This paper provides an analysis of plot structure in stories freely narrated by five-to-ten-year-old elementary school children. The question was raised whether the stories, collected over a two-year period, would reflect the children's transition from home to school by a shift from a private to a public character. Structural analyses of plot, derived from the theories of Claude Levi-Strauss, Vladimir Propp, and Jean Piaget, were shown to have value in detecting developmental shifts in the children's narration. Subjecting the stories to the type of analysis used in the evaluation of mythology and folktales revealed the children's initiation into public legend. Thus, the content of the children's fantasies was shown to reflect the basis of cultural mythology and to provide an index of the level of socialization into that mythology. (RS)
Developmental Structures in Fantasy Narratives

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The present paper is part of a larger study of the development of children's imagination during the elementary school years. The question posed was whether children could be said during these years to be initiated into public legend and public myth. Evidence for such a possibility might lie in the susceptibility of their fantasy life to analysis in terms of some of the major conceptual paradigms that have been used in the study of folk tale and myth. Kirk in his analysis of mythology has suggested that the only truly universal aspect of mythology is the narrative habit (1970). The present study, therefore was conducted on children's freely told stories which were collected over a two year period from five to ten year old children. The description of the collection of stories and the methods used is described elsewhere (Sutton-Smith, et al., 1975). Confidence that the acquisition of narrative competence is a learning of increasingly structured performances is enhanced by Applebee's reanalysis of the Pitcher and Prelinger story data, showing a steady increase over that age range in children's use of...
conventional markers (once upon a time, the use of the past tense, fantasy characters, animals, the non use of the self, they lived happily ever after etc...) (1973). Applebee also found that while children of five years old conceded that the stories were not true, it was nine years of age before they conceded that the characters were not true.

What this implies is that storytelling is not a purely idiosyncratic expression. Learning to tell stories is like learning to play games. And as the evidence of the latter shows their clear implication with cultural norms, we, therefore, have reason to suppose the same will be true of stories (Sutton-Smith, 1972). This is a break with the earlier epiphenomenal or "projective" tradition and is consistent with the recent works of Singer (1966) and Klinger (1971) on the structured and problem solving character of fantasy. Further we hold that fantasy, like play, is a form of adaptive potentiation in which the subject in combinatorial activity deals with the possibilities permutatively inherent in prior experience (Sutton-Smith 1975). In this way a novel repertoire of associations is created some of which have the potential for entering into future adaptation.

The promise of a structural approach to fantasy is that, among other advantages, it provides a basis for clarifying the nomothetic and idiographic elements in any particular fantasy, and, therefore, improves the possibility of valid interpretation in the individual case. The dangers of structuralism are, as usual, the dangers of considering text without context. And while those dangers are real enough because no text has yet been formulated for this arena, such dangers lie in the
future, even though they are currently rife elsewhere, (Kessing, 1974).

Structure, in the present case of children's stories can mean a number of things. It can mean plot, it can mean style, it can mean grammar, it can mean symbolism, it can mean level of tension (Colby, 1975). Although we have initiated analyses in all these terms, the present paper is limited to our major focus to date, which is upon the study of plot as structure.

From the beginning we have assumed that there would be a number of possible concepts of plot structure available to us, and that the most fruitful approach to the understanding of the development of regularities in narrative structure would be to contrast some of the available alternatives. The wisdom of this eclecticism was forced upon us by the reigning battles within folklore, where various investigators have striven to show that their own system provides the ultimate analysis of narrative structure applicable to folktales and the like.

The two major contestants for the analysis of plot structure currently focus, in the one case, on the characters of the stories and in the other on the actions of those characters. No one as yet seems to have given equal importance, as Kenneth Burke might expect, to ecological elements, or temporal elements, or instrumentalities although none of these is actually missing at least in some minimal form in the prevailing systems.

I. Narrative Plot as Character Interactions

We have two possibilities to consider. One from Levi Strauss, and a derivation of Strauss presented by the Marandas.
(a) **Levi Strauss:** While Strauss probably has a myriad of suggestions for this type of analysis, we have focussed on one from his structural study of myth where he says:

"If we keep in mind that mythical thought always works from the awareness of oppositions towards their progressive mediation... We need only assume that two opposite terms with no intermediary always tend to be replaced by two equivalent terms which allow a third one as mediator; then one of the polar terms and the mediator becomes replaced by a new triad and so on." (1963, p. 62).

