term "neologism" has also been used to mean a word that has been incorrectly built up but with origins that are understandable as due to a misuse of the accepted methods of word formation. For purposes of clarity, these should be referred to as word approximations (discussed in the following section). Neologisms are quite uncommon.

Examples.—"I got so angry I picked up a dish and threw it at the geshinker." "So I sort of bawked the whole thing up."

Word Approximations (Paraphasia, Metonyms).—Old words that are used in a new and unconventional way, or new words that are developed by conventional rules of word formation. Often the meaning will be evident even though the usage seems peculiar or bizarre (ie, gloves referred to as "handshoes," a ballpoint pen referred to as "paperskate," etc). Sometimes the word approximations may be based on the use of stock words, so that the patient uses one or several words repeatedly in ways that give them a new meaning (ie, a watch may be called a "time vessel," the stomach a "food vessel," a television set a "news vessel," etc).

Exclusions.—Semantic and phonemic paraphasias should be included in this category only if the results of formal testing for aphasia are negative. Sometimes incoherent speech may seem to be based on possible semantic paraphasias in the absence of positive results on formal aphasia testing. Such cases should be considered to represent incoherence if the substitutions occur frequently, and the category of word approximations should be restricted to cases where semantic substitutions occur relatively infrequently. Words used metaphorically should not be considered as word approximations (eg, "I'm just a pin cushion or an ashtray to the rest of the world.").

Examples.—"Southeast Asia, well, that's like Middle Asia now." "His boss was a seeover."

Circumstantiality.—A pattern of speech that is very indirect and delayed in reaching its goal idea. In the process of explaining something, the speaker brings in many tedious details and sometimes makes parenthetical remarks. Circumstantial replies or statements may last for many minutes if the speaker is not interrupted and urged to get to the point. Interviewers will often recognize circumstantiality on the basis of needing to interrupt the speaker to complete the process of history-taking within an allotted time. When not called circumstantial, these people are often referred to as "long-winded." This form of speech is very common in nonpatients.

Exclusions.—Although it may coexist with instances of poverty of content of speech or loss of goal, it differs from poverty of content of speech in containing excessive amplifying or illustrative detail and from loss of goal in that the goal is eventually reached if the person is allowed to talk long enough. It differs from derailment in that the details presented are closely related to some particular idea or goal and in that the particular goal or idea must by definition eventually be reached.

Loss of Goal.—Failure to follow a chain of thought through to its natural conclusion. This is usually manifested in speech that begins with a particular subject, wanders away from the subject, and never returns to it. The patient may or may not be aware that he has lost his goal. This often occurs in association with derailment.

Perseveration.—Persistent repetition of words, ideas, or subjects so that, once a patient begins a particular subject or uses a particular word, he continually returns to it in the process of speaking.

Exclusions.—This differs from "stock words" in that the repeated words are used in ways appropriate to their usual meaning. Some words or phrases are commonly used as pause-fillers, such as "you know" or "like"; these should not be considered perseverations.

Examples.—"I think I'll put on my hat, my hat, my hat, my hat."

Interviewer: "Tell me what you are like, what kind of person you are." Patient: "I'm from Marshalltown, Iowa. That's 60 miles northwest, northeast of Des Moines, Iowa. And I'm married at the present time. I'm 36 years old. My wife is 35. She lives in Garwin, Iowa. That's 15 miles southeast of Marshalltown, Iowa. I'm getting a divorce at the present time. And I am at presently in a mental

institution in Iowa City, Iowa, which is a hundred miles southeast of Marshalltown, Iowa."

Echolalia.—A pattern of speech in which the patient echoes words or phrases of the interviewer. Typical echolalia tends to be repetitive and persistent. The echo is often uttered with a mocking, mumbling, or staccato intonation. Echolalia is relatively uncommon in adults, but more frequent in children.

Exclusions.—Some people habitually echo questions, apparently to clarify the question and formulate their answer. This is usually indicated by rewording the question or repeating the last several words (ie, from "What did you wear yesterday?" to "What did I wear yesterday?" or "Wear yesterday?").

Example.—Doctor says to the patient, "I'd like to talk with you for a few minutes." The patient responds with a staccato intonation, "Talk with you for a few minutes."

Blocking.—Interruption of a train of speech before a thought or idea has been completed. After a period of silence lasting from a few seconds to minutes, the person indicates that he cannot recall what he had been saying or meant to say. Blocking should only be judged to be present if a person voluntarily describes losing his thought or if on questioning by the interviewer he indicates that that was his reason for pausing.

Stilted Speech.—Speech that has an excessively stilted or formal quality. It may seem rather quaint or outdated, or may appear pompous, distant, or overpolite. The stilted quality is usually achieved through use of particular word choices (multisyllabic when monosyllabic alternatives are available and equally appropriate), extremely polite phraseology ("Excuse me, madam, may I request a conference in your office at your convenience?"), or stiff and formal syntax ("Whereas the attorney comported himself indecorously, the physician behaved as is customary for a born gentleman.").

Self-reference.—A disorder in which the patient repeatedly refers the subject under discussion back to himself when someone else is talking and also refers apparently neutral subjects to himself when he himself is talking. This finding usually cannot be evaluated on the basis of a psychiatric interview, since the subject is then asked to talk about himself. It may be observed during tests of the sensorium or informal conversation about neutral subjects and should be rated only in that context.

Example.—Interviewer: "What time is it?" Patient: "Seven o'clock. That's my problem. I never know what time it is. Maybe I should try to keep better track of the time."

Paraphasia, Phonemic.—Recognizable mispronunciation of a word because sounds or syllables have slipped out of sequence. Severe forms occur in aphasia, milder forms may occur as "slips of the tongue" in everyday speech. The speaker often recognizes his error and may attempt to correct it.

Example.—"I sipped on the lice and broke my arm while running to catch the bus."

Paraphasia, Semantic.—Substitution of an inappropriate word during his effort to say something specific. The speaker may or may not recognize his error and attempt to correct it. It typically occurs in both Broca's and Wernicke's aphasia. It may be difficult to distinguish from incoherence, since incoherence may also be due to semantic substitutions that distort or obscure meaning. When this differential decision must be made, it is suggested that formal testing for aphasia be completed; if the testing is positive, then the semantic substitutions may be considered due to semantic paraphasia, and if negative to incoherence.

Example.—"I slipped on the coat, on the i-i-ice I mean, and broke my book."

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