Chapter Two

THE NATURE OF DEVIATION IN PSYCHOTIC SPEECH

The variety of deviations associated with schizophrenic speech can be seen to arise from a deficit in speech production, one probably related to other known deficits in schizophrenics and their relatives, such as those revealed in studies of eyetracking. Viewing schizophrenic deviations in terms of path control allows us to see an underlying unity in what appears to be a bewildering variety of deviations. The kinds of deviations long classified as being schizophrenic differ from normal errors. Even such matters as clichés arise from different conditions in the two populations.


As one looks at the apparently bewildering variety of SD productions, it is easy to see the reasons for the many conflicting theories about what causes it and what it can mean. It is also easy to see why so many different kinds of experimental protocols have been attempted, each designed to test for some apparent feature of such speech. Insofar as these rested upon simplistic views about what language is, their results were flawed. A corollary problem has been an incomplete understanding of what psychotic language is. This, too, has foiled attempts at an adequate understanding of the problem.

It bears repeating that any explanation also must account for the variability in the degree of deviance manifested in the speech of schizophrenics, especially in terms of linguistic structure (e.g., Brown 1973; Cohen 1978; Rochester, Martin, and Thurston 1977; Cromwell 1984; Fraser, King, Thomas, and Kendell 1986; Andreasen and Grove 1986). It must also explain why only a subset of patients diagnosed “schizophrenic” produce structurally deviant speech, and why those that do produce it do so intermittently (e.g., Maher, McKeon, & McLaughlin 1966; Reilley, Harrow, & Tucker 1973; Benson 1973; Chaika 1974a,b,
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1977; Lecours & Vanier-Clement 1976). In evaluating any study, we must ensure that the researchers have selected their subjects from among those who are SD (Chapter 8). DiSimone, D'arley, and Aronson (1977), for instance, say that schizophrenics did not perform like aphasics on an aphasia test battery, but they nowhere indicate that they have selected an SD population. Even if they had, it is entirely possible that SD psychotic speech proceeds from different underlying sources than does aphasic speech.

The explanation offered here uses as its empirical base all of the kinds of speech data that have been reported as pathognomic to schizophrenics. Most important, perhaps, the power of the explanation presented here is that it takes a set of ostensibly confusing data and shows that they make sense when looked at in a certain way. In the words of Morton (1979, p. 109) “Inasmuch as . . . the model accounts for data and generates further understanding, it fulfills its purpose as a psychological model.”

As disparate as the features of schizophrenic speech seem on the surface, closer inspection suggests that all of these deviations may actually be different manifestations of two underlying dysfunctions: lack of control over selection of linguistic material combined with inappropriate perseverations (Chaika 1982a). Actually, even inappropriate perseverations can be seen as a process of getting stuck, which is also a problem in controlling one's speech.

As we have seen, the lack of control leads to the word finding difficulties revealed by gibberish, neologizing, opposite speech, and other erroneous word retrieval. It also manifests itself by morphological and syntactic errors ranging from relatively transparent failures to attach noun or verb morphemes appropriately to speech so disordered that it creates a word salad in which individual words are recognizable but their syntactic frames are not. Then there are problems at the discourse level, such as intrusive material not germane to the task at hand or the general context. These are so called because the resultant output is as if incidental or unintentionally produced material has intruded. Intrusions actually occur on the level of word selection as well as that of discourse itself. Glossomanic chaining is as much an intrusion as the wandering narrative in which someone starts talking about events or ideas having no relevance to the matter at hand. Lack of control leads to intrusions because unwanted or unintended material has intruded into target utterances as a byproduct of problems in speech production.

There is evidence to suggest strongly that at least some SD speakers
themselves are aware that they are not controlling their speech processes. Chapman (1966) interviewed schizophrenics after they recovered from a psychotic episode. They told him that they were trying to talk but what was coming out of their mouths was not what they intended to say, and they could not correct themselves. Similarly, in my own studies, many patients apologized for their speech, saying, for instance, that they stuttered or couldn't speak correctly. One patient I observed whose speech was larded with gibberish, after seeing himself in a videotaped interview, commented "No wonder people don't understand me. I heard myself on tape before but I thought the tape was distorted."

This same patient said a chipmunk brought him his special language in seeds. As is well known, other patients complain that a spirit or some other being has taken over their minds or supplied them with a new language. Such delusions can possibly arise from their feelings of lack of control, of not being able to control what they want to say. People are always trying to explain their behavior, especially if they feel that it is inappropriate or outlandish. I am not offering this suggestion as God’s Truth, but as a hypothesis which explains both the weird language of some psychotics, and their own consequent belief that they can no longer control their speech and other mental activities, including perceptions.