In these terms we may analyse children's stories in terms of the conflicts between the powers that are represented in them, with the expectation that these conflicts will achieve successful mediation through different characters. An example of a story where one seems to get these sorts of cyclical displacements is this one by a seven year old girl:

> Once this girl went to the zoo. She went to the tiger's cage. He ate her up. Her mother and father came and tried to get her out of the tiger. The tiger ate up her mother and father. The tiger ate up the world. Inside the tiger there was another one. A little girl came up to the tiger's cage. The end.

In an analysis of the stories of 60 children with 20 at each level, 5-7 years, 6-8 years, and 9-10 years, equally divided by sex, we found only about 50% in which once the conflict was established other characters entered into the picture and contributed to its further development. There was a significant tendency for girls more often to use this technique for story solution, which meant that in the main they relied on an alliance with a powerful character (mother, father, etc.) to overcome the dangers of the threatening character (monster, witch, etc.). This is an important finding because it immediately suggests that this structural solution is relative to sex role. It cannot apparently be the sort of
structural solution that would be implied in a Piagetian approach.

(b) The Marandas: The Marandas have generated a more explicit account of the way in which interaction between characters might be used as a structural way of looking at a narrative (1971). They consider that the conflicts in tales can be analysed into four levels. These levels are:
I. Tales in which one power overwhelms another and there is no attempt at response; II. tales in which the minor power attempts a response but fails; III. tales in which the minor power nullifies the original threat; IV. tales in which not only the threat nullified but the original circumstances are substantially transformed. Tales of the last sort are like hero tales in which having destroyed the monster the Prince returns, marries the Princess and takes over the Kingdom. These steps of the Marandas may be regarded as stages in the development of the hero tale. Examples of the stories at each level are as follows:

Level I. The most common response at this level is that the subject is threatened or overcome by a monster or there is a lack or deprivation to which no response is made. In a few cases, we are only told of the presence of the monster with some implied threat, or someone else is hurt, or we are scared, or the monster is described. One thinks of paralysis in the face of fear when seeking the biological counterparts to this response.

Examples:
(a) This is a story about a jungle. Once upon a time there was a jungle. There were lots of animals, but they weren't very nice. A little girl came into the store. She was scared. Then a crocodile came in. The end. (girl, age five)

These stories are reproduced from an earlier publication: Sutton-Smith, Abrams, Botvin, Caring, Gildesgame and Stevens, 1975.
(b) The boxing world. In the middle of the morning, everybody gets up, puts on boxing gloves, and fights. One of the guys gets socked in the face and he starts bleeding. A duck comes along and says, "Give up." (boy, age five)

Level II. The predominant responses here are those of escaping or being rescued. The monster may be attacked but the attack is not successful. This is what the Marandas term "felled mediation." In this subject group, some children convert the monster into a benevolent creature. One may join with him in attacking others, or simply make him a nondangerous entity. On occasion, the benevolent monster has to persuade the mother (now the negative force) that he may be taken into the home quite safely. Unlike most fairy tales and folktales, there is little reference amongst this group to the interference of magic or luck, an indication perhaps of the inner rather than the outer directedness of this particular population. In most cases, those who rescue us do not succeed in getting rid of the original threat either, so that these are Level II responses.

Example: Henry Tick (girl, age 10)
Chapter I: A few years ago Henry Tick lived in a hippy's hair but he got a crew cut so Henry had to move. He went to the dog pound but it was closed. He went to the pet shop but it was closed too. Finally he found a nice basset hound. So he moved in. He got a good job at the circus jumping 2 inches in mid-air into a glass of water. One day he jumped but there was no water. He was rushed to the hospital. They put 12 stitches in his leg. Well, he never went there again. The end.

Chapter 2: One day Henry Tick was walking down the street when he was almost stepped on. He was so startled he jumped in the shoe. He was in the shoe for about 15 minutes when the person took off the shoes and put them in the closet. Henry jumped out and ran into the next room which happened to be the bathroom. He jumped into the toilet, by mistake of course. Henry almost went down the drain.
Morphology of the Folktale (1928) he sought to set out the fundamental elements of action that constitute its basic components. He suggested that the number of these is limited and that they always appear in the same order.

