Narrative analysis: clinical procedures

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NARRATIVE analysis is one of the most valuable skills a language clinician can possess. People of all ages from all cultures experience stories daily. Individuals use their sense of story in representing events in their own lives and in participating in the happenings, both real and imaginary, in the lives of others. Knowledge of story structure contributes to people's understanding of how the world functions, facilitating predictions of actions and consequences, causes and effects.

While it is generally agreed that a narrative contains a series of temporal events, controversy surrounds the definition of a well-formed story, particularly the question of whether the events are goal-directed. In a study on this issue, Stein and Policastro (1984) found that both children and teachers preferred stories that were directed toward goals—and overcoming obstacles to achieving the goals—over stories that were not goal directed.

Even though the clinical analysis of

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narratives is in its infancy, sufficient information is available to guide clinicians in observing a client's ability to focus on a character and the character's motivations, goals, plans, and actions. Clinically relevant information is provided here about the collection of narrative samples and selected narrative analyses and their interpretation.

COLLECTING NARRATIVE SAMPLES

Whether obtaining narrative samples for clinical or research purposes, factors related to subject characteristics, stimuli, and the mechanical aspects of data collection should be considered prior to the recording session. Clinicians should experiment with several approaches before selecting procedures for a given situation.

Subject characteristics

The age, verbal abilities, interests and gender of the subject are major influences on the nature of the narrative obtained. These characteristics are important to the selection of appropriate stimuli for optimal response from the subject. They will also affect the selection of (a) *response mode* (oral or written); (b) *recording mode* (auditory alone or both auditory and visual); and (c) stimuli, as discussed later.

For clinical subjects, input and output variables can be tailored according to individual needs. For example, for a young child or an individual with limited verbal abilities, the preferred response mode would be oral; a recording mode might be videotaped to facilitate interpretation of the story presentation. In addition, a clinician's awareness of a client's unique interests or knowledge will facilitate the selection of narrative topics. A story about a pet might entice a particular child, while the topic of fishing might stimulate an older one, and so forth.

Stimuli

Two broad classes of stimuli are used in collecting narratives: those for original constructions, such as objects and pictures, and those for retelling of either heard or read stories. An early decision to be made is to choose whether subjects will produce original constructions, retellings, or possibly both.

If an individual evidences good use of narrative structure in an original narrative, knowledge of narrative organization can be assumed. However, the converse is not necessarily true. When limited narrative organization is present in an original construction, further assessment through retelling a heard or read story might demonstrate additional knowledge of narrative structure.

Original constructions may be factual, fictional, or a combination of fact and fiction. Whether a story is true or fictitious is difficult to control, and probably does not matter. Of greater importance is the amount of structure inherent in the stimulus, and its potential effect on the organization of the story construction.

Stimuli such as a family of dolls or a set of toy vehicles provide no structure for the storyteller. In contrast, a sequence of related pictures provides a high degree of structure. A single picture with one or more potential story characters, a physical setting, and possibly an event provides a medium amount of structure. More highly

structured stimuli have been found to have a positive effect on the degree of structure in narratives produced by adults with aphasia (Lemme, Hedberg, & Bottenberg, 1984). In addition, the hesitant storyteller might benefit initially from stimuli that provide structure.

Selection of stimuli for story retellings requires that additional factors be considered. These include the level of comprehension required to understand the story; the stimulus presentation mode (oral or written); story length; and the subject's exposure to the particular story genre, such as a detective story versus a fairy tale. Other important factors are the subject's familiarity with and interest in the story content and the degree of story structure, including repetition of language patterns typical of children's fairy tales. Familiarity, interest, and more structure enhance the probability of a more complete and better organized retelling.

Eliciting and recording samples

The actual collection of narrative samples involves consideration of the physical setting and interviewers. These variables are especially important when working with young children and with communicatively disordered individuals of any age. Familiarity of setting and interviewer will generally enhance the quality of the narrative construction.

The desired story length must also be considered. Some subjects ramble on at length, while others say very little. Prior decisions need to be made about assistance in terminating lengthy stories and about the use of probes to elicit longer stories. In the latter case, the story construction may become more of a dialogue than a monologue. It is important to know in advance whether a client can sustain a monologue without support offered by another speaker.

Few reports of narrative studies have compared oral and written response modes. Obviously, adequate facility with writing is a prerequisite to producing written stories. Similarly, the ability to engage in conversational speech is a prerequisite to producing an oral narrative. In general, young children have attained a mean utterance length of three words or more before they can respond to the request to "tell a story."