Such feelings may also be the origin of the intense interest in religion evinced so many schizophrenics. They may ascribe the auditory and visual hallucinations to their being inhabited by spirits or to special messages brought to them by Jesus or a saint or other spirit. In support of my speculation here there is independent corroboration of the psychotic's awareness. Chapman (1966) also showed that schizophrenics reported distorted vision as well as a lack of control over their speech. Therefore, they assume that they are being controlled by other spirits, and that their inability to control their speech is because spirits, good or bad, have taken it over. They know that strange things had happened to their very perceptions as well as to their ability to speak. Maher (1983, p. 154) gives a number of first person accounts of schizophrenics. In these, they say they cannot control what they notice. This suggestion as to the genesis of schizophrenic claims of being possessed may very well also explain paranoia. If one no longer can control what's coming out of one's mouth—or what one hears as in auditory hallucination—it must be very frightening, and the sufferer might well suspect that some ones or some things have taken adverse possession or want to do that.
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The analysis presented here not only accounts for all of the kinds of deviant speech data reported in the literature, but for the cyclicity of their occurrence. Schizophrenic speech disruption is frequently cyclic in that a given patient might evince difficulty in a different stratum of linguistic production at different times, even in the same discourse. That is, at one time, a patient might have intact syntax but evince word-creation difficulty; yet, at another time, might show disordered syntax although words used seem to be usual words in the language (Chaika 1974; Rochester and Martin 1979, pp. 177–178).

As Brown (1977, p. 4) noted, “a symptom is a scientific datum no less than a sine wave or a synaptic cleft.” Structurally deviant speech is a symptom in and of itself and, as such, must be analyzed in its own right. This necessarily entails examining speech without reference to the thought behind it. The relationship between language and thought will be discussed in Chapter 3. Even if one’s scientific or philosophic principles, or both, allow one to deduce thought disorder from speech disorder, the exact nature of the speech disorder still must be characterized in and of itself. If one is basing an assumption of thought disorder on speech disorder, then the disordered thought still has to be related to the disordered speech.

Often, patients have deviations interspersed between otherwise normal discourse. This circumstance also must be taken into account in any explanation. As Kean (1980, p. 242) emphasizes, “deviant linguistic behavior arises as a consequence of an interaction between impaired and intact components of the language faculty.” In all that follows, this must not be forgotten.


There are, to be sure, occasions for producing normal speech according to chance associations as in a punning situation. This occurs if there is some way that both meanings of a word can be forced into the topic at hand, e.g., read vs red, as in “What’s black and white and read all over?” Even here, topic and social situation constrain whether or not the chance association is appropriate. In recent years, American advertising has been characterized by a fit of punning. These puns have to be carefully constructed so that readers or viewers will stop a millisecond or so to
decode the double meaning. Such puns have got to be clever enough to
catch the ear and eye and to imply good things about the product. For
example, a face lotion advertising that it is pH balanced, advertised “A
balancing act for your skin.”

In contrast, Maher (1972) gives an example of what appears to be
ponne punning gone wild. Phonological shapes of words cause the puns, which
seem clever enough at the outset, but degenerate into a punning
glossomania:

1. To Wise and Company,

   If you think that you are being wise to send me a bill for money I
have already paid, I am in nowise going to do so unless I get the
whys and wherefores from you to me. But where fours have been
then fives will be and other numbers and calculations and accounts
to your no-account no-bill noble nothing.

   We see here intricate puns on wise and whys, including nowise, and the
association of the common expression why and wherefores all of which
seem related to the complaint to the company, but the pun on -fores and
fours, like other kinds of glossomania start veering off the topic. The
number word five seems to be an intrusion of the number after four, just
as the words calculations and accounts seem to have been triggered by the
mention of numbers and of bills. Since accounts are bills, the writer then
makes another pun, this one on the negative evaluation of a person, a
no-count, which leads to no-bill which reminds the person of noble. Given
the tightness of these associations and our love for puns, this passage
seems enormously clever, but the irrelevant punning and the chaining
character of each successive pun puts it squarely in the camp of glossomonic
chaining. Once in a while, such chaining can be felicitous. Usually it is
just baffling and strange.

   Note that none of these perseverations involve unusual or “strong”
association per use, contrary to Chapman et al. (1964) and Chapman et
al. (1976). For instance, the relationship between wise, nowise, no bill and
noble is quite unusual, so much so that the chaining is startling. Nor does
such glossomonic perseveration show “weakening of constructs” (Bannister
1960, 1962). Indeed, the bond of meaning that causes associational chaining
is, if anything, stronger than in normals since the chaining is based upon
accidental sharing of morphemes, accidental rhyming and alliterating,
and accidental sharing of partial meanings. In normal speech words and
phrases are chosen to advance a topic, not because their structures are similar.


Chapman (1966) and Chaika (1974), albeit on somewhat different grounds, argue that errors like gibberish and neologizing are indicative of a word finding difficulty. Considering that human languages are so constructed that new words can be made up and old words can be used in new ways to effect new meaning, it is not likely that incomprehensible neologizing and gibberish are a sign of creativity (Forrest 1976; Fromkin 1975). When new words or new meanings on old words are created normally, they are subordinated to a target meaning. Moreover, they can be utilized again by speakers or writers, and admit of discussion by their creators. None of these conditions seem to apply to psychotic neologizing.

There is usually a recognizable difference between normal creativity and schizophrenic novel usages although, as we have seen, in instances such as James Joyce's *Finnegan's Wake*, there may be question (Andreasen, 1973). It is not without significance, however, that Joyce like other artists of his day was experimenting with presenting the reader with the protagonist's stream of consciousness, that interior dialogue usually hidden from public view. This explanation does not depend upon the question of whether or not Joyce or any other stream-of-consciousness artists actually studied Freud, but psychoanalytic constructs were exhilarating to the intelligentsia and the works of many artists were stimulated by him whether or not they actually read him. Freud's belief in the inner reality of a well-developed unconscious had an undeniable effect on 20th century artists who then tried to explore the unconscious in their works.