There are two levels of action that occur in stories according to Propp, primary and secondary. At the primary level, there are two basic types. These are villainy versus villainy nullified, and lack versus lack liquidated. These are the two elements which were to delineate the boundaries of all the folktales with which he dealt. They might be thought of as basic systems of disequilibrium and equilibrium restored. Other primary elements include material that is preparatory, intermediate, or consequential to the establishment of these major boundaries. In the study of 60 children we mentioned above we found a sex difference with the basic type more often being villainy for boys and lack liquidated for girls.

The secondary functions are the somewhat more concrete ways in which these primary functions are mediated. Thus villainy can be mediated by threat, attack, chase, violence, torture, etc. It can be nullified by defense, escape, release, and defeat. When we scored the number of these occurring at each age level across our basic sample of 60 we found an average length of about 3 such elements for the 5-6 year olds, 4 elements for the 7 or 8 year olds, and above 6 for the 9 and 10 year olds (.001). There were no sex differences in these units of length. What tended to occur at 5 and 6 was that the dyadic units of attack and defense, or chase and escape tended simply to get repeated, implying perhaps a primitive reversibility. It may be that chase and escape, attack and defense, are culturally occurring reciprocal systems which the child
and was starting to cry but when she opened it she was glad and the little girl took care of it and fed it milk and food and the little kitten lived with Lisa happily ever after.

Level IV. At this level the danger is not only removed, there is a complete transformation, so that there is clearly no possibility of this threat or this lack of returning again.

In the following example, the writer has a story in three chapters. The first chapter has a level II ending, the second chapter has a level III ending, and the final chapter has a level IV ending. In the following data, stories are scored at the highest level, although with children of these ages stories are typically at one level. Preliminary study of the longitudinal data indicates that children are fairly consistent over time in the level of response, but that is a question which will be reported on in a subsequent study.

Example:
Mr. Hoot and the Married Lady (Level II)
One night Mr. Hoot was sitting in his house thinking why he never had any fun. He said to himself, "Maybe I'm too shy." So he said to himself again that he was going to go out and get into mischief. He got on his coat and put on his contact lenses and he was off. There he was strolling from bar to bar. At his fifth bar, he decided to have a drink. He pounded on the table and said two martinis on the rocks. While he was waiting for his drinks and chug-a-lugged them down the hatch. After his drinks, he saw a beautiful lady in the corner of the bar. So he went over to her and said, "Can I buy a drink?" She replied "No thank you. I'm not finished with this one." Then she said "Anyway please sit down and we will talk."

A big guy walking out the men's room came over to Mr. Hoot and said, "Are you fooling with my wife? How dare you," and picked Mr. Hoot up and threw him on the ground. The moral of the story is - you can't tell a married lady from a single lady.

Mr. Hoot and the Stewardess (Level III)
Once Mr. Hoot was sitting in the bar with his friend Bobby the Baboon. They were discussing going to Hollywood. Mr. Hoot
said to Bobby, "Let's go next week." So they made all the arrangements and before they knew it they were on the airplane going to Hollywood, While they were on the airplane, Mr. Hoot saw this very attractive stewardess, So Mr. Hoot called her over and said, "Hi, what's your name?" She said, "Laura Sinch, what's yours?" "Harold Hoot," he said. Then he said, "How long have you been working for the airlines." She replied, "Two years and seven months." Then they started talking about where they lived and other things like that. Then a little baboon said, "Hey would you stop it with the lady and let her do what she's supposed to be doing." Then Harold got mad and said, "Shut up, you little baboon." Then Bobby said, "Hey, are you sounding on my kind? How dare you." "Oh, Bobby, butt out of this," Harold replied. Then the little baboon said, "Shut up, you overgrown owl." Then they really started going at it. They were throwing pillows and suitcases at each other and cursing at each other. Then Harold gave him a good sock in the face and that was the end of the adventure.