A final consideration is the intelligibility of speech and writing, which is important for accurate transcription. The interviewer may want to repeat statements after the subject whose speech has limited intelligibility. Subjects whose writing legibility is questionable can be asked to read the passage aloud for recording as an aid in decoding the message at a later time.

Preparing the sample for analysis

The narrative sample should be prepared for analysis as soon as possible after recording it. The sample is reproduced verbatim, with unintelligible words, phrases, and sentences transcribed phonetically. Intonation and pause information can help determine sentence boundaries in oral samples, while meaning can be used to supplement punctuation and capitalization to determine sentence boundaries in writing. Extraneous verbiage, such as false starts, self corrections, nonessential repetitions, and asides to the interviewers, can be bracketed.

NARRATIVE ANALYSES

Numerous approaches to narrative analysis have been described in the literature. Some have been applied to the narratives produced by language-disordered children and adults. For instance, Johnston (1982) demonstrates the usefulness of story grammars, scripts, cohesive devices, and communication acts in studying oral narratives. Westby (1984) discussed cohesion, story grammars, functions of story elements, and narrative levels. Clinical work has been guided by studies of cohesion (Halliday & Hasan, 1976; Hedberg & Stoel-Gammon, 1984), story grammar (Glenn & Stein, 1980; Stein & Glenn, 1979), narrative levels analysis (Applebee, 1978), Warren, Nicholas, and Trabasso's (1979) event chains and inferences (Hedberg, 1983), and Hasan's (1980a, 1980b) cohesive harmony index (Bottenberg, Lemme, & Hedberg, 1985). Clinical applications of the analyses to story constructions have shown that two of them, Applebee's (1978) narrative levels analysis and Glenn and Stein's (1980) story grammar structural patterns, provide the most relevant information for clinical work. Both analyses assess global organization, but they differ in the features used to define the organization. Two major classes of narratives are illustrated by these analyses: story grammars have goal-based structures, while narrative levels do not. The narrative levels analysis was developed by Applebee through the study of stories constructed by children ages 2 to 5 (Applebee, 1978), while story grammar structural patterns were defined by Stein and Glenn (1977) through their analysis of stories of kindergarten and third- and fifth-grade children. As might be expected, goal-based stories were produced more often by the older elementary children.

Experience suggests that the narrative levels analysis is most appropriate for initial analysis of story constructions of clients with limited verbal abilities: preschool and primary school language-disordered, mentally retarded and hearing-impaired children, and adults with aphasia. The story grammar analysis overlaps the narrative levels analysis but provides a broader range of categories at the high end of the scale. Clients with greater language capacities will produce more complex narratives that can be examined more fully with the story grammar analysis. Following are descriptions of the organizing features and developmental levels of the two analyses and examples of each level of the analyses.

Narrative levels

Applebee (1978) identified two aspects of narrative organization that develop in the stories of preschool children: centering and chaining. *Centering* occurs when a nucleus is formed by linking objects or attributes. The links may be based on the similarity or complementarity of the features. *Similarity* links share attributes that generally are perceptually observable. The shared attribute may be an action, a kind of character, or a scene or situation. The links may include temporal sequences, but there are no causal relations. *Complementarity* links consist of conceptual bonds among objects or events grouped into sets on the basis of abstract, logical attributes. A set is formed when

mention is made of several members of a category, such as various animals, or of cause-and-effect relations, as when a thief is caught by a police officer. *Chaining* develops from a sequence of events, either concrete or abstract, that share attributes and lead directly from one to another.

Applebee described six basic types of organization that can be observed as a child develops skill in centering, chaining, and integrating the two organizational strategies in the construction of a well-formed story. An early attempt to comply with the request to "tell a story" is a set of statements related to the stimuli presented, but not related to one another. Applebee terms this level *heaps*. The statements merely identify aspects of the stimuli or they may provide additional information about the stimuli identified, as in the following story:

1. A dog is walking down the street
2. A cat is fighting the dog
3. and a baby is crying
4. The baby is sleeping
5. The boy is playing on the swing
6. The man is laying down
7. and the girl is jumping the jump rope
8. The lady is cooking chocolate chip cookies
9. A girl is going to the store
10. The man is going into the supermarket
11. The old man is fighting the other man
12. That's all.

In this story the common element is the grammatical structure of the sentences; there is no global organizational pattern for the material presented.

The second stage, *sequences*, occurs when events are linked on the basis of similar attributes or events that create a center for the story. Repetition of the verb *lives* in the story below ties the statements together, providing a meaningful, though simple, focus for the story.

1. She lives with her dad
2. She lives with her mother
3. Grandma and Grandpa live together
4. And these three children live with their grandma
5. And these two animals live with them
6. And that's all.