As opaque as many such artistic works may be, if the artist develops them, refines them, works on them over and over, and can discuss his or her productions, we can still count them as art, in the sense of deliberate working of linguistic material. Joyce, for instance, is said to have worked painstakingly on *Finnegan's Wake* for 17 years. Joyce scholars claim that he reworked older sections in accordance with newer ones. His highly intricate verbal and mythic motifs definitely showed an artist's control. This is all in great contrast to the random output of psychotics, output that is rarely repeated on two consecutive days, if even in two consecutive conversations. All the evidence that I have been able to garner from the psychiatric literature and my own contacts with SD schizophrenics shows
a random associational course usually dependent on what their first sentence or phrase was, then in response to someone else or not. SD nonce-productions, then, are random, show no development, and show no working-over of material, nor do they show the relationship between the parts of a discourse to the whole (see Chapter 9). Genius often consists in being able to forge connections between new and disparate phenomena, but this forging is controlled. In contrast, psychotic slippage causes phrases, both usual and bizarre, to be juxtaposed with no control and usually with no further development, and this is true even when we can point to the presence of overtly stated cohesive devices (see Chapter 6).


We have seen several kinds of perseveration: repetitions of morphemes like -welt and Frank- or of phonological shapes like whys, wise, no-bill and noble. Sometimes the perseverations simply repeat words, as in

2A . . . Send it to me, Joseph Nemo, in care of Joseph Nemo, and me who answers by the name of Joseph Nemo and will care for it myself. Thanks everlasting and Merry New Year to Mentholatum Company for my nose, for my nose, for my nose, for my nose, for my nose. (Maher 1968, p. 30)

In word association testing, Clark and Clark (1977, pp. 477-483) also speak of syntagmatic associations, words that commonly precede or follow another word. These figure in responses in word association tests, such as whistle eliciting stop or long eliciting fellow. In schizophrenics, syntagmatic responses also occur, but, besides such usual ones shared by many speakers of a language, apparently idiosyncratic syntagmatic responses may occur, as in the connections between the parts shown below, such as the questions about Paradise or the comments about liking the families on Mill Avenue:

2B. Mill Avenue is a house in between avenues U and avenue T. I live on Mill Avenue for a period of for now a period of maybe fifteen year for around approximate fifteen years I like it the fam—I like every family on Mill Avenue I like every family in the world I like every family in The United State of America I like every family on on Mill Avenue I like Mill Avenue is a a block with that is busy cars always pass by all the time I always look out the window of
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my front porch front porch at time when I s- when I’m not sure if it’s possible about the way I think I could read people mind about people’s society attitude plot and spirit so I think I could read their mind as they drive by in the car sh- will I see Paradise will I not see Paradise should I answer should I not answer I not answer w- their thought of how I read think I could read their mind about when they pass by in the car in the house pass by in the car from my house I just correct for them for having me feel better about myself not answer will I should I answer should I not answer will I see Paradise will I not see Paradise I just correct them to have me feel better about myself about the way I think I can hear their mind r- about the way I think I could read their mind as they pass by the house Mill Avenue is also Mill Avenue is also a place of great event for all the families that live on Mill Avenue always eht- receive world wide attention and I am o- I am just one of the families live on Mill Avenue that always receive world wide attention so therefore [unintelligible] to receive world wide attention is receive world wide attention is some some you should be proud of you should be proud of world wide attention (unintelligible) there’s the family are just too out in the open not to have world wide attention so they all have world wide attention by the cars pa—that pass in the front cars that pass by all the time so therefore Mill Avenue is also a I like a quiet residential n- block like a quiet residential block with a Italian people talk outside by the fence discuss their feelings their attitudes their opinions opinion about any story feeling concept idea or sentence that they may have and once again when I look outside the window because I think I could read people’s minds about people’s society attitude plot and spirit w- should I answer should I not answer will I see Paradise will I not see Paradise I not answer correct them have me feel about better about myself like I said before I’m not sure if it’s possible about the way I think I could read people mind about people’s society attitude plot and spirit so I not answer them I just correct them have me feel better about myself Mill Avenue is also a place where people gather in back yards to have people gather in back yards to have a barbecue in the back yard to have relative over to have friend over to talk in the back yard to be merry with each other. (data courtesy of Dr. Bonnie Spring)

Even where phrases are repeated such as the “should I answer should I
not answer... Will I see Paradise will I not see Paradise...” the repetitions serve none of the usual purposes. They are reminiscent of refrains, but they fail as true refrains for four reasons. First, they do not come at predictable points as a true refrain does. Second, they do not function to strengthen some message or to create cohesion. Third, all the repetitious phrases in this passage are not repeated entirely and in the exact way as true refrains are. Rather, they seem to be randomly accessed sometimes after the start of a word which is then broken off. Fourth, the repetitions often seem to be broken off willy-nilly again in the middle of a phrase. The effect is that of a broken record in which the needle keeps getting stuck at certain points as well as skitters over tracks, accessing parts of refrains.

