COHESION AND COHERENCE

Cohesion and coherence are Siamese twins and one cannot be discussed without the other. Overt cohesive ties do not necessarily create coherence, however. Some kinds of cohesive ties can lead to incoherence. A study of schizophrenic, manic and normal narrations showed differences between these populations but these were not caused by incidence of cohesive ties. Rather the number of ties were related to other factors.


All studies of discourse are really studies of cohesion and coherence, of the ways that discourses are formed. The meanings of the words coherence and cohesion overlap. There are times when one is substitutable for the other, but a distinction can be made between the two. Typically, coherence refers to the logical macrostructure of discourses and texts to which all must relate, whereas cohesion refers more specifically to devices in the linguistic code which overtly mark what goes together. This last includes ellipsis, the omission of repeated material as well as cohesive ties like and, but, or, however, if, after, and unless, any of the words used to join two sentences together or to indicate how the parts of a discourse are related. It is not necessary to use actual overt ties in the linguistic code in order to produce coherent discourse. That is, discourse can be coherent with or without overt linguistic devices. For instance,

1. S: Do you think dolphins can really talk the way people do?
   H: We don't know yet.
   S: Better not eat tuna!

This is coherent provided both parties know that tuna fishermen are killing over 100,000 dolphins each year. There is no other overt, thus countable, cohesive tie linking H's comment with S's admonishment. VanDijk (1977, p. 46) demonstrated that “... connection [of parts of a
[52x622]120

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discourse] is not dependent on the presence of connectives” a proposi­
tion echoed by researchers like Fauconnier (1985) and Sanders (1987).

If one is trying to determine coherence on the basis of cohesion, the
problem arises that much cohesion is effected by knowledge shared
because of mutual histories as well as by the cultural and perceptual
bonds usually referred to as common knowledge. A shared history is
highly idiosyncratic so that communications sometimes fail because S
has presumed that H knew about an event when, in fact, the H does not
remember it. Still people usually know how much to give in an interaction,
and, most of the time, if they err they can repair their contribution upon
receiving clues from cospeakers such as “Huh?” “What are you talking
about?” “Cycle me into a subject!!” or even a facial expression.


It is possible to create a set of sentences which remain just that: a set of
individual sentences. Although spoken and written discourses also con­
tain sets of sentences, they are distinguished from collections of sen­
tences in that they are perceived as belonging together: they cohere and
they are coherent. A major issue in determining whether or not schizo­
phrenics manifest linguistic deviance has centered on the issue of
coherence. It is possible to produce a series of sentences, each of which is
structurally nondeviant, without producing a coherent or cohesive
discourse. The whole simply may not hang together.

Meaning typically is achieved beyond the unit of the sentence. Each
sentence relates to others in the text or interaction so that the entire
forms a macro meaning such that each sentence is interpretable in terms
of the whole. Even on the relatively rare occasions when an individual
sentence comprises the entire vehicle of linguistic expression, the mean­
ing is achieved by comparing it to the nonlinguistic context. Failure to
achieve a coherent discourse is a problem of linguistic deviance as much
so as is failure to produce a syntactically correct sentence. Just as people
have slips of the tongue in which they catch themselves and self-correct a
word, they have them in which they start a discourse, abandon it and
start over to self-correct their presentation of a discourse. These can be
signalled by messages like, “Wait a minute. Uhm...” “Oops!” “Scratch
that...” “Oh- hold up. I forgot to tell you that first...” and even “Let
me start over...” This is evidence of actual discourse structure analo­
gous to sentence structure.
The ICS (*The Ice Cream Stories*) was based loosely upon Wallace Chafe's (1980) *The Pear Stories*. In the latter, subjects were shown a movie, then asked to narrate what it was that they had seen. Although it was only about six minutes long, the movie was both too long and potentially too disturbing to be shown to a psychotic population as it dealt with theft of pears as well as a fall from a bicycle. Because Chafe wished to elicit narratives from speakers of a wide variety of languages, there was no dialogue in the movie. In terms of a psychotic population, a movie with its attendant paraphernalia was potentially far too distracting.

A very simple 124-second videostory, henceforth called the ICS, was prepared. The storyline was simple, but it related an incident familiar to most Americans. The first scene pans a shopping center, closing in on the figure of a little girl looking through the window of a Baskin Robbins store. The next scene shows a woman setting a table, and the same girl walking into the room asking, “Mommy, can I have some ice cream?” whereupon the mother leans down, puts an arm around her and says gently, “No, honey, it’s too close to suppertime.” Then a man is seen walking into the house. The child walks up to him, touching her body to his. He says, “Hello, Stefanie.” Then she asks, “Daddy, can I have ice cream?” The father looks into the camera with a grin, and his hand moves towards his pants pocket. The next scene shows the child walking towards the Baskin Robbins store, entering, leaning against the counter as she waits fidgeting. Then a clerk comes into view, asking if he can help her. She responds inaudibly, but the man repeats clearly, “Double grape ice.” The child plays with coins, still leaning on the counter. The man returns with a very large double-decker cone. The girl gives him the money which he looks at, then rings up on the register. A bell chimes on the register. The man gives her change, and says, “Thank you. Come again.” The girl turns towards the camera with a triumphant smile, pushes the door and goes out. A sound of “Oh wow” comes from outside the door. The film ends there.

Dialogue was intentionally included in this video in order to test if patients comprehended normal speech. The father is not actually shown giving the child the money because I wanted to see if patients would make the logical deduction that he must have given her the money. The beauty of such a study is twofold. First, showing it on a small TV in a lounge area emulated a common occurrence, one familiar to all participants in the study. Second, it was easy to correlate what was said to what it was the narrator was ostensibly trying to encode.
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categorized. There are four subcategories of causal conjunctions, for instance:

**Simple causal**: so, then, hence therefore.
**Emphatic**: consequently, because of this
**Reason** for this reason
**Result** in consequence

and subcategories of temporal conjunctions:

**Sequential** then, next
**Simultaneous** just then, at the same time
**Preceding** previously, before that
**Conclusive** finally, at last

Note the overlap of form and function on even this brief sample of their listing. That the same words do double and triple duty—or more—is no surprise, but what it means is that we are not dealing with simple unambiguous connectors. They have to be interpreted within the context that they are used, a circumstance that renders counting with attendant statistical verification dependent upon the researchers' judgment.

**Ellipsis**, leaving out repeated words and structures, is a powerful cohesive device (Halliday and Hasan 1976, pp. 144, 204-5; Halliday 1985, pp. 317), as it forces hearers or readers to fill in the blanks, so to speak, by reference to a prior or, more rarely, following utterance, as in (examples mine)

2A. Maxwell totaled his new car, his father's, and his sister's.
2B. Having totaled his new car, Maxwell left home.

In 2A, cohesion is effected by the hearer's having to provide the elements *Maxwell totaled... car* which have been left out after their first appearance. The recipient of the message is forced to go backwards to fill in the obviously missing constituents. In 2B, the hearer anticipates that the subject of *having totaled* will be provided shortly.

