

DE GRUYTER

Heda Jason (Ed.) et al.

**PATTERNS IN ORAL
LITERATURE**

WORLD ANTHROPOLOGY

Patterns in Oral Literature

World Anthropology

General Editor

SOL TAX

Patrons

CLAUDE LÉVI-STRAUSS

MARGARET MEAD

LAILA SHUKRY EL HAMAMSY

M. N. SRINIVAS

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Editors

**HEDA JASON
DIMITRI SEGAL**

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General Editor's Preface

When scholars ask new questions about an old subject answers suddenly are hard to find. For the present book, the question is "How is the performer able to improvise on the spot thousands of lines of an epic, or tell a story for hours on end?" Scholars working in areas relevant to this question, with ideas recently developing in structural anthropology and linguistics, compare their findings and come to further questions. Does the folk performer use a presumably unconscious ethnopoetic artistic canon — consisting of both content units and rules of composition — which enables him to improvise his works? If so, what methods can be used to discover, or uncover, such canons? Purely taxonomic methods have not provided tools powerful enough to account for the complexity of the data; can the generative approach do so? The papers in this volume, responding to such questions, are a result of a conference which was inspired by an international Congress which sought to see beyond the present borders in many areas of the human sciences. It was arranged in Jerusalem by the Editors, held in Copenhagen, and reported to the IXth International Congress of Anthropological and Ethnological Sciences in Chicago.

The IXth Congress was planned from the beginning not only to include as many of the scholars from every part of the world as possible, but also with a view toward the eventual publication of the papers in high-quality volumes. At previous Congresses scholars were invited to bring papers which were then read out loud. They were necessarily limited in length; many were only summarized; there was little time for discussion; and the sparse discussion could only be in one language. The IXth Congress was an experiment aimed at changing this. Papers were written with the intention of exchanging them before the Congress, particularly in extensive pre-Congress sessions; they were not

intended to be read aloud at the Congress, that time being devoted to discussions — discussions which were simultaneously and professionally translated into five languages. The method for eliciting the papers was structured to make as representative a sample as was allowable when scholarly creativity — hence self-selection — was critically important. Scholars were asked both to propose papers of their own and to suggest topics for sessions of the Congress which they might edit into volumes. All were then informed of the suggestions and encouraged to re-think their own papers and the topics. The process, therefore, was a continuous one of feedback and exchange and it has continued to be so even after the Congress. The some two thousand papers comprising *World Anthropology* certainly then offer a substantial sample of world anthropology. It has been said that anthropology is at a turning point; if this is so, these volumes will be the historical direction-markers.

As might have been foreseen in the first post-colonial generation, the large majority of the Congress papers (82 percent) — like those in the present book — are the work of scholars identified with the industrialized world which fathered our traditional discipline and the institution of the Congress itself: Eastern Europe (15 percent); Western Europe (16 percent); North America (47 percent); Japan, South Africa, Australia, and New Zealand (4 percent). Only 18 percent of the papers are from developing areas: Africa (4 percent); Asia-Oceania (9 percent); Latin American (5 percent). Aside from the substantial representation from the U.S.S.R. and the nations of Eastern Europe, a significant difference between this corpus of written material and that of other Congresses is the addition of the large proportion of contributions from Africa, Asia, and Latin America. "Only 18 percent" is two to four times as great a proportion as that of other Congresses; moreover, 18 percent of 2,000 papers is 360 papers, 10 times the number of "Third World" papers presented at previous Congresses.

This significant increase in the input and physical presence of scholars from areas which have until recently been no more than subject matter for anthropology resulted in both feedback and also long-awaited theoretical contributions from the perspectives of very different cultural, social, and historical traditions. Many who attended the IXth Congress were convinced that anthropology would not be the same in the future. The fact that the next Congress (India, 1978) will be our first in the "Third World" may be symbolic of the change. Meanwhile, sober consideration of the present set of books will show how much, and just where and how, our discipline is being revolutionized.

The Congress was — and the resulting books in this series are — rich in studies of past and modern experiences of life and thought from cultures on all continents, by scholars who themselves represent the rich variety of cultural heritages. They learned from one another in Chicago and invite us all to share their experiences.