Both the glossomanic chaining and the pseudo-refrains are perseverations. In the case of the chaining, accidental similarities of morphemes or of meanings of words cause the chaining. It is as if the patient accesses one word or morpheme, and then, instead of ignoring its affiliates, so to speak, simply continues accessing other words connected to the first in some structural manner. In contrast, one normally accesses the word or phrase one wishes in order to express an idea or to otherwise give information, but then one goes to the next item which will advance one's topic, all the while avoiding those which do not do that regardless of whether or not they show some structural similarity to a word just expressed. To do otherwise is to lose what Werner et al. (1975) termed “path control” in fashioning utterances.

The inappropriate rhyming and alliterating associated with psychotic speech are also manifestations of inappropriate perseverative chaining. In these instances, chaining is on the basis of repeated final syllables (rhymes) or first sounds (alliteration), or both. Perseverations may be on several planes all at once, not simply one of rhymes or of morphemes.

The intricacy and intertwining of perseveration is beautifully illustrated in the sequence mentioned earlier “Looks like clay. Sounds like gray. Take you for a roll in the hay. Hay day. May Day. Help!” Cohen (1978, p. 29). This started out as an appropriate response to the color naming task which evoked this sequence. Besides the perseverating of the -ay in making the rhyme of “clay and gray, the two first sentences share the paradigmatic “looks like” and “sounds like,” both part of the set of two-part verbs used for describing the senses. Since “sounds like” is wholly inappropriate here, it can be seen both as an intrusion of a member of a set, but also as a perseveration of the construction [verb of
sense] + like. Additionally, the color gray seems to have been mentioned because it is a color and this was a color-naming task, as well as because of its chance phonological association with clay.

Although clearly the initial motivation for saying “mayday” may have been the rhyme, the end of the sequence, “Mayday... Help! I just cannot. Need help.” are semantically related. Even without positing that the patient really wanted help, which is entirely possible, the round-about way of asking for it is peculiarly schizophrenic, arising as it does at the end of a rhyming sequence. This passage, so notable for its rhyming and its ultimate semantic chaining, also shows syntactic chaining. Its first three sentences are all [Verb + Object] without overt subjects. That is, “Looks like clay,” “Sounds like gray,” and “Take you for a roll in the hay” and, later “Need help” all show the same basic syntactic frame. Then, too, looks like and sounds like are part of a paradigm of verbs + like that are used for describing experiences of the senses. Intrusions, then, are irrelevant but structurally similar items, and perseverations continue down what may have originated as an intrusive pathway.

The richness of the possible perseverations and intrusions in psychotic speech is matched by the richness of the associations of words in our brains which range from phonological, syntactic, semantic, cultural, and personal connections (Miller 1978; Forster, 1978; Morton 1979; Clark 1970; Deese 1965; Clark and Clark 1977, pp. 411–414; Foss and Hakes 1978, pp. 105–110, 122–124. Lieberman (1984, p. 47), for instance, lays out the way words in memory form associational networks in which phonetic representations serve as addresses to semantic readings. For his purposes, he considers initial sounds, positing a dictionary-like mental lexicon. The data from SD speech suggests that these phonetic addresses are even more complex, including final syllables, for instance, so that words are also connected to those that rhyme with them. Lieberman's model of “associative distributive neural models” is certainly consistent with the interpretation presented here for glossomania. Every word in the lexicon is associated with many others. Further, each word is associated in many ways: according to shared sounds, number of syllables, shared meanings, shared registers, shared derivations, shared topics likely to elicit them, and the like (Miller 1978). Given this richness, the apparent diversity of psychotic speech is explicable. The underlying process of impaired retrieval itself can be quite simple, but because this process can tap into an intricate and extensive set of networks, the output seems bafflingly varied.
Whatever factors that lead normals to screen out irrelevant associations and to control their output somehow fail for SD schizophrenics. As Rose (1976) said of free associating:

Once the brain has “chanced upon” a particular state, perhaps as a result of random or spontaneous firing, as in dreaming, the ensuing states will follow almost by necessity. (p. 262)


There is an alternate way of looking at the same data, that of failing to subordinate at different levels of linguistic processing. Neologisms and gibberish can also be seen as failure to subordinate sounds to appropriated word shapes, just as word salads show a failure to subordinate words to sentences. Failure to use appropriate inflectional markers is also a failure in subordination, as is failing to use appropriate syntactic markers like -ize, -tion, or -s’. Intrusive matters not pertaining to any discernible topic, as in glossomania, are also failure of subordination.

Topic is to discourse what sentence is to word and what word is to sound. The question of topic itself and its role both in producing discourse and understanding it merits a chapter in itself (Chapter 10). For now we note that language forms a hierarchy of subordinating structures. Failing to subordinate any level in this hierarchy into its appropriate higher structures leads to deviations.

These failures are major disruptions in speech production. In normal discourse, sounds and morphemes (such as Vor- or pup) are always subordinated to word shapes. Words have to be subordinated both to the syntactic requirements of the sentence and to the topic at hand. If a given word reminds the normal speaker/hearer of another topic, a signal is given announcing that. For instance, one says, “Ooh—that reminds me,” or “not to change the topic, but…” In some way, change of topic is announced, and subsequent utterances become subordinated to the new topic. By contrast, SD schizophrenics flit from one associated word or phrase to another, often with far fewer and shorter pauses than normal speakers (Rochester et al. 1977b; Silverman 1973). This last suggests a lack of planning in their productions.