The *primitive narrative*, the third developmental level, is organized around a concrete center, with complementary rather than similar events related to that center. This can be seen in the next story, which has as its focus the cat biting the child and the events that follow from that incident.

1. My dad, he went up to go to work.
2. My mom stayed and sleep in.
3. My two brothers, they went to go play with the toys.
4. My dog, she went outside.
5. My kitty cat came up
6. and he tickled me and came up and started to meow.
7. And then I started to cry because he bit me.
8. And my brothers came runnin' in
9. and Mike said, "What happened?"
10. They said, "What happened?"
11. "My kitty cat just bit me."
12. So mom comes runnin' in
13. and she said, "What happened?
14. Oh, the kitty cat bit you.
15. O.K."

The fourth level is the *unfocused chain*, in which a chain of events leads directly from one to another while attributes that link them—characters, settings, or actions—shift. As a consequence of this shifting focus, unfocused chains have no

centers. This is the first level in which chaining occurs. The links at this level are concrete. In the following story, chaining is demonstrated by the repeated references to the man and his activities. The chain is interrupted in line 7 as the focus shifts from the man and his activities to the grandmother and dancing, and then shifts again in line 11 to the children.

1. This man is walking.
2. He saw a dog and a cat
3. and he saw a girl, too, with the cat and the dog.
4. He said, "Hello."
5. He walked back
6. and he said, "Brother, come here."
7. So his grandmother walked up to her and said, "You wanna go dancing?"
8. They went dancing.
9. And so it was a slow dance.
10. And then they went back.
11. And then these two children came.
12. And then first he said, "I'm not."
13. And then he said, "What?"
14. "I wanna go out to eat."
15. So they went out to eat.

Level five, the *focused chain*, usually centers around a main character who goes through a series of similar events that are linked, as in the unfocused chain, on a concrete, perceptual level. In the story that follows, the narrative centers on the mother and her interactions with the boy and the dog, forming a chain of events.

1. Once upon a time there was a mother named Christie.
2. And she had a husband named Tom.
3. And they had some children named Heather and Christie.
4. And then they had a boy named Ronnie.
5. And the mother told the boy to go outside to play.
6. And then the boy came in and said, "Mother, mother, our dog's outside and he's barking."
7. "I will go see."
8. "What are you barking at?"
9. "I don't know what he was barking at, Tommy, Ronnie, Ronnie.
10. I don't know what he was barking at.
11. You go out there and see."
12. "He wants in."
13. "I'll go let him in."
14. "There, I let him in."

The sixth and highest level of story is the *narrative*, in which the center develops over the course of the story. Each incident complements the center, develops out of the previous incident, forming a chain, and simultaneously elaborates a new aspect of the theme. The causal relationships, which may rely on either concrete or abstract bonds, result in a consistent forward movement toward the ending, which was entailed in the initial situation. There is usually a climax, as in the following story in which the cat that has been found is returned to its owner.

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1. One day there was a boy named Bobby and a girl named Sharon.
2. They found a cat in their front yard
3. and they brought it into the house.
4. They fed the cat
5. and they gave it some milk.

6. They played and played with it
7. and then a little while after a lady called and asked if anybody had seen her cat.
8. And then they said that they had it at their house.
9. And they brought it to the lady's house.
10. And she gave them each five dollars for finding the cat and having them feed it and give it milk.

After the heaps level, which has no structural organization, each narrative level has a set of defining features consisting of centering, with either similarity or complementary links, or chaining, or a combination of centering and chaining. Many stories will not fit a description in its entirety; rather, stories may reflect a predominant level of organization, a transition between levels, or a combination of features of two or more levels. The latter case is frequently found in longer stories.

Story grammar

Story grammars are goal-based definitions of stories in which a major character, the protagonist, is motivated to achieve a goal through engaging in some type of goal-oriented action. The prototypical story grammar structure as described by Stein and Glenn (1979) consists of seven major components arranged in a particular sequence. The components are described next, with the following story, which has the components labeled, exemplifying the well-formed story.

S 1. One day when Mr. and Mrs. Peters were walking through the park
IE 2. they saw a dog and a cat chasing each others' tails.
IR 3. Mr. and Mrs. Peters laughed
IR 4. and Mr. Peters noticed that neither the dog or the cat had collars on.
IR 5. They wanted to know if it was safe to take them home
A 6. So they took them to the vet.
C 7. And it was okay that they could take them home
R 8. and Jon and Sue loved them.
R 9. And they lived happily together for a long time.

The story begins with a *setting* (S) statement that introduces the main characters, Mr. and Mrs. Peters, and tells when, *one day*, and where, *the park*, the story takes place. Setting statements describe characters and their habitual actions and provide the social, physical, or temporal context for the story.