*Chicago, Illinois
May 30, 1977*

SOL TAX

Preface

From August 15-18, 1973, the conference on structure in oral literature took place in Copenhagen as part of the IXth International Congress of Anthropological and Ethnological Sciences (Chicago, September 1973). The present volume contains some of the papers discussed at the conference; to these are added other contributions which were submitted later.

It is a pleasant duty here to thank all those who helped to bring the conference into being: to Bengt Holbek (Folklore Institute, University of Copenhagen) and Peter Madsen (Institute of Literature, University of Copenhagen), who took care of the local arrangements in Copenhagen in the best possible manner, and to all colleagues who attended the meetings and participated in the discussions: Viggo Brun, Antonio Buttitta, Kerstin Erikson, Torben K. Grodal, Erhardt Güttgemanns, Inger Lövkrona, Peter Ludvigsen, Antonio Pasqualino, Mrs. Pasqualino, and Viggo Røder. Without the patient encouragement of Sol Tax, President of the Congress, and the help of the staff of the Congress and of our publisher, this volume would not have come forth.

The members of the conference are very grateful to the University of Copenhagen, which provided facilities for the conference, and to the Statens Humanistiske Forskingrad of Denmark, the Ministry of Education and Culture of Israel, Tel Aviv University, and Hebrew University, all of which generously took upon themselves to provide for the mundane needs of our conference.

Jerusalem

HEDA JASON
DIMITRI SEGAL

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Introduction

HEDA JASON and DIMITRI SEGAL

Studies of the narrative structure of oral literature developed in Europe at the end of the last century, and were especially productive in Russia in the 1910's and 1920's, the very same period during which modern linguistics developed (see Erlich 1955, Pomorska 1968). The work of Veselovskij (1940), Shklovskij (1925), Skaftymov (1924), Volkov (1924), Nikiforov (1927) and Propp (1928a) laid the foundations of the investigation, posed the basic questions, worked out the basic units of analysis and the relations between them, and indicated the basic approaches for the development of a model for the narrative structure. (For a critical review of their work in relation to each other, see Jason 1971b, Meletinskij et al. 1973.) These approaches could probably be brought together in a model which would be analogous to the generative approach of modern linguistics. In fact, a foreshadowing of thinking along generative lines may be found in Nikiforov's work.

Why did folklorists start investigating oral literature by means of structural models? And for what aims? The basic question which the folklorist asks is: How is it made? How is the performer able to improvise on the spot thousands of lines of an epic, or tell a story for hours on end (Lord 1960)? In order to answer these questions an artistic canon of rules and units has been postulated, which works similarly to a "generative grammar," "generating" narratives. Such is the approach initiated by Shklovskij and Nikiforov.

In reality the tales continuously dissipate and are again composed by special rules of composition . . . (Shklovskij 1925: 23-24).

The law of the grammatical formation of the plot is particularly interesting because it leads us to the conclusion that natural forces are at work at the basis of folktales, forces which bring about the development of various

spheres of folk creativity (language, the folktale plot) according to similar formal categories (Nikiforov 1927: Page 28 of the English translation).

Propp approaches the problem of plot structure as a tool to find an extratextual linear model which would both provide a semantics of the plot and a genetics of the fairy tale.

The question about the origin of species which Darwin posed, can be posed also in our realm. . . . In order to answer this problem, one should first elucidate the question about the character of the similarity of fairy tales. . . . One can compare tales from the standpoint of structure, and then the similarities between them will appear in a new light (Propp 1928b:70).

. . . to discuss genetics, without special elucidation of the problem of description of the structure is completely useless. Before throwing light upon the question of the tale's origin, one must first answer the question as to what the tale itself represents (Propp 1928a: Page 5 of the 1968 edition).

Faithful to this basic concept after the publication of his morphology, Propp turned to the comparative study of the tale's content (1928b) and to the study of the origins of the fairy tale (see Propp's dissertation, reviewed by Zelenin in 1940 and published in 1946).

After the first English translation of Propp's work in 1958, development of the analysis of narrative structure in the West started with Dundes (1962a, 1962b, 1964), Ben-Amos (1967), Jason (1971a [written 1967], 1971b, 1972 [written 1968]), Powlinson 1972, and Colby (1973a, 1973b), and in Europe with Bremond (1964, 1966, 1970, 1973), and Gütgemanns (1973 and this volume).