Chomskyan grammar called such processes **deletion** of repeated material, implying that one has created the entire structure and then, before uttering it, deleted repeated material. A more pragmatic view of grammar assumes that one knows what one has just said, so one just doesn't repeat it. Rather, one utters only what is not repeated. Either way, leaving out repeated elements is a prime way of indicating cohesion between clauses and sentences. One must remember, however, that one cannot just leave out repeated material. Cohesion is forced because the
• Gibberish
He had [fUć] with [theykraimz]

• Glossomania, chaining of words or phrases which are not pertinent to a governing macrostructure, such as a topic of a conversation, as in:

... My mother’s name was Bill ... and coo? St. Valentine’s day is the official startin’ of the breedin’ season of the birds. All buzzards can coo. I like to see it pronounced buzzards rightly. They work hard. So do parakeets. . . .; (Chaika 1974, p. 260)

• Rhyming and alliterating inappropriate to the topic or occasion of the discourse: I had a little goldfish like a clown. Happy Hallowe’en down. (Chaika 1974, p. 261)

and, in response to “Hello, anyone here want some coffee?: “Head, heart, hands, health.” (Chaika 1974, p. 269)

• Neologisms: “... you have to have a plausity of amendments to go through for the children’s code, and it’s no mental disturbance of puterience, it is an amorition law.” (Vetter, 1968)

• Word salads and other disturbances in syntax: “... you should be able to acquire the memory knowledge down on down on the page in the bible book to work for god in the mission now in the position I am in now with the medicate and with the hospital program.” (Chaika 1982a)

• Inappropriate repetitions: “... I am being helped but at the same time that I am being help with the food and the medicate and the food an medicate and the an the ah rest I feel that I still do not have this I still not have the thought pattern ...” (Chaika 1982a)

It was not expected that any one would necessarily produce all or even most of these, and, in fact, nobody did. As with other disrupted speech most of each narrative was decodable, albeit not necessarily by the usual strategies for comprehension. Of the original 24, 2 were dropped because it was discovered that they probably had drug-induced psychoses. As a result of the selection procedure, 22 patients completed the experimental task. Of these, 14 had discharge diagnoses of schizophrenia and 8 had discharge diagnoses of mania.

Butler Hospital is a mental hospital affiliated with Brown University Medical School. Treatment and care is, and was at the time of this study, a staff matter. All mental health workers met daily with other staff,
that exophora is a less worthy category of reference than endophora (Bernstein 1971; Schatzman and Strauss 1972). The reason for this appears to be the assumption that the illiterate are more likely to use exophora than the literate.\textsuperscript{7} Even Halliday and Hasan admit that exophora is a cohesive device because it ties the utterance to the immediate context even though it points out of the narrative itself. It seems to me that an effective cohesive device is effective whether or not it points out of the narrative. In fact, an argument could be made that use of anaphora when exophora would be more direct and equally cohesive comprises faulty utilization of cohesive resources. However, it is not the business of this study or any other to decide \textit{a priori} that some modes of cohesion are more equal than others, much less superior.

More traditionally, in the sense of what scholars take as conventional wisdom, Halliday and Hasan (1976, p. 18) feel that “Exophoric reference is not cohesive, since it does not bind the two elements together in a text.” This conclusion is a natural one given their emphasis on cohesion as opposed to coherence. Moreover, their position is clearly tied to written language, in which exophoric reference is highly limited. In oral communication, exophoric reference to the physical setting can be just as cohesive as endophoric reference to prior verbiage.

Ehlich (1982, p. 327–329) suggests that anaphora and deixis actually do different things. Anaphora binds, but deixis focuses. It includes terms like \textit{over here} or \textit{that one}. If too much deixis occurs, he says that it is tantamount to a constant request for focusing, which is confusing if you are already focused. In other words, he sees frequent instructions like, “the one over here” or “that one over there” as being confusing by asking hearers to focus. Unfortunately, neither the Rochester and Martin study nor my own elicited examples of such refocusing, so this contention could not be re-examined. However, just as skill is required in using anaphora so as not to confuse, there is skill in deixis. One is not necessarily inferior to the other in interaction. As we shall see, such apparently trivial differences in how one views one type of cohesive tie as opposed to another, can lead to quite different interpretations of results. Again, as so often, linguistic analysis is tricky, fraught with innocent perils.

Halliday and Hasan (1976, p. 10–11) and Halliday (1985) do recognize that discourse is held together by covert as well as overt cohesive ties, noting “Cohesion refers to the range of possibilities that exist for linking something with what has gone before.” Cohesion includes relations in meaning, a set of semantic resources. Since one can easily find some kind
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of semantic relationship between disparate sentences not occurring in a
discourse, Halliday and Hasan offer as a guide a useful heuristic, saying
a meaning relationship that is coherent is "... one in which ONE
ELEMENT IS INTERPRETED BY REFERENCE TO ANOTHER"
(Halliday 1985, p. 195) (caps Halliday's). The taxonomy of overt cohesive
ties presented by Halliday and Hasan produce overt messages telling
how one segment relates to others. In contrast, semantic ties are covert
features signalling relationships among parts of the whole discourse. My
criticism is that their taxonomy creates a confusing welter of terminology
without providing superior explanatory power.

Brown and Yule (1983, p. 24) explain that Halliday and Hasan's
categories derive from a text-as-product view, which does not take into
account how a text is produced. Brown and Yule's view is "best character­
ized as a discourse-as-process view," a view implicit in Kreckel (1981),
Levinson (1983), and Sanders (1987), as, of course, in my own work.

Halliday (1985) claims that cohesion itself is a property of text, but how it
is used makes the difference between something which is a text and
something which is not, as well as the difference between one kind of text
and another.

Halliday and Hasan (1976, p. 7; Halliday 1985, p. 54) actually warn
that it is a mistake to use their categories of cohesion as a method of text
analysis. Why have they developed them, then? Their position is that
text itself is a semantic creation, so that, ultimately, all textual analysis
depends upon interpretation.

Strangely, Halliday (1985, p. 54) also perceives grammar as arising
from an "automatic realization of the semantic choices (p. 54)." It is true
that one is not aware of the grammatical choices one makes, but there is
never just one choice available to convey a meaning; therefore, choices
cannot be automatic. All meanings are paraphrasable. It is precisely the
automatic character of much SD speech which causes its deviance. This
poses an interesting paradox. By looking at other elements in the utterance,
we can explain glossomania because we can see how the words used are
related in terms of formal description of the lexicon. However, we cannot
interpret that same glossomania. There is never just one way to actuate
cohesion. Therefore, to gain insight into our sense that speech does or
does not cohere, it is fruitful to discuss the ways that language is made to
cohere in discourse. The researcher is essentially working as a hearer,
first figuring out what someone is trying to say and then diagnosing the
locus of error.
Ellipsis and Cohesion.

Ellipsis is a vital cohesive device, and must be included in any analysis of cohesion in any linguistic production. Ellipsis works because missing elements of sentence structure can be supplied. That is, the parts of the sentence which have not been overtly produced are retrievable by reference to prior utterances in the given situation. Occasionally, they are retrievable by looking forward, warning the hearer that something is on its way to elucidate. Participles commonly are placed at the start of a sentence in writing so that one knows that the missing subject is coming as in “Having totalled the car, Max left home.”

Ellipsis can be seen to work across interactions so that one need not state what is known from previous interactions. Kreckel (1981) found that people who interact a great deal understand each other the most as they have a shared history. In other words, the more people know each other, the less they have to say to convey information.

With nouns, ellipsis omits the entire noun phrase, as

2A. The cat in the hat ate the mat and said his prayers.
2B. Mary, Kay, and Elizabeth went downtown, bought purple high heels, and wore them to the prom, dancing all night and getting terrible blisters on their toes.

Here the cat in the hat is not repeated, nor is Mary, Kay, and Elizabeth.