The next statement, the couple's observation of the dog's and cat's antics, is an *initiating event* (IE). The primary function of an IE is to cause the protagonist to react in some way. The initiating event may be a natural occurrence such as a blizzard, an internal event as when a character thinks of something to seek, or an action of the main character or another character, as in this story.

The third component, an *internal response* (IR), describes the reaction of the protagonist. This story contains all three types of IR statements: affective response, as in *they laughed;* cognition, as in *they noticed;* and goal, as in line 5, *They wanted to know if it was safe to take them home.* Any type of emotional response, thought, or intention of a character may represent an internal response to an initiating event. The main function of the internal response is to motivate the main character to take action to achieve a goal.

Although Stein and Glenn (1979) describe a component called *internal plan*

(IP), which provides a character's strategy for accomplishing change in the situation, they note that children rarely include this component in their stories. When a plan is present it contains subgoals to assist in attaining the goal as well as the characters' thoughts on the situation. The sample story does not include a plan; however, a statement falling between lines 5 and 6 saying *They knew they'd have to catch them to find out* would provide a plan.

An *attempt* (A) to attain the goal is the next component, illustrated by line 6, *So they took them to the vet.* Attempt statements consist of a character's overt actions to achieve a goal. The function of the attempt statement is to bring about a consequence.

The *consequence* (C) signifies whether the protagonist succeeds in attaining the goal. In the present story, line 7, *And it was okay that they could take them home* indicates a positive outcome. Other changes that occur might be part of the consequence, including natural occurrences and end states.

The final category, *reaction* (R), is represented by any emotional responses, thoughts, or actions that show how a character feels about achieving a goal or what the character thinks about his or her accomplishments. Lines 8 and 9 show the response of two new characters, Jon and Sue. The audience can infer that their response is to the two animals being brought home.

From their study of normal children's story constructions, Glenn and Stein (1980) have proposed a developmental sequence for the acquisition of story structures. They found seven major structural patterns, varying in complexity from simpler to most complex with each pattern including all the categories and relationships found in the previous pattern plus an additional one. The first, the *descriptive sequence,* consists of descriptions of characters, surroundings, and habitual actions. No causal relationships or temporal constraints are present. The story about Bill illustrates this level:

S 1. This is a story about a guy named Bill.
S 2. He was a good man.
S 3. He was a builder.
S 4. He builded all kinds of houses.
S 5. He lives a good life.
S 6. The end.

The second level, an *action sequence,* has a chronological order for the actions but no causal relations, as in the next story:

A 1. Me and my dad went to get a haircut for him and me.
A 2. and after we went to go get a haircut, we played putt-putt golf.
A 3. We did fun things.
A 4. We went to Elitches and stuff like that and wrestled, went to Lakeside
A 5. and he put me on his neck
S 6. and the end.

The third stage is the *reactive sequence,* in which certain changes automatically cause other changes. No goal-directed behavior is evident as yet:

S 1. The guys were in a truck.
IE 2. Then they crashed.
A 3. Then the ambulance come.
A 4. Then the police come.
A 5. Then the hot rod come.
A 6. Then all of them come.
S 7. That's all.

This stage is followed by the *abbreviated episode* in which a goal can be

understood although it need not be stated explicitly. A story at this level contains either an event statement and a consequence or an internal response and a consequence. The characters' behavior appears purposive but less premeditated than in the complete episode. In the next story, a goal is present in line 3, for Mom to make cookies; then an initiating event occurs in line 4, when the cat and dog cause Mom to spill the dough; and, immediately, a consequence occurs in line 5, when Mom shoos the animals out of the way.

S 1. Once upon a time there was a grandma, baby and a girl kid and a boy kid and a dad and last the mom.
S 2. They had two pets, a dog and a cat.
S 3. One day Mom was making cookies
IE 4. and the dog and the cat got into the way and made Mom spill the dough.
C 5. Mom got the broom and shooed the dog and cat.
C 6. She had to sweep and mop.
S 7. The end.

A story is considered a *complete episode* when an entire goal-oriented behavioral sequence is described. A consequence statement is required as well as two of the following three categories: initiating event, internal response, and attempt. The following robber story exemplifies a complete episode in that it has an initiating event (lines 1 and 2), attempt (lines 3 through 5), and a consequence (lines 6 and 7).

S/IE 1. Once a robber drove into town
IE 2. and it started to go into people's houses.
A 3. Then other people began to tell that there was a robber in the town.
A 4. So they went.
A 5. Cops came
C 6. and they scared the robber away.
C 7. Gone.
S 8. That's all.