Another stream of thought, namely, the investigation of the semantic aspects in myth and the problems of human thought (Lévi-Strauss 1955, 1964-1971), gave the impulse to a reworking of Propp's ideas by combining them with Lévi-Strauss' approach. This direction was followed by Greimas (1965, 1966) and Königs Maranda and Maranda (1971), and partly by Gütgemanns and the contemporary Russian semioticians Meletinskij, Nekliudov, Novik, and Segal (1969, 1971).

The main trait of the first group of studies, however heterogeneous and different they are, is that they have basically a classificatory quality. They divide and classify the elements of the narrative into units of various orders.

The second trait of most of the work done (except Colby 1973a, 1973b, Gütgemanns 1973 and this volume) is the tendency to reduce the number of the units which Propp labeled "functions" and to expand the unit's scope of meaning. The new unit is thereby elevated to a higher level of abstraction than the level of Propp's functions. Another common trait of works stemming directly from Propp (except that of Jason and the Russian semioticians) is the lack of the concept of tale role in the proposed models. Greimas reintroduced the tale

role (1966) and his followers used the concept in their models (especially Bremond and Guttgemanns).

Several of the scholars developed models with multiple layers. Propp's model features combinations of moves which follow one another (either continuously or discontinuously) but are in the same layer (1928a: Pages 93–94 of the 1968 edition). Dundes' model already contains the beginnings of a multilayered relationship between narrative units; for example, in the motifeme LACK LIQUIDATED is embedded a string of motifemes which show in detail how the lack is liquidated (Dundes 1964:92, LACK, LACK LIQUIDATED [by Deceit, Deception]). Bremond similarly distinguishes between layers, for instance: "Drawing up of a hypothesis, Deduction [setting of a test, passing of a test, test passed], Hypothesis verified" (Bremond 1964:22). In these cases we have two layers. Jason unfolds the model into more layers (Jason "Model . . . , " this volume; see example 26A where four layers of embedding are found. Note that the tale in example 19 has two independent strings of moves, each with two layers).

The general idea of the possibility of a generative approach, represented in the twenties by Nikiforov (1927), is taken up by Jason. The model has as its primitives two units: the tale role and the action of the tale role. These are combined by certain rules to form models for the measuring of narratives.

Structure in oral literature — what does that mean? Structures of WHAT in oral literature? In the course of the discussions at the conference, it turned out that this is not self-evident. Oral literature is a complex phenomenon, and several elements in it can be measured by models, some of them structural. At least four elements in oral literature can be handled by formal theories:

- a. The level of wording: { surface layer
 deep layer
- b. The level of poetic texture: (not yet clear how many layers)
- c. The level of narrative: { surface layer
 deep layer
- d. The level of meaning: (presumably includes several
 layers)
(symbolic component)

The level of wording (level a), the language, forms the raw material for the texture (level b) which is the organization of the wording into a work of poetry. To be sure, the wording is the only level which can be directly observed; the rest, including the texture, have to be inferred and constitute the artistic and semiotic organization of the work of oral literature.

The ontological status of the three structural levels (texture, narrative, and meaning) may be understood in two basic ways: either they exist in reality and the analyst has to discover them and their qualities; or they are the analyst's theoretical construct and his task is to find the most elegant theory to describe them while still remaining faithful to the only directly observable level, the wording.

The level of the wording (level a) is handled outside folkloristics proper; it is the domain of linguistics, especially one of its branches, dialectology. The level of the texture (level b) uses tools developed by general poetics in order to investigate the lexical, stylistic, and prosodic features of the oral literature work (see, for instance, investigations by Sebeok 1956, 1959, 1962, and Lord 1960; Lord's "formula" is a textual feature).

While the work of oral literature, of course, forms a whole in which all the elements and levels are interconnected, it is necessary, for analytical purposes, to differentiate between the textural structure (level b) and the narrative structure (level c). Propp was the first to keep the two clearly apart, enabling him to design a coherent model for the narrative structure. Propp's model can be understood as a "surface layer" of the heroic fairy tale genre (this term was proposed by Nikiforov [1927] to designate a fairy tale about a male hero who wins a bride). For other genres of oral literature, elaborate surface layers have not yet been worked out (cf. attempts to work out the surface layers for the "female" and the "reward-and-punishment" fairy tales in this volume by Dan and Drory, respectively).