Mr. Hoot Gets Married (Level IV)

Once Harold was sitting in a restaurant at a table all by himself. Then he noticed there was a female owl sitting down by herself. Mischievously he walked over and asked her what her name was. She said, "Mary Cline." Then Harold thought for a moment and said, "Are you the girl that broke her wing when you were nine years old?" Then she said, "What's your name and how did you know about my wing?" "Well," said Harold, "I knew about your wing because your name sounded very familiar, so I thought back to my childhood and remembered a girl named Mary broke her wing, and my name is Harold Hoot." Then she said, "You were the kid they called Hoot the Toot." "Oh yeah," Harold replied. "I forgot about that." Then they started to talk about their childhood and ate dinner together.

After that night, they went out to dinner, to movies and did lots of other things like that. After about a year, they told their parents they were going to get married. Their parents agreed and they had a wedding. They had the most beautiful wedding you can imagine. For their honeymoon they went to Niagara Falls. Then after that they settled down in a nice house in Poughkeepsie and had boys named Bobby and Peter. Last and not least, they lived happily ever after.

(boy, age 10)

When the stories were classified in these terms there was indeed a significant age trend. Older children in this sample tend to tell the higher level stories (P .01). We have now made the same analysis several times and such a chronological age shift is always forthcoming. This time there is no sex difference across the four levels. There is a dif-
ference in style of solution but not in level. That is, the boys more often reach level 3 or 4 by having their hero overcome the villain, the girls more often reach that level through an alliance. This is certainly an improvement on the prior structural approach, where the sex difference effectively vitiated the system. It seems to suggest that we may indeed have an invariant series. On the other hand from the cross cultural evidence presented by the Marandas, it is also clear that there are many societies where no such belief in one's ability to overcome the fates exist, and in these cultures the stories often do not arise above the first or second levels. Again we find that some of our younger children, even five year olds, occasionally tell the fourth level stories, and so we wonder whether or not this particular series of steps might not be functionally related to need achievement or an inner locus of control etc., and therefore, tell us only about structural sequences in that particular cultural context. We are investigating these questions.

Fortunately the longitudinal nature of our basic sample makes this possible. Although preliminary attempts to related Maranda level to locus of control as measured by the PPNSIE of Nowicki and Duke have not been successful.

II. Narrative Plot as Action Sequences

The other major current source of notions about plot structure is the Russian Vladimir Propp a formalist of the 1920's. In his

An analysis by Tom Stevens and Cynthia Budick
Morphology of the Folktale (1928) he sought to set out the fundamental elements of action that constitute its basic components. He suggested that the number of these is limited and that they always appear in the same order.

There are two levels of action that occur in stories according to Propp, primary and secondary. At the primary level there are two basic types. These are villainy versus villainy nullified, and lack versus lack liquidated. These are the two elements which were to delineate the boundaries of all the folktales with which he dealt. They might be thought of as basic systems of disequilibrium and equilibrium restored.

Other primary elements include material that is preparatory, intermediate or consequential to the establishment of these major boundaries. In the study of 60 children we mentioned above we found a sex difference with the basic type more often being villainy for boys and lack liquidated for girls.

The secondary functions are the somewhat more concreteistic ways in which these primary functions are mediated. Thus villainy can be mediated by threat, attack, chase, violence, torture, etc. It can be nullified by defense, escape, release, and defeat. When we scored the number of these occurring at each age level across our basic sample of 60, we found an average length of about 3 such elements for the 5-6 year olds, 4 elements for the 7 or 8 year olds, and above 6 for the 9 and 10 year olds (.001). There were no sex differences in these units of length. What tended to occur at 5 and 6 was that the dyadic units of attack and defense, or chase and escape tended simply to get repeated, implying perhaps a primitive reversibility. It may be that chase and escape, attack and defense, are culturally occurring reciprocal systems which the child
first models and which become for him prototypes of true reversibility. We know that they occur in games at about the same time they enter into narrative, and the evidence from games is that they are at first simply mimicked without any cognitive control to the reversibility involved.

The finding that tales at first lengthen by repetition is similar to Garvey's finding with the turn taking rounds of early childhood (1974). The next step is a strengthening together of these secondary dyads, thus trap-escape, attack-escape, or scared-successful; must go together, or loses-finds, flooded-swims, loses-finds, loses-finds to quote some actual examples.