With verbs, ellipsis involves leaving out the entire repeated construction as in 3A and 3:

3. Max has been buying junk bonds, Bartholomew has been buying preferred stocks, and Andy, penny stocks.

In 3A, the entire verb phrase has been buying was omitted in “Andy, penny stocks,” but we have no difficulty in supplying it. If a question “Who was buying junk bonds?” is asked, however, then the answer would include only the auxiliary, as in “Max has.” This option is also open in instances of exact repetition of the entire verb phrase including the object, as in “Max has been buying junk bonds and Bartholomew has, too.”

Ellipsis is not to be confused with unjustified omissions, items left out that are not retrievable by the hearer. In my study of schizophrenic narration (Chaika 1982e, 1983b; Chaika and Alexander 1986; Chapter 8) schizophrenic narratives were found to contain aberrant omissions. These were not ellipses because the omitted words did not refer to anything
prior or subsequent in the narrative. These omissions were especially notable because they cannot be made grammatically under any circumstance, as seen in:

3A. . . he was blamed for and I didn’t think that was fair . . .
3B . . . what are the and uh there was a scene
3C . . . and asks if she can have then goes to the ice cream place.

In 3A and B, we know that nouns were omitted because they were preceded by a preposition and a noun determiner. In 3C, the have requires a direct object which isn’t there. In 3C we know there has to be a noun as direct object, but it, too, is missing. These omissions are the equivalent of uttering an inflectional ending without uttering the root word in a declined language like Russian. There is no circumstance in English which allows such omissions.

These examples illustrate the dangers of mere counting in determining cohesion. If we were simply counting items left out that could fill a certain slot, we might easily accidentally confound these with ellipsis. We know that he was blamed for it and that she wanted ice cream, but these are as much in error as 3B in which the omission is not so readily retrievable. The problem inheres in the English rules for ellipses themselves which do not allow ellipses to operate by omitting the noun after a preposition, an article or a transitive verb. Pronouns are required in these positions.

Although, in most instances, the intended word could be retrieved by the listener since she had viewed the videotape with the patient, still such omissions are not allowable ellipses in normal speech. This kind of ellipsis is not cohesive. There is no reason to assume that the person who makes such an erroneous ellipsis does so voluntarily. It seems truly dysfunctional, a conclusion bolstered by the fact that only schizophrenics did it. Rochester and Martin do not mention this kind of ellipsis, but it certainly occurred in my own study and only in schizophrenics.

Given the generally strong evidence that the patients were trying to cooperate in the task, and given their other genuine disruptions in speaking ability, disruptions which occur in many patients diagnosed as schizophrenic, and disruptions in speech competence not readily controlled by speakers, such as producing word salads, glossomanic strings, and leaving out a vital element in a syntactic construction, it seems most likely that these omissions are a product of deficit in speech production. 3A, B, and C illustrate. All occurred in patients with discharge diagnoses
of schizophrenia. All were contained in narratives elicited by watching the same videotape.


Anaphora is also achieved by systems of pronouns and equivalent replacement forms for other parts of speech. For instance,

3A. Max had been looking at the sprawling bright green ramshackle Victorian house on the corner that looks like a haunted house. He bought it the other day.
3B. I'd like a blue one myself.

The *it*, like all of the pronouns commonly referred to as the “personal” ones, replaces the entire noun phrase starting with the determiner *the* and ending with the complete prepositional phrase ending in *haunted house*. In 3B, we see the phenomenon of the pronoun *one* which replaces every word in the noun phrase except for the one word which is different. In this instance, the adjective *green* is replaced by *blue*. Although not always recognized as such, *one* functions as an anaphoric pronoun which allows modifiers to be used with it, giving the meaning of “one just like the noun phrase just mentioned except for this one distinction.”

In the following, we see both personal pronouns and the verb replacers *do* and *so do*. For the sake of convenience, I call these pro-verbs.

4A. Max and Alex steal cars for a living and *do* Rob and Bob. They will all go to prison someday.
4B. Max steals cars for a living and *does* Alexis. She was influenced by him.
4C. Max stole cars for a living and *did* Alex.

There are other such replacement words like *that way* and *like this* which replace adverbs of manner and *such* which replaces adjectives.

5. Marilyn bakes wonderful bread by kneading the dough with her feet, so I always *do it like that*.
6. Heloise wears sexy, clingy, vinyl outfits I wish I could wear *such* outfits.

If such cohesive devices are not used, the result can be near chaos, as in

Well I want to work for god in the mission and to work for god in the mission you have to be able to speak and think in a lord tongue in
my opinion now to speak and think in a lord tongue you have to have to be able to memory the process memory the parle—the process in the bible⁹ the thought pattern the brain wave and your thought process must be healthy enough and your legs must be healthy enough to when you want to study and and from when you want to study and progress in the way of the lord you should read the bible and as you read the bible you should if you are in good shape physical and mental and mental good shape and physical good shape you should be able to acquire the memory knowledge necessary as to study the bible to speak and think in a lord tongue you should be able to memory all the knowledge down on down on the page in the bible book to work for god in the mission now in the position I am in now with the medicate and with the hospital program I am being helped but at the same time that I am being help with the food and medicate the food and medicate and the the food and medicate and the and the ah rest I feel that I still do not have this I still not have the thought pattern and the mental process and the brain wave necessary to open up a page open up the old testament and start to memory.... (courtesy of Bonnie Spring).

Had the speaker used do that for all his expressions of wanting to be able to study the bible and think in the lord’s tongue, this would be far easier to follow, as it would be if he had employed pronouns and used ellipsis for the repetitions of food and medicate. In language, less is definitely more.


Another Hallidayan category, LEXICAL COHESION, presents even greater problems. Here, an apparent cohesive device turns out to be the antithesis of cohesion and coherence. Lexical cohesion consists of words which are semantically related (Halliday and Hasan 1976, pp. 318–320; Halliday 1985, pp. 310–313; p. 317). For instance, if I am speaking of my house, and then say “the door . . . ,” lexical cohesion is effected, provided that I am speaking of the door to my house. Even if words in adjacent sentences or within a sentence can be shown to have a semantic connection, they may not cohere. Consider this segment produced by patient X, a segment abounding with lexical cohesion. She is discussing her medication:
... Speeds up the metabolism. Makes your life shorter. Makes your heart bong. Tranquilizes you if you’ve got the metabolism I have. I have distemper just like cats do, 'cause that's what we all are. Felines. [pause]. Siamese cat balls. They stand out. I had a cat, a manx, still around somewhere. You’ll know him when you see him. His name is GI Joe he’s black and white. I had a little goldfish too like a clown. [pause] Happy Halloween Down...” (Chaika 1974, p. 261).

It is precisely the fact of lexical cohesion that makes this narrative deviant, giving it its schizophrenic flavor (Lecours and Vanier-Clement 1976; Werner, Lewis-Matichek, Evans and Litowitz 1975; Maher, 1972; Chaika 1982a). Glossomania is lexical cohesion, although lexical cohesion is not always glossomania.

Ragin and Oltmanns (1986) found that in an acute phase of illness, schizophrenics, manics, and schizoaffectives manifested the same amount of within clause lexical cohesion, but, during remission, manics and schizoaffectives showed a significant decrease which coincided in improvement in clinical ratings of their speech. Schizophrenics, however, showed no such decrease in within clause lexical cohesion. Unfortunately, these authors, like so many psychologists, failed to give speech samples, so I am assuming, and I may be wrong, that the lexical cohesion they speak of is the same as that described here.