Dundes' model (1964) for Amerindian tales contains elements of both surface and deep patterning. Bremond's units (1964, 1966, 1970) are on the same general level as Dundes'. Colby's eidons (1973a, 1973b) also include elements of both layers, but are on the other end of the scheme: while Dundes and Bremond operate with broad general units on a higher level of abstraction than Propp's, Colby's units are on a lower level of abstraction. Within this framework, Propp's and Gütgemanns' units, which basically represent a surface layer (with the possibility of the units being organized into several levels), are on a medium level of abstraction. Jason's model is conceived as a deep layer model, underlying the surface models of every narrative genre of oral literature.

While it is necessary for analytic purposes to differentiate between the levels of texture and narration, the analysis of the narrative structure, which starts "deep down" and "climbs up" to the "surface," should account for every word on the level of texture. Thus the organization of narration and of texture are closely enmeshed (see examples analyzed in Jason, "Model . . . , " this volume).

The meaning of oral literature (level d) may be analyzed on different

levels, from the most basic and general message of a logical structure underlying a text or a corpus of texts, to the semantic level of the wording of the text. The meaning of whatever level seems to be the result of the interplay of various elements of content and structure. Lévi-Strauss' work and the work of the Marandas lie in this area; for other attempts see Meletinskij et al. 1969 and 1971, and Jason 1975.

As mentioned above, the ontological status of the structure remains controversial; there is no unique structure which can be assigned to a text on whatever level (except perhaps certain prosodic and stylistic features on the level of texture, which are directly observable). The double analysis of the same texts made by Jason (in "Model . . .," this volume, examples 8 and 26A) and Bremond (in the comment to Jason's paper) demonstrates that a multiplicity of models is capable of accounting for the same text — possibly, an infinite number of models can in principle do the same service. No specific theory has as yet been developed, in the framework of which these different models could be compared and evaluated. The papers in this volume attempt to describe the structure of the work of oral literature on various levels.

Dan follows Propp and Volkov in trying to devise a model for the surface layer of the narrative structure of the "female" fairy tale (a tale in which a persecuted heroine wins a royal husband). Propp's concepts of the tale role and the action in the tale are used, and a linear model of the Proppian kind is devised.

Drory tries to do the same for the "reward-and-punishment" fairy tale (a tale in which two parallel protagonists act — both either male or female — one of whom behaves according to certain specific rules and is rewarded, the other of whom breaks these rules and is punished). This subgenre of the fairy tale is akin to the sacred legend genre, which makes for some complication in the building of the model (one text, a sacred legend, is analyzed in this volume both by Drory's surface layer model and by Jason's deep layer model [example 8]). Nevertheless, a model is devised which accounts for the texts.

Bremond's paper is the last in a series of papers in which he developed a model for the fairy tale (Bremond 1964, 1966, 1970, 1973). In the paper published here a series of closed models is described. Each model represents an episode in fairy tales. While they are formed from the same building blocks, the models are closed in themselves and no transition from one to the next is envisaged. Thus a taxonomy of tale episodes emerges. A whole tale can be built from a combination of several episodes, each with its own model, an idea found earlier in Nikiforov (1927). As Nikiforov has only been recently translated into a Western language (published in September 1973 after the IXth ICAES

took place), Bremond's discovery of the episode in the fairy tale is an independent one. The qualities of the episode and its functioning in the development of the fairy tale are worth further investigation. Bremond's theory is built on the assumption that the fairy tale is a "morally edifying narrative, which is governed by the optimistic requirement of a happy ending." Such a definition of the fairy tale is, however, not shared by all (see Jolles 1929, Greimas 1965, Jason i.p.).

Güttgemanns tries to establish a surface pattern for sacred legends of the tale corpus in the Gospels. The functions of Propp are recorded and several new functions added to fit the material better. The functions are used only in their aspect of action; the tale role is not built into this part of the theory. Thus the units become a more flexible but at the same time a somewhat less accurate tool, pointing to fewer relations in the text. In the second part of the paper, Güttgemanns proposes to view the relations between functions in a manner similar to the logical relations in the Square of Opposition. The relations, translated into truth tables, should indicate which combinations of functions are permissible for forming well-formed narratives (i.e. "true") and which are not (i.e. "false"). Thus the relations between functions are conceived in a new way which differs from the approaches taken in all other structural studies of oral literature. This new way seems worth exploring in greater detail.