Speech often considered most pathognomic of schizophrenia typically is not controlled by any discernible topic (Lecours and Vanier-Clement 1975; Werner et al. 1975). As already noted, even if the utterance starts
out with a phrase relevant to the context and topic at hand, it quickly veers away from it. Grice (1975, pp. 51-55) and Van Dijk (1977, p. 109) consider mention of matters extraneous to the topic at hand a far more serious failure in discourse than omissions of what might be considered relevant. Part of our normal decoding strategy is to figure out what has been left out. Adding too much detail actually makes discourse less interpretable for two reasons. One is obviously the load of remembering so much. The other is that if someone does mention something that can be figured out, the hearer assumes that there has been a special reason for doing so and then has to try to figure out that reason. If the point of the discourse is not germane to the overdetailed presentation, its entire point is soon lost.

Van Dijk (1980, pp. 29-50) convincingly shows that meaning and coherence are dependent on the macrostructure of discourse and the subordination of microstructures, such as phrases and sentences, to that macrostructure. Furthermore, he emphasizes that normal discourse has a discernible macrostructure, what is often idiomatically called “the point” and “the gist,” as well as “the theme” or “the topic.” It is this macrostructure that seems to be missing from much of the discourse presented in the literature as “schizophrenic,” even that in which the individual words and syntax are not deviant. The importance of a topic as a determinant of meaning will be explored later (Chapter 10).

It is the schizophrenic’s failure to subordinate to macrostructure that leads to the impairment of communicability found by researchers like Salzinger et al. (1978). They used the Cloze procedure on schizophrenic discourse. That procedure asks subjects to guess what deletions have been made in a given discourse. When decoding normal speech, one guesses at parts left out or not heard by referring to what is being talked about. Since SD schizophrenics veer off the topic erratically, it is much more difficult to guess what they have left out. All the Cloze procedure does is show the result of such veering. It is another way of saying that SD speech is not controlled and subordinated to a topic. There is a similar difference between schizophrenic rhyme and alliteration and that of artists. The former is random, caused by intrusions and perseverations whereas the latter adheres to a larger topic (Chaika 1977; Laferriere, 1977).

Like normal discourse SD schizophrenic output often seems to start out motivated by context and purpose. However, subsequent utterances may not be so motivated. Rather, unlike normal production, the rest of
the SD production may travel through associated words, cycling through them with no checking back to context or purpose, resulting in a cycling through associated words, referring back to syntax to put those words into a syntactic frame. In the case of complete word salads there is no reference back to syntax. In other instances, in fact, in glossomanic strings very frequently the syntactic frame of a previous utterance is perseverated.

Neologizing, gibberish, and wrong word, including opposite speech, are explained by the same circumstance. In these instances, the target word is not hit. Rather, as when normals are fatigued or excited, a word related to the target is retrieved. With neologizing and gibberish, the purposeless course of speech production interferes with the process of matching lexicon to proper phonology. If at least some morphemes are matched up, then neologisms result. If not, then gibberish does.

Punning, rhyming, alliterating, or other kinds of repeated words are also perseverations. If the perseveration cycles through the same syntax and words, then repeated phrases or sentences will occur, sometimes but not always as a refrain. All perseverations may be interspersed with apparently uninhibited “firings” of associated words.

This explanation accounts for one phenomenon that Reilly, Harrow, Tucker, Quinlan, and Siegel’s (1975) describe in schizophrenic speech. They believe that

... a certain portion of schizophrenics who show marked looseness during the acute phase may have always been somewhat vague... tend[ing] to grasp at the jargon of the moment... by virtue of the fact that this form of speaking does not give away... the speaker’s fundamental disorganization, confusion, vagueness, or lack of comprehension.

A more likely explanation, and one which has the merit of referring to observable data, is that clichés are accessed just as individual words are accessed. In Chapter 8, we will see such accessing of clichés interspersed throughout psychotic narratives.


There are two possible reasons that there seems to be less agrammatism than associative chaining. First, as Bradley et al. (1980) point out, grammatical function words are treated differently psychologically than the far larger class of lexical words with referential meaning. Disruption in
grammar, then, is not necessarily mirrored by disruption in word usage, and vice versa.

Second, there are fewer possible choices in syntax than in lexicon. This suggestion is borne out by the observation of Maher et al. (1966) that speech disruption in schizophrenics most frequently occurs at the ends of sentences. Under conditions of relatively free speech, speech unconstrained by experimental tasks, for instance, in English and most European languages, new information typically comes at the end of sentences. New information requires the most heavily modified phrases. Hence, there are more choices to be made at the ends of sentences, so that more mistakes can be made.

Because of the many ways words can be associated in the mental lexicon, and because of the complexity of language in general, the surface results of such firing appear to be great, resulting in deviations such as those presented in deviations 1-8 above.

[8] The Explanatory Value of This Explanation.