Lexical cohesion in itself does not advance the topic of a discourse, so that a string of lexically tied sentences can form an incoherent passage (Fahnestock 1983). Discussing the general proposition that cohesive ties as a whole do not guarantee what Halliday and Hasan call texture, e.g., 'textness', Enkvist gives an apparently made-up example of lexical cohesion which does not cohere. Comparing this with schizophrenic glossomania, we see the similarities:

7. I bought a Ford. A car in which President Wilson rode down the Champs-Elysees was black. Black English has been widely discussed. The discussions between the Presidents ended last week. . . . (quoted in Brown and Yule 1983, p. 197)

8. My mother’s name was Bill . . . and coo? St. Valentine’s Day was the start of the breedin' season of the birds. I like birds . . .

To my knowledge, Enkvist has done no work on the problem of psychotic speech; however, his reductio ad absurdem to illustrate the noncohesiveness of lexical items hits the mark. What he predicted would happen does happen with one population, SD psychotics.
The deviation in 8 is not caused by the untrue or bizarre semantic message. Enkvist's example contains only true (or potentially true) information, but it is as deviant as the schizoid passage about the mother's name and birds. It is possible to have fantastic and even absurd imagery in coherent language. *Alice in Wonderland* is a case in point. Coherence (and competence) in discourse is not a question of beliefs or cognition or of potentially true or untrue images and events. It is a matter of handling language competently. The essence of language is that it is tied neither to truth nor reality. Bizarreness in psychotic speech occurs because of incompetent handling.

Fauconnier (1985, pp. 14–15) shows that pragmatic connectors map what we have in our minds onto language so that a hearer can construct a mental representation of that. Such mapping can be achieved by expressions like *in reality, in Len's painting, or the little red fox was dressed in a red cape.* Fauconnier demonstrates that truth or possibility of what is said is not an issue. Fantasy is a mapping of imaginary worlds on to ordinary language. Error is a mapping of a wrong mental representation. The issue for cohesion is the link between mental representations and how they are mapped onto language. In such a view, psychotic speech would not be deviant because of what is represented, but because of how it is represented. In SD speech incoherence is perceived when we cannot find the representation of what the speaker believes because the output lacks consistency or the language used is so remote that the hearer can't build up a mental representation. Fauconnier elaborates on a system by which what is in one's mind, *mental spaces,* are introduced by what he calls *space builders,* pragmatic connectors to the mental space.

Until the ICS discussed here, the most systematic and thorough study of cohesion in a schizophrenic population, indeed, the one which inspired my own, was Rochester and Martin's (1979) *Crazy Talk.* My own study was inspired by theirs, but it differed in several respects from it, accounting for differences in our results. However, the differences were also caused by differences in orientation in our views on Hasan and Halliday and on cohesion in general. The number of cohesive ties in a discourse do not themselves account for coherence or cohesion. Apparently, psychotic deficits proceed from larger cognitive deficits at least at the time of psychotic bouts.

Rochester and Martin (1979), relying on Halliday and Hasan (1976), characterized schizophrenic narratives in terms of failures to employ cohesive ties. They considered five categories: REFERENCE, SUBSTITUTION, ELLIPSIS, CONJUNCTION, AND LEXICAL COHESION (pp. 76–77). They further analyzed these cohesive ties in terms of whether or not they were endophoric or exophoric (p. 146).

They gave subjects three tasks: a half-hour unstructured interview, a summarizing of a short narrative, and a description of ten cartoons accompanied by an explanation of why they were funny. Their study had the merit of eliciting connected discourse in reasonably natural situations and of providing a context against which to check verbal output. This last provided an indication of what the speaker was trying to say. Thus any deviance between the psychotic speech and what it was trying to encode could be measured.

Rochester and Martin found that the psychotic patients are capable of creating complex syntactic structures although they relied more on lexical cohesion and exophora than their normal controls did. These researchers concluded that TD10 schizophrenic patients “choose not to [use complex structural elements] when the information to be encoded is provided by the situational context” (p. 203). This last conclusion is based upon the fact that TD psychotics used more exophora based upon the immediate surroundings than did others. However, the simple fact that patients used exophora does not mean that they chose not to do something else. It is as warranted to say that psychotics are not as able to handle complex routines as nonpsychotics are; hence, they rely more upon simpler kinds of cohesive devices if you believe that exophora is simpler than anaphora. In sum, Rochester and Martin did not determine that their results came from diminished linguistic capacity in TD patients. However, an assumption of diminished capacity is also a reasonable interpretation of their data.

[8] Narrative Sampling and its Effect on Results.

Rochester and Martin (1979) utilized a random sampling of normal narratives for their analysis, comparing these with non randomly selected passages from schizophrenic narratives. The passages selected were those rated most incoherent by their judges. Thus, Rochester and Martin are
really talking about passages, not speakers, in their conclusions about the
differences between normal and schizophrenic speech. However, they
claim that their findings refer to TD schizophrenics.

They report that 10% of their normals did produce incoherent pas-
sages (Rochester, Martin and Thurston, 1977), but these incoherent pas-
sages were not included in the analyses unless they were randomly selected.
Thus, Rochester and Martin by design compared the most disrupted
schizophrenic passages with a random sampling of normal passages.

In contrast, this study compared entire narratives from each population,
so that results are based upon comparisons between the entire perform-
ance of speakers. For this reason, the results reported here and those of
Rochester and Martin (1979) are not directly comparable. Also, since I
tested only for narrative ability but Rochester and Martin also tested for
description of cartoons and for performance in an unstructured interview,
again our results are not completely comparable.


Because a characterization of psychotic failure in narrations did not
seem to be captured by the Halliday and Hasan view of cohesion, I made
an analogous study of psychotic narration (Chaika 1982e, 1983b; Chaika
and Alexander 1986). My own procedure was somewhat different from
Rochester and Martin’s. First, being somewhat more tolerant of exophora,
I devised the narrative task to be set up so that the stimulus materials
were not in view; hence, ordinary exophora would not be elicited. In the
Rochester and Martin study, the materials upon which patient dis-
courses were based were in view. Hence, respondents could easily—and
cohesively—use exophora. By not keeping the stimulus materials in
view, I was successfully able to minimize normal effective exophora. To
put it another way, Rochester and Martin’s findings of increased exophora
amongst schizophrenics may not have been improper exophora. Of course,
it may have been. They do not present enough of their narrative samples
to determine this. They simply considered it undesirable. My methodol-
ogy decreased the chances of normal, proper, effective exophora, so
when exophora did occur, it was not the most effective mode of reference.
Narrators could not just point to the stimulus as it was no longer in view.
Therefore, when exophora was used, it was improperly resorted to.
Under these circumstances, exophora is less competent than anaphora
by any standards.
The ICS (The Ice Cream Stories) was based loosely upon Wallace Chafe’s (1980) The Pear Stories. In the latter, subjects were shown a movie, then asked to narrate what it was that they had seen. Although it was only about six minutes long, the movie was both too long and potentially too disturbing to be shown to a psychotic population as it dealt with theft of pears as well as a fall from a bicycle. Because Chafe wished to elicit narratives from speakers of a wide variety of languages, there was no dialogue in the movie. In terms of a psychotic population, a movie with its attendant paraphernalia was potentially far too distracting.