In another study done with a different sample of 60 stories we have developed a seven step structural system based on a combination of Propp's primary and secondary characteristics. In brief the steps plotted out and tested were:

1. a fragmentary level
2. The appearance of the primary dyads of villainy and lack, just one in each story, with several other secondary elements
3. The increasingly systematic arrangement of the secondary elements in and intermediate position between the primary dyads
4. Increasing the number of primary dyads
5. Expanding each of these dyads with appropriate secondary elements
6. The development of embedded primary subplots within the major dyad
7. Multiple subplots

An analysis of variance (for fixed effects) yielded a significant

This was developed by Botvin.
age shift across these categories. However, this effect for this age group 5 to 10 years was produced mainly by a shift up from level three at age 5-6 to level four at age 7-8 to level five at age 9-10. Which means at 5-6 years we have in this sample a basic dyad with intermediate secondary functions. By 7-8 years we have an expansion of these multiple dyads by intervening elements.

What is interesting in this system is that there seem to be only two qualitatively novel steps. When the dyad first appears at level 2 as a way of organizing the story this is a major step forward. All subsequent steps until level 6, which has subplots, seem more to be extensions and enlargements using these basic principles. One might argue that the structural system has two components, an addition of new principles and an increase in the carrying capacity of those principles.

This is an important point because Applebee in his analysis of the complexity of the Pitcher and Prelinger tales found that simple measures of complexity (such as number of words, character's, incidents, etc.) did not covary with his structural measure of complexity which was based on Vygotsky's analysis of the development of concepts (from heaps, through complexes to chains) (1973). With age held constant each form of complexity analysis moved along a separate path. Similarly in our own analysis of number of elements above we did not find any sex differences. However, when the sixth level of analysis (where the dyad includes subplots) was applied, a strong sex difference in favor of the girls was found.

What this appears to mean is that while boys and girls did not differ cognitively in terms of the number of elements they can store in telling a
story: when it comes to organizing the story the girls are at a higher level. It may be easier for them to manage the primary element of lack and lack liquidated than it is for the boys to manage villains and villains nullified. The culture may provide the girls with their paradigm for solution at an earlier age than it provides them for boys. The boys may have to await pre-adolescence to gain a feeling of skill in overlooking villains. This must be a quite tentative proposal, however, for in a subsequent analysis of sex difference dissimilar even though significant results were obtained. The general point we would like to make is that the discovery of developmental differences without sex differences may perhaps be taken to imply a true developmental change, whereas the appearance of sex differences can be used as an example of cultural sex role typing affecting the character of the structures being considered.

III. A Piagetian analysis

As an alternative to focusing on either character or on actions per se, in our most recent work we have adopted notions from Piagetian cognitive theory and looked for manifestation of conservation and reversibility whether in character or actions.

In this study the story collection was extended down to two year olds, because we had found the Pitcher and Prelinger materials appeared to have too much adult filtering in them. The levels of development formulated on all the story data from 2 to 10 year olds was as follows:

This study was formulated by Dan Mahony.
Stage I: Free Association (under 2 years)

The earliest tales of children are fragmentary and without central themes nor sequential organization. Characters and actions are not systematically related. There are sentences, but they do not seem to us to be connected. Of course in the child they might be. However, no story is conveyed and we leave it at that.

Stage II: Conservation of Main Character (2 years)

(IIa) Now there is the same character from the beginning to the end, but he is the only character in the story. There is no one else. The story is entirely egocentric perhaps, but at least the central character is throughout: The airplane flew up in the sky. And after he flew up, he flew down in the park. This goes up in the airport. It had a little accident and it had to fix it. The airplane fell down. (2 year old)

(IIb) Then other characters appear, but they have no reality apart from their relationships to the main character.

The Doggie
The doggie jumped over the fence. The doggie went on the swing. He swung on a swing. And he was in a park. The doggie jumped over the bike. The doggie jumped over the bear. The doggie jumped over a truck. The fence wriggled away. (2 year old)

Stage III: Conserved and Co-ordinated Others (3 years)

At stage 2 there are others in the story but the main character is egocentric, the others act upon or are acted upon by the main character but there is no co-ordination of their actions or between them. As in spatial development the child initially coordinates all things to himself and only later coordinates the objects to each other. Also we now begin to get the conserved other. The other character is mentioned several
times. He appears and reappears. Here is an example from a 3 year old girl.