It should be noted that the explanation given here accounts for all data and does not posit steps in speech production for which we have no evidence, e.g., Cohen’s (1978) model. He, for instance, explains glossomanic chaining in terms of sampling responses and rejecting them for fear of punishment. Yet, in all of his examples, it is clear that the first response is almost always correct, with each subsequent utterance becoming more and more “punishable,” in behavioral terms because it becomes more and more bizarre for the context. Furthermore, there is no proof that such sampling for punishable responses takes place in production of speech, normal or not. Nor does the explanation tendered here ascribe putative motivations to the speakers, motivations which cannot be checked. One does not get very far asking an SD psychotic what he or she meant by what was just said.

The explanation offered here accounts for all of the aberrations considered typical of SD psychotic speech, including the differing degrees of incoherence. The intensity of the inhibitory dysfunction in each patient at varying times determines the degree of speech disorder, accounting for relatively minor intrusions as well as the most severe.

It also explains the often noted similarity between schizophrenic speech and poetic speech. What the poet does deliberately, subordinating to intended meaning, is to find new and unusual connections between
words. The schizophrenic chances upon such connections, although he/she cannot control them (LaFerriere, 1977, pp. 33–37). Some claim that schizophrenics are being creative, noticing new connections when they utter strings as in 5(a) above (Forrest 1976). Sometimes patients may even claim that they are noticing new relation between words. Other patients complain, however, that what got uttered is not what they intended to say (Chapman 1966). While I was doing an experiment at Butler Hospital, one SD patient listened to a tape recording of his speech made during a psychotic episode. He wonderingly commented that it was no wonder that no one understood him, and that he had heard himself on tape before, but he assumed that the tape was distorted.

Even if the patient feels as if he or she is noticing new connections, as noted above, the kinds of rhymes one finds in schizophrenic associative chaining are usually quite ordinary, about the level one hears from young children first experimenting with end rhyme.

Finally, the explanation offered here also shows why speech during psychotic episodes is more disorganized than at other times. Our inhibitory mechanisms do vary according to our mental states. During excitement and times of stress, for instance, “path control” is often lessened even for normals, and intrusions and slips increase. At these times, but to a lesser degree than SD schizophrenics, normals produce some of the same kinds of errors.

[9] Confirmation From Other Research.

Shimkunas (1978, p. 211) claims that schizophrenics show excessive verbal-temporal activation as compared with normal controls. Studies have shown that “Heightened general arousal, as indicated by skin-conductance levels, appears to be primarily mediated by the left hemispheres of acute . . . schizophrenics.” That is, the language hemisphere shows the kinds of overactivation that could lead to the kinds of intrusions discussed above. Rochester and Martin (1979, pp. 192–193) agree that “it is necessary to suppose some impairment in the left-hemisphere processes of schizophrenic patients.”


Comparing psychotic glossomanic productions to normal speech subordinated to the topic or nature of the social interaction makes manifest
The difference between controlled and automatic retrieval of linguistic forms. Glossomania sets off a round of synonyms, rhymes, alliterations, or personal memories not germane to the matter at hand. This seems to be an automatic process. Normal speech is controlled, subordinated to both the social situation and the intent of the speaker. There is no such control in glossomanic chaining.

Stilling, Feinstein, Garfield, Rissland, Rosenbaum, Weisler, and Baker-Ward (1987, pp. 55–60) in quite a different context discuss several studies of automated processes and how they can interfere with controlled processes, the latter being any goal-directed behavior. Typically, in such studies subjects first are trained to learn an automatic procedure. Once they have, they then are asked to do the controlled tasks. Researchers have found that the automatic processes can interfere with the task at hand if they redirect attention from it. Although none of these studies seem to have dealt with a psychotic population, they nevertheless predict incoherence arising from a state in which automatic processes dominate conscious controlled behavior.

Optimal skilled performance seems to balance the speed and high capacity of automatic processes with the goal-directedness and flexibility of controlled processes. A system that acted only by allowing the currently most active automatic procedure to carry through to completion without any influence by goals would be incoherently impulsive without consciousness as we know it. [boldface mine] (Stillings et al. pp. 59–60)

Glossomania in any of its forms provides perfect examples of the takeover of automatic processes, as do word salads and even gibberish. The lack of control seen in these productions is certainly as if word and syntactic selection has gone on automatic pilot, so to speak. This is probably why gibberish seems to conform to the phonotactics of the language, but doesn’t happen to form words. Wandering narratives in which personal memories are interspersed, memories which are not subordinated to what the patient is supposed to be narrating are also examples of automatic processes.


That the above analysis is essentially correct is suggested by a quite different study by Holzman et al. (1978). This research provides some interesting parallels to SD verbal output. Briefly, Holzman et al. found
that 65 to 85 percent of schizophrenic patients, in contrast to only 6 percent of normals, show disordered eye pursuit movements. In order to pay attention to the swinging pendulum in such studies, subjects must be willing participants, but once they look at the pendulum, the pursuit system is triggered, so that the eyes follow the pendulum. This kind of eyetracking is involuntary attention, unaffected by motivation (Holzman et al. 1978, p. 297).

There are two kinds of eyetracking dysfunction. The first characterized by short, fast movements, saccades, of the type used to focus, represents failure to turn on the pursuit system. In the second, “spiky” type, the pursuit movement starts, but is interrupted by brief, frequent eye arrests. It is as if other interferences do not switch off (Holzman et al. 1978, p. 300). Not surprisingly, the latter seems to be prevalent in schizophrenics and their relatives.