A very simple 124-second videostory, henceforth called the ICS, was prepared. The storyline was simple, but it related an incident familiar to most Americans. The first scene pans a shopping center, closing in on the figure of a little girl looking through the window of a Baskin Robbins store. The next scene shows a woman setting a table, and the same girl walking into the room asking, “Mommy, can I have some ice cream?” whereupon the mother leans down, puts an arm around her and says gently, “No, honey, it’s too close to suppertime.” Then a man is seen walking into the house. The child walks up to him, touching her body to his. He says, “Hello, Stefanie.” Then she asks, “Daddy, can I have ice cream?” The father looks into the camera with a grin, and his hand moves towards his pants pocket. The next scene shows the child walking towards the Baskin Robbins store, entering, leaning against the counter as she waits fidgeting. Then a clerk comes into view, asking it he can help her. She responds inaudibly, but the man repeats clearly, “Double grape ice.” The child plays with coins, still leaning on the counter. The man returns with a very large double-decker cone. The girl gives him the money which he looks at, then rings up on the register. A bell chimes on the register. The man gives her change, and says, “Thank you. Come again.” The girl turns towards the camera with a triumphant smile, pushes the door and goes out. A sound of “Oh wow” comes from outside the door. The film ends there.

Dialogue was intentionally included in this video in order to test if patients comprehended normal speech. The father is not actually shown giving the child the money because I wanted to see if patients would make the logical deduction that he must have given her the money. The beauty of such a study is twofold. First, showing it on a small TV in a lounge area emulated a common occurrence, one familiar to all participants in the study. Second, it was easy to correlate what was said to what it was the narrator was ostensibly trying to encode.

The videostory was shown to all subjects individually. Immediately upon its completion, each was asked to tell what it was he or she had just seen. Psychotic subjects viewed The ICS on a 12” JVC monitor in a lounge at Butler Hospital in Providence, R.I. All responses were recorded on an Olympus Perlcorder which subjects themselves could hold. This was done to make the situation as nontargeting as possible. Normal subjects viewed the tape individually in booths in the Providence College Audio-Visual Lab, and their narrations were then also immediately recorded with the Perlcorder upon completion of viewing. As with the hospitalized subjects, the normals were interviewed one at a time, not in groups.

This procedure of interviewing each participant immediately upon completing viewing ensured that the same amount of time had passed in between viewing and narrating for each subject. In Chafe's study, all participants viewed the movie together, but then were taken one by one to recount what they had seen. Thus, some of his subjects had more time for the story to “cook” than others did.


As in Rochester and Martin (1979, pp. 57-60), patients who had received ECT treatments or whose psychoses were drug-induced or due to brain lesions or tumors were excluded from this study, as were patients who did not receive a discharge diagnosis of schizophrenia or mania.

Also, like Rochester and Martin's study (1979, p. 58), diagnosis was arrived at by consensus of the attending psychiatrist, Paul Alexander, and other members of the treatment team. Diagnosis was according to DSM II and DSM III, and all diagnoses were blind as to whether or not patients had been selected for this study. The preselected patients were then invited to participate in the study.

Because this study is concerned with structurally strange speech, not necessarily strange content, mental health workers on the Intensive Treatment Unit were briefed to note patients who evinced some of the features associated with schizophrenic speech: glossomania, neologizing, gibberish, opposite speech, inappropriate rhyming or punning, word salads, perseverations, or faulty cohesion (Chaika 1974, 1982a,c). The actual examples used were:
• Gibberish
He had [fUc] with [tʰeɪkraɪmz]

• Glossomania, chaining of words or phrases which are not pertinent to a governing macrostructure, such as a topic of a conversation, as in:
... My mother's name was Bill ... and coo? St. Valentine's day is the official startin' of the breedin' season of the birds. All buzzards can coo. I like to see it pronounced buzzards rightly. They work hard. So do parakeets. . . . (Chaika 1974, p. 260)

• Rhyming and alliterating inappropriate to the topic or occasion of the discourse: I had a little goldfish like a clown. Happy Hallowe'en down. (Chaika 1974, p. 261)

and, in response to “Hello, anyone here want some coffee?: “Head, heart, hands, health.” (Chaika 1974, p. 269)

• Neologisms: “... you have to have a plausity of amendments to go through for the children's code, and it's no mental disturbance of puterience, it is an amorition law.” (Vetter, 1968)

• Word salads and other disturbances in syntax: “... you should be able to acquire the memory knowledge down on down on the page in the bible book to work for god in the mission now in the position I am in now with the medicate and with the hospital program.” (Chaika 1982a)

• Inappropriate repetitions: “... I am being helped but at the same time that I am being help with the food and the medicate and the food an medicate and the an the ah rest I feel that I still do not have this I still not have the thought pattern . . . ” (Chaika 1982a)

It was not expected that any one would necessarily produce all or even most of these, and, in fact, nobody did. As with other disrupted speech most of each narrative was decodable, albeit not necessarily by the usual strategies for comprehension. Of the original 24, 2 were dropped because it was discovered that they probably had drug-induced psychoses. As a result of the selection procedure, 22 patients completed the experimental task. Of these, 14 had discharge diagnoses of schizophrenia and 8 had discharge diagnoses of mania.

Butler Hospital is a mental hospital affiliated with Brown University Medical School. Treatment and care is, and was at the time of this study, a staff matter. All mental health workers met daily with other staff,
including psychiatrists and psychologists, and with patients. The workers, then, were encouraged, as a matter of policy, to pay close attention to patient behavior, and their observations were taken seriously. The team approach at this hospital lent itself well to selection of appropriate subjects by the mental health workers.

More importantly, confidence in their judgement was enhanced because of the precision of the criteria for selection. The workers and other staff were briefed by the principal researcher on the structural deviations as defined in the preceding section. These workers had no part in further judging the narratives. Rather, two outside raters determined whether or not each narrative was produced by a psychotic or a normal speaker. These judgments were made while listening to each tape while reading its transcript. Judges considered three narratives from normals to be psychotic and one from a psychotic to be normal. These misjudgments were not based upon any differences in use of cohesive ties; however, they were clearly based upon other features of the narratives (Chapter 8).

To assess the reliability of the lay judges' classification of the narratives, a phi coefficient was calculated (phi = .91, N = 47). This confirms the high reliability of the two judges in making the classification of narratives as produced by normal or psychotic narrators. Of the 25 normal narratives, 20 were judged normal by both judges, 3 were judged psychotic by both judges, and 2 were judged psychotic by one judge. Of the 22 psychotic, 21 were judged psychotic by both judges while 1 was judged normal by both judges. The reasons for these incorrect judgments were all related to features of the narratives as shown in Chapter 8.

Rochester and Martin (1979, pp. 58-60) used lay judges, asking them to judge written transcripts and to “... mark those segments which they had difficulty in following ... in which the flow of talk seemed disrupted (p. 59).” On this basis, patients were subdivided into two groups: thought disordered or nonthought disordered, a dichotomy which commented on extensively elsewhere by me and my colleague, Richard Lambe (Chaika 1974, 1981, 1982d; Chaika and Lambe 1985, see Chapter 3). In the ICS, lay judges selected patients on the basis of disrupted speech.

The deviant speech behaviors constitute the operational definition of the selection process. In short, since we wished to characterize differences between speech identifiable as “schizophrenic” and normal speech, we invited as participants only those patients whose speech was first judged deviant by the attending staff and, upon the initial interview, by the principal investigator. This particular study is concerned solely with
ascertaining what it is in some schizophrenic speech that causes people to call it “thought disordered” or “crazy.” This has been the thrust in most of comparisons between normal and schizophrenic speech.