The monster and spider man

The girl cried. He named Hook. He hurts girls. He go away.
The end.

(lilb) At the second half of this stage interactions develop amongst the other characters also. Theirs is an objectification of their relationships. Thus a four year old says:

Once there was a robber and then a girl was lost. And the robber came and put her in jail. And then the police came and got her out of jail. And then the police put the robber in jail.

They are co-ordinated together as well as to the main character.

Stage IV: Plot Conservation (5 years)

These various interactions continue their development of co-ordination and alliance. It seems that alliances first occur amongst the others, from 4 onwards, and amongst central characters not until nine years or so. Sub group alliances appear to come after that.

However, at age 5-6 years the major new event is the emergence of plot conservation. The child is concerned with uniting the actions of the story in some organized way. There tends to be an initial state (ball of clay), the middle transitional state (rolled to a sausage) and the return to the first state (ball again). The initial state is usually in the home or some well equilibrated place. Then there is action and danger elsewhere. Finally there is a return to the original situation. We have a reversibility of events in narrative just as we have them in physical conservation. The child apparently feels compelled to account for the continuing state of things.
I'll tell you a story. He's going to be a pumpkin man. Once upon a time there was a pumpkin man. And he lived in a little pumpkin house close by the city. And he wanted to go to the city. So he went to the pumpkin mobile and he went faster than the speed of a bullet, more powerful than a locomotor. He could go down the highest hill in a single bound. And he went so fast that he past the store that he wanted to go to. Then when he got back home he went to bed. And that's the end. (3 year old)

In this analysis a fundamental shift has occurred from stage 2 and 3 to stage 4. The earlier stages are based on the analysis of character conservation, the later on the basis of action reversal. It is noticeable that the present conservation of plot structure, and the propptian appearances of the dyad as the controlling structure occur at the same time (5-6) as does Maranda's stage 1 (being overcome). They are all different ways of talking about the same phenomenon. According to this Piagetian analysis the implication is that character and interaction gets co-ordinated before action, character from 2-5 years, and action thereafter.

Stage V: Reversible Plot Structure (Sub plots)

Towards 8 and 9 years, the simple and reversible plot sequence, is modified by the addition of parallel sequences of a subordinate order. Words like while and meanwhile appear (meanwhile back at the ranch). The child can now hold one plot in mind while developing the sub plot, and then can return to the first plot. He is into two dimensional classification. There is further organization into chapters which are initially simple chains but soon they acquire the reversible structure.

Some boys were playing baseball. A man came and said they couldn't play there. "Why can't we play, we're in our own backyard." "Oh I never knew it was your backyard."

The mother came home and said it was time to come and
play inside because it was going to rain. So they came in and played inside. Later they went out and played more baseball. (eight year old)

In sum, we have in this Piagetian sequence, conservation of main character, conservation of others, conservation of plot (as reversibility), then reversibility of plot through parallel plot. There are obviously later stages but these haven't been analysed as yet. All the pilot study indications are that this is an invariant sequence as we might expect.

One might use the metaphor of the musical stave to suggest that the characters are like the notes which are first differentiated, and conserved and the actions are like the bars or measures which subsequently take on regularity just as they did in the history of music.

Conclusion

The question was raised whether children's transition from home to school from 4 to 8 years is accompanied by a shift in the character of fantasy from a more private to a more public character. It was argued that if freely told and idiosyncratic stories could be made susceptible to structural analysis which had been found appropriate in to mythology and folktales, and if there was a logical development manifested in childrens' story telling, then the thesis could indeed be maintained that their stories indicated a transition (an initiation process) into public legend. Their stories could both be regarded as the underbelly of our mythology and index of their socialization into that same mythology.

It was found that structural analyses of plot derived from Levi Strauss, Vladimir Propp and Piaget all have value in detecting develop-
mental shifts. Our preference at the moment is for the Piagetian analysis, as it is relatively more content free than the other systems. It deals with the same materials, but in terms of their operativity rather than in terms of their content. The Piagetian analysis subsumes the other, converting their "structural" approaches into content for its own purposes. Thus it is not a question of who overcomes who (as in the Maranda analysis), or of which sequence precedes which other (villainy before attack), but of the changing flexibility of the children in the use and reversal of these structures.
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