The speech data presented here are consistent with such spiky-type eye movements. The perseverations of syntactic frames or words and phrases are like the arrests in spiky-type pursuit. Random travel along associative networks of linguistic material is like the spikes. The triggering of associated words not relevant to the context seems to be another instance of interferences, here previously uttered words, not switching off.

It must be emphasized, however, that even if the eyetracking studies did not exist, the speech data would still admit of the explanation given above, of random triggering of linguistic material (i.e., intrusions) combined with unmotivated perseverations along any of the language networks. Both phenomena suggest problems in neurotransmissions affecting the speech production capability of some schizophrenics.

[12] Parallels to Other Populations.

Holzman et al. (1978, p. 304) note that eyetracking dysfunction is not specific to schizophrenia. Nonspecificity is a help in the understanding of dysfunction in schizophrenia. When we see similar effects with known or better understood causes, we may extrapolate to the less well known. For this reason, with speech data, reference is often made to those normal states which most approximate the SD states. Eyetracking becomes impaired with age. The older the person, the greater number of eye arrests. Besides that found in old age, spiky-type tracking has been described in patients who have Parkinson’s disease, multiple sclerosis, brain stem and
hemispheric lesions, as well as alcohol or barbiturate intoxication, all indicative of CNS involvement.

Holzman et al. (1978) point out that the movements in spiky-type tracking suggests that random, asynchronous neural firing is occurring. So do the linguistic data from SD patients. Since the tracking dysfunction occurs

... in degenerating conditions, including aging, it would be likely that the high speed, asynchronous firing reflects not an increased activity of some parts of the nervous system, but a failure of inhibiting, modulating, or integrating control... to assume that failure of such central nervous system inhibitory activities also accompanies schizophrenic conditions. (p. 305)

This explanation holds for the language data as well. The mention of words inappropriate to the speech situation, but related phonologically, morphologically, semantically, or syntactically, seems to represent lack of inhibition of matters extraneous to the context. Maher (1972) made a similar observation, positing some sort of attentional dysfunction in schizophrenia. Inability to “pay attention” and to subordinate speech output may be caused by failure of inhibitory mechanisms. Indeed, since normals do not evince inattention by uttering gibberish, random alliterating and rhyming, or making gross syntactic errors, the special quality of schizophrenic inattention must be delineated. Dysfunction in inhibitory mechanisms seems to discriminate between normal and SD schizophrenic inattention.

Brown (1980, p. 294) notes that neologistic jargons are a disorder of elderly aphasics. Recalling that the aged also show the kind of eyetracking abnormality of schizophrenics, it is reasonable to assume that the degeneration of CNS of inhibitory function might also be responsible here, as well as for the neologistic jargon of SD schizophrenics.

Green (1985) as a result of dichotic listening testing shows that acute schizophrenics could not focus attention on one ear in the presence of competing stimulus to another. This, too, is evidence of CNS dysfunction.


Viewing SD psychotic speech production in this light may help explain why all schizophrenics do not evince structurally impaired speech. Traditionally, those who do have been termed “thought disordered,” whereas those who do not are termed “nonthought disordered.” This
terminology implies that some who are diagnosed as schizophrenic have unimpaired thinking (Chapter 3).

If schizophrenia causes a dysfunction in neurotransmission however, then the SD patient can be viewed as one in which the difficulty has affected the speech production areas of the brain. Those who do not evince SD symptoms, but do have other schizophrenic symptoms, including hallucinations and systematic delusions, are affected in other areas of the brain, including those that store visual imagery. Some patients may be affected in different areas at the same time, or at different times. Note that this explanation, although not identical, is accordance to Shimkunas (1978, pp. 225, 227-228), for both assume CNS involvement and both assume that the schizophrenic is affected by internal stimuli more than normal.

Allen and Allen (1985) disagree that schizophrenics suffer from a "general loss of control in producing speech" as outlined here. They do not offer any actual samples of schizophrenic speech to verify their position, nor do they analyze any of the disordered speech easily gathered from the literature, including that presented here and in Chaika (1974, 1982a; Chaika and Alexander 1986) to show how and why such speech is not disordered. If, indeed, their experiment did not yield evidence of weakness in linguistic path control, such evidence is not lacking in other studies and still must be accounted for. In other words, if they can refute the long-standing assumption that schizophrenics do not suffer from problems in path control, then they must show that the data presented in defense of that position can be explained in another way. This is especially important since glossomanic speech has so long been considered particularly pathognomonic of this illness. How do they explain the speech in 2B above, for instance?

The task upon which Allen and Allen base their conclusions, the Thematic Apperception Test gave each patient only 2 minutes to describe each of 4 pictures. It has repeatedly been shown that the more bounded the task, the less psychotic speech disintegrates. This was one of the earliest points made by Maher, for instance. As we saw above, glossomanic chaining often starts out fine, but as the speech event continues it becomes more and more bizarre (also see Cozzolino 1983, p. 121). Within the confines of a 2-minute output constrained by a picture, we would not expect loss of path control. It is vital that researchers use comparable tasks to compare results. Allen and Allen also consistently interchange the word ideas with words for linguistic structures, as in:
At a local level this involves connecting elements in the previous or immediately following part of the discourse. It is this which distinguishes meaningfully integrated ideas from collections of unrelated ideas. (p. 75)

As the next chapter shows, terms like ideas are poorly defined. What is an idea? How does it correspond to speech? To date there is no firm correlation between any linguistic structure and ideas or thoughts. The very polysemy of language makes it unlikely that there ever will be. The most we can do is to correlate speech structures with meanings, and meanings with possible speech structures. That is how languages work.