That the patients were preselected for deviance does not prejudice the formal analysis in any way since the details of the analysis are not evident in active listening, but required repeated reference to the written transcripts of the patients' narratives. The kinds of cohesive ties utilized in this study and the fine grained analysis of the data are independent of the selection criteria. This was true also of Rochester and Martin's study (1979; p. 56).


Several studies have shown that the performance of manics on some tasks is like that of schizophrenics, so that what is usually thought of as schizophrenic behavior, such as the constellation of speech disorders just mentioned also occurs in manics (Chaika 1977; Simpson and Davis 1985; Kufferle, Lenz, and Schanda 1985).

All psychotic subjects in this study, manics and schizophrenics, were receiving neuroleptic medications, as well as Lithium and antiparkinson medications (Alexander, VanKammer, and Bunney 1979). Since the effects of these medications are to reduce psychotic symptoms, including deviant speech, if anything they would mitigate deviation, not enhance it. Hence, any observed differences between the normal and psychotic populations may be taken to be very real.

The average stay at the hospital during the time of this study ranged from 11 to 14 days, and no subject had had previous long-term institutionalization. All appeared to understand what was required, and gave every indication of cooperating in the experiment. All, of course, signed consent forms and were free to withdraw at any time.


Since the question of cooperation is of prime importance in a study such as this, perhaps it should be enlarged upon briefly here. It is especially important to establish that the psychotic population was trying to fulfill the experimental task. It may be argued, and has often been, that such patients produce deviant discourse because they wish to, either because they want to confound the investigator, or because they are
especially creative, a stance with which I do not agree (Chaika 1974, 1977, 1981, 1982a). Alternatively, one might argue that the psychotic participants in this study failed because they did not understand what was expected of them. If, indeed, they were not cooperating or if they did not understand the task, then our results would be meaningless, because these rest wholly on the correlation of the narrative to the videostory.

There was every evidence that the psychotic subjects were cooperating in the speech situation when they told their stories (Chaika 1982e, 1983b) Briefly, cooperation can be assumed for the following reasons:

- All told narratives that had as their recognizable point of departure, events from the story.
- Even when subjects digressed, the digressions had as their points of departure the video story, and most cycled back to the story after such a digression.
- Many commented on their own performances and/or remarked that they could not remember something.
- There were attempts to make events and comments in the digressions cohere to the narrative as a whole.
- They frequently ended their narratives formally with such phrases as “that’s the way it was,” “that’s all,” “it made me happy to see that girl get her ice cream.”

Thus, there was no reason to assume that differences in performance between normals and psychotics resulted from lack of cooperation. Since, also, as noted above, none of the patients had had long-term institutionalization, and their average stay at the time of this study was two weeks, institutionalization per se could not be posited as a principal cause of differences.


The normal subjects consisted of students at Providence College and members of the community who volunteered after the project was described to them. The mean age of normals was 33 and of psychotics 28.2.

The psychotic population was selected on the basis of speech disorder as described above, as this was what we were testing. Then, a population of normals was matched as closely as possible in age, occupation, and social class. Again, these procedures conform to those used by Rochester and Martin (1979, pp. 57–61).
It must be emphasized, however, that this is not a sociological study, and the data were not analyzed with social class as a factor. Indeed, one complicates an argument considerably if social class is used as the explanation for schizophrenic performance on a narrative task. For instance, failures in narration such as using gibberish, or altering time sequences, or relating incidents not appropriate to the task at hand have never been correlated with social class, and these were the sorts of dysfluencies which appeared in this study.

The entire question of class-related deficiencies in narration is very cloudy. Early studies by Bernstein (1971) and Schatzman and Strauss (1972) found deficiencies in working class narrations, but later work, such as the Labov *ouvre*, found differences in narrative techniques, but no deficits (Chaika 1982b). More recent work indicates that the differences lie more in the orality vs. the literacy of a culture than in social class *per se* (Tannen 1984). Moreover, even though Rochester and Martin found that schizophrenics perform like Bernstein's working class youth, they did not find that only working class schizophrenics performed this way.


The tapes of the narratives were transcribed by the principal investigator. Two judges independently verified the transcriptions by comparing them to the taped interviews. For the reasons discussed below, the cohesive ties calculated here were not identical with the categories in the Rochester and Martin study. Those ties which were decided upon, below, were isolated and counted by three independent judges from the written transcription. Any discrepancies were resolved by consensus. Discrepancies were found in less than 5% of occurrences of cohesive ties. The majority of these consisted of one judge missing an obvious tie, such as inadvertently skipping over a conjunction.

- anaphora (Ap) e.g., *he, she, it his, they, her, him, its, their, them.*
- temporals (T) e.g., *now, then, after, while*
- *and* conjunction (&C) e.g., *blue and yellow plaid*
- *and* temporal (&T) e.g., *she went home and asked her mother*
- other conjunctions (C) *but, for, or, nor, yet*
- exophora (Ex.) e.g., *I, you,* and instances of 3d person pronouns not referring backwards in the narrative itself
Given the multiplicity of cohesive devices in any language, neither Rochester and Martin’s (1979) study nor this one attempted to count all possible ties. They, however, did count lexical ties, whereas this study, for two reasons, did not. First, as already shown, lexical cohesion in itself does not advance the topic of a discourse so that a string of lexically tied sentences may form an incoherent passage (Fahnestock, 1983). Second, deciding whether usage of certain words in a discourse are instances of lexical cohesion is highly subjective, and is even more so when we consider that lexical cohesion gone awry has long been considered a characteristic of what has for decades been called “schizophrenic speech.” As has often been noted (Lecours and Vaniers-Clement 1976; Werner, Lewis-Matichek, Evans and Litowitz 1975; Maher 1972; Chaika 1974, 1982a), one of the most salient characteristics of schizophrenic speech is glossomania, which is lexical cohesion. To count lexical cohesion, then, is to consider the very symptom we wish to explain. Therefore, this study is confined to pronominalization and conjunctions.

Another difference between this study and Rochester and Martin’s involves the crucial differences which may be covered by and. Because and clearly has both a temporal and an additive sense (Levinson 1983:98–99), each of its senses was considered as a separate class. Those that meant “plus” were counted as and-conjunction (&C), and those paraphrasable by then were counted as and-temporal (&T), as in:

9A. Max bought poison and fertilizer.
9B. Max went to the store and he bought poison.

In 9A, Max’s purchases were poison plus fertilizer (&C), and in 9B, first he went to the store and then (&T) he bought the poison. Since the videotape offered opportunities for both additive and temporal conjoining, these were crucial for proper cohesion and for coherence as well.

The number of instances of each category was divided by the total number of words (narrative length) for each subject. The percentages thus formed were the data for the statistical analysis of cohesive ties.

[16] Results.

A one-way ANOVA with diagnostic type considered a fixed effect between subjects revealed no overall differences in mean narrative length (mean number of words per narrative) among schizophrenics, manics, and normals (\(F = 0.23; \text{df} = 2.44; p > .50\)).
Understanding Psychotic Speech

Table 1. Mean percentages of total number of words devoted to different categories of cohesive ties.