Complex episodes, the sixth stage, are an elaboration of the complete episode, in that a partial or complete episode is embedded in the episode, or multiple plans are activated to attain the goal, or both. In the next story, the mother makes two attempts (in lines 5 and 6) to get help for the grandmother before succeeding:

S 1. There once was a family which had four kids.
S 2. Those kids made messes and went where they weren't suppose to go.
S 3. One day the father was at work and the mother and grandma were outside.
IE 4. That day the grandma had a heart attack.
A 5. The mother called the father at work but he wasn't there
A 6. so then the mother called the ambulance.
C 7. The grandma had to go to the hospital
A/IE 8. There they put her in a room by herself.
A 9. The nurse came in every so often to take her blood pressure.
C 10. soon the lady got better and went home

The highest level described by Glenn and Stein (1980) is the *interactive episode*, in which two characters have separate goals and actions that influence the actions of the other. In the story entitled "Mr. Lloyd Goes on a Diet," Mr. Lloyd's intention is to get food while Mrs. Lloyd intends to foil his plan:

Mr. Lloyd Goes on a Diet

S 1. One day Mr. Lloyd was doing what he like to do most

S 2. he was eating and eating.
IE 3. That night Mrs. Lloyd said he was eating too much.
IR 4. So Mr. Lloyd went on a diet.
A 5. That night he tried to get a snack,
A 6. but Mrs. Lloyd had a trap by the cabinet
C 7. and it caught Mr. Lloyd.
S 8. And that's how Mr. Lloyd go on a diet.

As with the narrative levels analysis, specific structural properties differentiate the developmental levels of story grammars. Table 1 shows these properties.

INTERPRETATION OF FINDINGS

Although normative data are not available for comparison, the clinician can make two kinds of judgments about clients' responses to the request to "tell a story." The first is to use the findings from the research data to gain an approximation of functional level. Second, the clinician can determine which structural elements are present in a client's story production and which are still to be demonstrated or learned.

Because the majority of the children in Applebee's (1978) study were from upper-middle-class homes, his findings may overestimate the abilities of this age group. However, the trends observed provide some guidance for the clincian. In general, with increasing age the number of children's stories that ranked at the three lower narrative levels decreased, while the number of stories at the three higher levels increased.

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As noted earlier, narrative level analysis is based on the organizational strategies of centering and chaining. In Applebee's data, the preferred narrative strategy of 2-year-olds (67%) was centering, and by age 3, 40 percent of the children were using centering, and 47 percent both centering and chaining. The percentage using

Table 1. Structural properties of story grammars

		Properties						
	Levels	Related statements	Temporal order	Causal relations	Goal	Plan	Complications	Interaction
0	Unrelated statements	–	–	–	–	–	–	–
1	Descriptive sequence	+	–	–	–	–	–	–
2	Action sequence	+	+	–	–	–	–	–
3	Reactive sequence	+	+	+	–	–	–	–
4	Abbreviated sequence	+	+	+	+	–	–	–
5	Complete episode	+	+	+	+	+	–	–
6	Complex episode	+	+	+	+	+	+	–
7	Interactive episode	+	+	+	+	+	+	+

both strategies increased to 57 percent at age 4 and 73 percent at age 5.

Stein and Glenn's (1977) original study on story construction included kindergarten and third- and fifth-grade students from an upper-middle-class school. As in the Applebee (1978) study, their findings may overestimate average children's abilities. The percentage of structural units that included causal relations, purposive behavior, and complete or complex episodes increased as the children increased in age. A majority of the children's stories at all ages involve causal relations with increasingly higher percentages appearing in the two older groups. With increasing age, greater percentages of causal relations appeared within goal-oriented or purposive episodic structures.

Both the narrative levels and the story grammar structural patterns were developed using story constructions. These methods can also be used to analyze the structure of stories being considered for retelling tasks as well as the retellings themselves. However, the developmental levels for story constructions will not apply. Retellings usually result in more advanced narrative organization unless the original story is not comprehended.

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The two analyses described illustrate organizational strategies observed in the narrative construction of preschool and elementary school children. The developmental progressions of the acquisition of the strategies in the two analyses overlap. At present, a combined order is not known. However, well-formed stories do entail centering, causal relations, and chaining, while goals may or may not be included.

Children and adults who lack knowledge of how factual and fictional events are organized will be limited in their understanding of the world and the people who live in it. They will be hampered in appreciating or learning from stories regardless of the forms in which they are presented: real-life events; the oral tradition, literature, or movies; or even comic books. They will have difficulty reconstructing their own experiences and sharing them with others. The ability to identify clients who are deficient in their knowledge of story structure is the first step in helping them learn the structures and how to use them.

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