This has attempted to explain the diverse speech phenomena long associated with those schizophrenics who evince structurally abnormal verbalizations. In words of Shimkunas (1978):

Given the complex psychobiological problem that schizophrenia represents, broad, structurally oriented theorizing appears to be a necessary step in the ultimate construct validation of the phenomenon. (p. 228)

The analysis presented here is also consistent with a wide variety of findings of attentional and filtering deficits in schizophrenia (e.g., Hemsley 1976, 1977; Oltmanns 1978; Maher 1972; Schwartz 1978) but goes further in offering an explanation for all of the peculiarities of “schizophrenic” speech, especially in the combinations in which it is manifested.

It also accords with findings of hemispheric asymmetry in schizophrenics (e.g., Flor-Henry 1976; Shimkunas 1978. Rochester and Martin 1979, p. 192) as well as with first person accounts of schizophrenic experiences (Chapman 1966; Vonnegut 1976).

It also correlates with at least one other aspect of schizophrenic behavior: the eyetracking studies. Furthermore, it does not seem to be inconsistent with studies explaining the effects of antipsychotic medication on schizophrenics (Snyder 1978; Sachar et al. 1978; Davis 1978; Matthysse 1978). These claim that such medication inhibits the action of biochemicals associated with facilitated neurotransmission. In other words, they slow down mental functions. The speech data indicate that SD psychotics can use such slowing down.
One problem in studies of psychotic populations is that researchers come from diverse academic backgrounds, each with his or her own set of constructs into which any data are fit. We are all creatures of our training. Linguists have been trained to view language objectively as a system of interrelated levels; hence, they are often struck by the disruption in levels of language evinced by schizophrenic patients. My earliest papers had noticed that speech pathognomic of this population could be described in terms of disintegration in each of these levels. The well-known linguistic scholar Eugene Nida, after listening to one of my papers, independently observed to me about a schizophrenic friend:

Observation of pathology is first evident in discourse, second in syntax, third in morphology, and lastly in phonology. I could almost predict the number of days he had refused to take his medication by the degree of disintegration.

Clinical psychologists and psychiatrists, more used to thinking of language holistically, and, furthermore, used to equating language with the thought behind it rather than as a structure in and of itself, have come to different conclusions. For instance, Lanin-Kettering and Harrow (1985, p. 3) cite the well-known characteristic of schizophrenic speech, its failure to maintain a topic. They refer to this as “an intermingling of personal material into speech when it does not fit neatly with the external context of the conversation.” They see this as a “mixing of ideas related to conflicts and issues of personal concern to the patient.”

This same phenomenon, as we have just seen, can more simply be explained by random triggering of interlocking semantic networks. The latter explanation requires no assumptions about the patient’s inner conflicts, conflicts for which we often have no evidence. This is not to say that such conflicts don’t lead to intrusions. They can and do, but that is not the same thing as saying that all digressions represent a patient’s inner conflicts. For instance, the following excerpt from a monologue by X, reported on in Chaika (1974) shows such a digression:

3. Did that show up on the X-rays?
   You’ll see it tonight.
   I’ve been drinking phosphate.
   You’ll see it in the dark (inaudible)
   Glows.
   We all glow as we’re glowworms.
Aside from the veracity of the claim that she was drinking phosphate, a claim prompted apparently because of the mention of X-rays, not out of any conflict over phosphate, there is the peculiar statement that “we all glow as we’re glowworms.” This is semantically related to phosphate, which has the property of glowing. In order to validate Lanin-Kettering and Harrow’s claim about schizophrenic digressions, we would have to try to find some personal conflict related to glowworms. Since X fails to mention glowworms elsewhere and her psychiatrist could report no other evidence of a concern with glowworms, we can only validate the semantic connection between the lexical items in the monologue. That is, we can’t correlate it with the speaker’s “conflicts and issues of personal concern.” In short, we can explain the digression in terms of the lexical structure of English, but we ourselves have to digress from the data in order to explain them in terms of thought. The entire question of the allowable degree of creativity in extrapolating meaning will be deferred until Chapter 11.

Notes

1 The schizophrenic preoccupation with religion has frequently been commented upon. Many samples of schizophrenic speech over the years have religious material in them. Many, many patients whom I interviewed easily derailed onto all sorts of religious matters: a concern with salvation, interest in Hinduism, Buddhism, and other Eastern religions, claims of communicating with Jesus or Mary or the like. Why this should be so has never been explained in the literature, at least so far as I can determine.

2 I repeat that Dr. Spring does not necessarily endorse my interpretations of these data.

3 Some Pentecostals and Charismatic Catholics are insulted by terming such gibberish “glossolalia” as that term refers also to “speaking in tongues” in a religious setting. For that reason, I have chosen the lay term gibberish to indicate this behavior. However, it is not surprising that the output of both states, schizophrenic and religious, are so alike since both proceed from rising above ego constraints.