<table>
<thead>
<tr>
<th>Category of Cohesive Tie</th>
<th>Normals</th>
<th>Schiz. N = 14</th>
<th>Manic N = 8</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP</td>
<td>13.4</td>
<td>11.6</td>
<td>14.9</td>
<td>13.1</td>
</tr>
<tr>
<td>&amp;T</td>
<td>5.0</td>
<td>3.9</td>
<td>2.8</td>
<td>4.3</td>
</tr>
<tr>
<td>EX</td>
<td>2.3</td>
<td>4.5</td>
<td>3.8</td>
<td>3.2</td>
</tr>
<tr>
<td>T</td>
<td>2.1</td>
<td>2.4</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>&amp;C</td>
<td>1.4</td>
<td>2.1</td>
<td>2.7</td>
<td>1.8</td>
</tr>
<tr>
<td>C</td>
<td>0.9</td>
<td>1.4</td>
<td>0.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Totals</td>
<td>25.2</td>
<td>26.9</td>
<td>27.2</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Summary table of the one-way, fixed-effects ANOVA for narrative length compared among the three diagnostic types.

<table>
<thead>
<tr>
<th>Source</th>
<th>SUMSQ</th>
<th>df</th>
<th>MEANSQ</th>
<th>F(obt)</th>
<th>F(crit)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic type</td>
<td>1440.82</td>
<td>2</td>
<td>720.41</td>
<td>0.23</td>
<td>—</td>
<td>&gt; .50</td>
</tr>
<tr>
<td>Error</td>
<td>135508.44</td>
<td>44</td>
<td>3079.73</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>136948.85</td>
<td>46</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

A two-way ANOVA with diagnostic type as a fixed effect between subjects and categories of cohesive ties as a fixed effect within subjects revealed no overall differences among the three diagnostic types in the mean percentage of total narrative devoted to cohesion (number of category instances per narrative) (F = 0.31; df = 2,44; p > .50).

Considering the narratives as a whole, undifferentiated as to diagnostic type, there is an overall difference in the mean percentage use of the six categories of cohesive ties (F = 135.5; df = 5,220; p < .01). Post hoc comparisons (Hays 1981; Myers 1979) revealed the following pattern of differences among the categories. Overall, the category with the highest percentage is Ap (13.1%). This is significantly higher than any other category. Next is &T (4.3%) which is significantly higher than all those below except Ex (3.24%). Ex, in turn, is not significantly higher than either T (2.25%) or &C (1.38%), but does exceed C (1.06%). T, &C and C do not differ.

There is a significant interaction of the diagnostic types (normal,
Table 3. Summary table of the two-way ANOVA on percentage of total narrative devoted to different categories of cohesive ties.

Diagnostic type (normal, manic, schizophrenic) is treated as a fixed effect between subjects while category of cohesive tie is treated as a sampled effect within subjects.

<table>
<thead>
<tr>
<th>Source</th>
<th>SUMSQ</th>
<th>df</th>
<th>MEANSQ</th>
<th>F(obt)</th>
<th>F(crit)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Ss</td>
<td>292.19</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostic type</td>
<td>4.11</td>
<td>2</td>
<td>2.06</td>
<td>0.31</td>
<td>—</td>
<td>&gt;.50</td>
</tr>
<tr>
<td>Error (b)</td>
<td>288.07</td>
<td>44</td>
<td>6.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Ss</td>
<td>6333.03</td>
<td>235</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>4672.85</td>
<td>5</td>
<td>934.57</td>
<td>135.50</td>
<td>2.29</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Category X Type</td>
<td>142.87</td>
<td>10</td>
<td>14.29</td>
<td>2.07</td>
<td>1.91</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Error (w)</td>
<td>1517.31</td>
<td>220</td>
<td>6.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6625.22</td>
<td>281</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

manic, and schizophrenic) with the categories of cohesive ties (F = 2.07; df = 10,220; p < .05). The Newman-Keuls procedure (Myers, 1979) was used to further analyze the differences among the types within individual categories. Within the category Ap the schizophrenics use significantly less than either normals or manics who do not differ.

Within the category Ex, normals use significantly less than manics or schizophrenics, who do not differ. When total Ex usage is further divided into two categories on the basis of (a) personal reference (e.g., I saw . . . , then we . . . ) as distinguished from (b) unprepared pronominal reference (e.g., “she” went home and asked her mother” with no referent for the she), the following pattern obtains: the three diagnostic types show no significant difference in personal reference, Ex(a), (F = 2.71; df = 2,44; p > .05). No normal subject used any unprepared pronominal reference, Ex(b), while 4 of the 14 schizophrenic subjects used such reference a total of 20 times. One of 8 manic subjects used one such reference.

Within the category &T, normals use a significantly higher percentage than manics, while the schizophrenics do not differ from either. In three categories (T, &C, and C), the three types show no differences.

To refine the interaction by comparing the categories within each type, the Bonferroni t-test was used (Myers, 1979). As noted above, there is an overall difference such that Ap has a higher percentage of use than any other category. This difference holds for all three types.

Overall, no difference was obtained between &T and Ex, and this result is sustained among the schizophrenic and manic subjects. But normal subjects did use a higher percentage of &T than Ex.
The overall difference between Ex and C was reflected in significant differences for both normal and manic subjects, but was not obtained for the schizophrenics. The remaining contrasts agreed with the main effects.


Rochester and Martin's study concluded that schizophrenics chose not to use cohesive ties, and that they were more likely than normals to make exophoric reference, reference which does not refer to an antecedent word within the sentence or discourse itself.

This study did not confirm Rochester and Martin's conclusion that schizophrenics do not use cohesive ties as frequently as normals. It was found that normals, schizophrenics, and manics produced narratives of equal mean length in the ICS task, and used the same mean total percent of cohesive ties. That is, schizophrenics, manics, and normals used the same overall percentage of cohesive ties per narrative. Moreover, each group showed significantly more anaphora than other cohesive ties. This is not unexpected, as anaphora is commonly used within sentences as well as across them. Also, since anaphoric words can substitute for virtually any lexical items, there are more opportunities to use them than any other type of tie.

However, although each category of respondent used more anaphora than any other kind of tie, schizophrenics did use significantly less anaphora than either normals or manics. The relative paucity of anaphora in the schizophrenic stories appears to have been caused by another fact of schizophrenic narration. Schizophrenics were more likely than the others to include matters extraneous to The ICS. They mentioned people and occurrences that were not in the videotape, and entwined them with those that were. Thus they produced more novel references, giving them fewer opportunities for anaphora, as in:

10. I was watching a film of a little girl and um s bring back memories of things that happened to uh people around me that affected me during the time when I was living in that area and she just went to the store for a candy bar and by the time ooh of course her brother who was supposed to be watching wasn’t paying much attention he was blamed for and I didn’t think that was fair...

Note that in the above, it is not a matter of deficit in referring anaphorically. The schizophrenic speaker uses anaphoric pronouns
correctly. If she had not mentioned intrusive matters (the memories that were brought back, the candy bar and the brother), none of which occurred in the videotape, she would have had more opportunity to produce anaphora which referred to the events of the tape. Instead, she digresses to idiosyncratic associations which are, nonetheless, clearly associated to the topic. The digressions, however, produce new direct reference rather than anaphora, thus contributing to the reduction in anaphora.

The ICS study does not support the conclusion that schizophrenics and manics lack competence in using cohesive ties. Rather, their opportunity for using them is lessened because they did not adhere to a macro-structure in their narratives. Personal memories and other extraneous factors interfered. As noted above, this seems to be a cognitive factor associated with the conditions of the illness. There seems to be no confirmed explanation or intervention for this condition.


This study found, as did Rochester and Martin's, that normals use significantly less exophora than psychotics, perhaps for different reasons. As already noted, their result may have been task related in a way ours was not. Rochester and Martin (1979) had subjects describe cartoons which were in view, whereas ours described the videotape after it was over, hence gone from view. If the picture being described is in full view, then the simplest strategy for encoding is simply to refer to it. The exophora produced by their subjects was, for the most part, referential exophora. Although, as noted previously, some researchers consider this inferior reference, this kind of exophora is not dysfunctional and, in actual interaction, cannot be shown to be inherently less precise than anaphora.

If, as in The ICS task, the picture isn't in view, then the competent narrator will make the effort to establish who and what is being talked about before referring to it by a pronoun. Increased exophora in Rochester and Martin's study may have been a simplification of the narrative task, a simplification induced by the presence of the pictures. This is confirmed by Rochester and Martin's own finding that there was no difference between normal and schizophrenic use of exophora in free interviews. The difference occurred only when subjects were asked "to describe and
interpret pictures that are in the immediate situation, but [it did]... not [occur] in other contexts" (Rochester and Martin 1979:157).

The factors in the Rochester and Martin study which elicited exophora were successfully prevented in the ICS, but exophora nevertheless did occur. When it did, it was dysfunctional as it appeared with no prior referent. This occurred in 5 out of the 22 psychotic narrations. No normal used such Exophora at all. It occurred among those with the most disrupted narratives so that their failing to establish a necessary referent was part of a larger deficit in narrative construction as shown below.

The following boldface examples illustrate this nonreferential exophora in:

11. um in an ice cream store she was looking in to see if she could get any she went home. Her\textsuperscript{12} mother said wait until dinner. Then her father came home. She asked him. He said “I don’t know. You’re going to ask your mother.” Then she went down to the ice cream store and bought her own.

There was no introduction to 11 at all, a distinct deficit in narrative production. Introductions are an integral part of narratives. Even the other disrupted psychotic narratives had introductions and part of the abnormality of this one was clearly its lack of one (Chaika 1982e). Among other functions, introductions also provide opportunities for later anaphora. The she probably referred to the girl in the video, but the exophora was unprepared and the form of the narrative was correspondingly degraded.

12 ... and I didn’t think that was fair the way they did that either, so that’s why I’m kinda like asking could we just get together for one big party or something ezz it hey if it we’d all in which is in not they’ve been here, so why you jis now discovering it? ...

Although 12 is a later portion of 10 above, there were no referents for the boldfaced pronouns. This narrative, on the sentence level, showed verbal disruption even to the point of “word salads.”


This study of narration has import both for linguistic and for psychiatric theory. For the former, the findings are clear. Countable cohesive ties
are not the sole determinant of coherence and a sense of cohesion itself. Apart from its usefulness in studying such phenomena as cross-cultural differences in narrative and other discourse studies, this has ramifications for rhetorical theory as well, an important factor in an increasingly mechanistic and literate world.

In terms of the problems posed by psychosis, this study found that overall use of cohesive ties does not distinguish between the populations under study. This result differs from Rochester and Martin's (1979:85) which found that, according to their analysis, normals used more cohesive ties overall than schizophrenics. Certainly, we did find that schizophrenics used less Anaphora than did the manics and normals. This seems to be caused by a general inability to suppress material irrelevant to the situation.


This inability to suppress has been noted often in the literature on schizophrenia, and seems to be what is meant by such terms as derailment, tangentiality, pigeonholing, loss of set, intermingling and attentional deficits. That is, several terms have been used over the years to describe the same phenomenon. Perhaps because of the great amount of cross-disciplinary research into psychotic speech, researchers describing the same phenomena give it different names, thereby thinking they have explained, when all they have done is describe.

Commonly, these terms have been based upon anecdotal rather than experimentally-gathered evidence. Where evidence has been gathered, frequently, as noted above, the task has not elicited connected discourse. Rochester and Martin (1979) corrected that problem in their study. They asked subjects to recount their narratives while their stimuli, the cartoons, were still visible, whereas we asked subjects to recount after the stimulus videotory was no longer visible. This may have created the differences in results between their study and ours, so that the differences in their results and ours may be traced to differences both in the tasks and the methods of analysis in the two studies.

This study shows that psychotics use cohesive devices as often as normals, but the pattern of such usage differed, so that exophora without establishing prior reference occurred only in highly disrupted narratives, those which digressed from the matter of the videotory. This co-occurred with other deviations in narration.
There was no general deficit in using cohesive ties in schizophrenics or manics, nor was there any evidence of deliberate choices not to use cohesive ties. Where differences occur between normal, schizophrenic, and manic populations, they seem caused by other factors, such as digressions which appeared to be genuinely uncontrollable by the patient.

Notes

1This is a favorite phrase of my husband's.

2Humans naturally interpret speech by reference to the physical, cultural, and linguistic context in which it occurs. I say "naturally" because even toddlers first learning to speak clearly expect their utterances to be interpreted in context. If they know only one word, they will use it in different contexts, expecting adults to interpret the meaning in that context. If they don't know the word for what they want, then they choose the one they do know that can be interpreted in context to give the message they want, like the toddler who uses button to mean "put on my clothes," "cover me with a blanket," and, pointing at the dog's face, "eyes." Babies and children cannot be taught to do with this language. They just know it.

3Interestingly, this derives from the Greek word for proof. When one points out, one proves.

4Both these and the temporal subcategories are actually subcategorized even further, so that, for instance, there is both Causal general and Causal specific. There is Temporal simple (external only), Conclusive: Simple, and Correlative forms.

5All languages utilize the same processes to effect cohesion. We know of no language which has no pronouns, for instance, nor do we know of any with no ellipsis. What differs from language to language is the specific circumstances that force speakers to use pronouns rather than ellipsis and vice versa.

6Rarely, for special emphasis, an interactant might repeat a known element, but this is done for emphasis or humor.

7The studies which "proved" this show a clear class bias, as subjects were given a task typical of middle-class education and then judged by middle-class standards. When faced with narrating the action showed on cards, nonmiddle-class speakers referred directly to the pictures, whereas middle-class ones were more likely to narrate as if the pictures were not in view a (Labov, Robins, Lewis, and Cohen 1968; Labov 1969; Chaika 1982; 1989). The middle class has more experience with books that tell stories independently of any pictures. To illustrate: if one of the pictures given to subjects showed a boy standing with a bat in his hand before a house with a broken window, the middle-class person would say, "The boy was playing baseball, and he broke the window" whereas the nonmiddle-class subject would say, "He was playing baseball and he broke the window" without first mentioning the noun "the boy."

8Given the generally strong evidence that the patients were trying to cooperate in the task, and given their other genuine disruptions in speaking ability, disruptions which occur in many patients diagnosed as schizophrenic, and disruptions in speech
competence not readily controlled by speakers, such as producing word salads, glossomanic strings, and leaving out a vital element in a syntactic construction, it seems most likely to us that these omissions are a product of deficit in speech production.

9The original from which this was taken does not use capitals except on I. I have repeated that practice here.

10Rochester and Martin speak of TD, thought disordered, subjects. This corresponds to the SD, speech disordered, label used throughout this book and my articles on this subject.

11Although this was technically improper because she was not in view, it did not impair cohesion since I viewed the video with each patient; hence, it could be assumed that I knew the referent.

12This and the subsequent examples of pronouns referring to the feminine singular could be taken as anaphoric to the first mention(s) of she.