Jason's paper ("Model . . .") is an attempt to construct a deep-pattern theory for the structure of oral literature. The model, based on three of Propp's functions and two of his tale roles, fits most narrative genres; so far it does not tie in with the surface patterning such as Propp's fairy tale model. The theory uses some of the notions of generative grammar. A tripartite model is used by Greimas as well as Bremond, but these and Jason's models were developed independently from each other.

The paper by Klein et al. summarizes the results of an experiment at generating sample texts of "folktales" with the help of a computer program. This is the first attempt to use Propp's plot pattern as the basis for a computer program, and the results show that both the model and the computer procedures applied are sufficiently powerful tools to generate texts similar, to a large degree, to fairy tales. The paper includes actual examples of artificial folktales. These samples show that the modeling of the narrative level alone is still not sufficient for generating tales which are wholly acceptable to the "native speaker." It is also necessary to take into account the constraints imposed on the cooccurrence of elements along the syntagmatic axis. These elements include individual objects, characters, as well as larger segments of the narrative (episodes). There is hope that if and when

this additional semantic analysis is added to Propp's scheme, the computer will produce much more verisimilar texts. In the meantime Klein's experiment has helped considerably in understanding the role of such semantic constraints in the structure of the fairy tale.

This leads us to the papers dealing with the symbolic semantic aspect of oral literature.

Freilich's paper attempts to analyze the methodological foundations and implications of Lévi-Strauss' analysis of myths. In his paper, Freilich introduces culture as a whole into the discussion, which otherwise concentrates on one element of it, oral literature. From his basic analytic notion of the space-and-time dichotomy in culture, Freilich develops a set of procedures to tackle the analysis of Lévi-Strauss' mythic "non-sense."

Meletinskij discusses Scandinavian mythology as a closed system and traces dyadic relations of oppositions in the content of this system. The oppositions are examined in the mythical models of space and time, as well as in the relations between the mythic beings. Thus the particulars of the space-and-time models become necessary parts of an organized whole. The system of relations traced in the paper can serve as a basis for the investigation of the semantic model in this mythology.

Jason's paper ("Content analysis . . ." [originally written 1968]) reviews Colby's and Maranda's early computer experiments for detecting patterning in oral literature. The technical problems, premises, goals, and results of computerized content analysis are discussed.

Let us conclude our introduction by a brief reflection on the question: where is the structural analysis of oral literature going? The review of recent work done in structural analysis of oral literature (published here as well as elsewhere) shows a number of common traits. We are dealing with second- or third-generation work (second generation from Propp, or third generation by way of Propp/Lévi-Strauss/Greimas). Yet the development has not been cumulative. Each investigator goes his own way and explores his own path of inquiry. These paths do not merge; on the contrary, they branch off into different directions. In spite of basically taking off from Propp's and Lévi-Strauss' concepts, everybody develops his own theory starting afresh. This situation shows through in the terminology where each investigator finds it useful to invent new terms for his units, often without taking pains to explain how and why his units differ from those next door. Most of the paths of inquiry taken lead in the taxonomic direction. To use once more the linguistic analogy, since the problems here are similar: taxonomic tools do not seem to be powerful enough to account for the complexity of the data; but tools of the

generative approach with its greater theoretical possibilities are only now being developed.

Since the investigation of oral literature started at the beginning of the nineteenth century, it has moved in parallel to linguistic research, sharing the basic paradigms of the latter, asking similar questions, and looking for similar answers using similar methods. The study of language and the study of oral literature were often done by the very same people, the Brothers Grimm being the best-known example. During the nineteenth century the basic approach was historical (with rare exceptions, such as some of Max Müller's ideas [1856]). In this century, the parallel development of linguistics and the study of oral literature continues: with the development of structural linguistics and semiotics, the structural approach enters the study of oral literature as well.

Structural analysis of oral literature presupposes the concept of an ethnopoetic artistic canon. The canon consists of content units (such as characters, deeds, models of time and space) which form the "lexicon" of oral literature, and a set of rules of composition (structural models of narration and meaning) which form the "syntax" and the "phonology" (the texture) of the canon. The folk-performer is unconscious of this canon and cannot verbalize it. Yet the canon is the tool which enables the performer to improvise his works, just as the unconscious knowledge of the grammar of one's language enables the speaker and the hearer to produce and receive speech.

Thus, once more, the interests of linguistic research and research of oral literature flow in the same direction.

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SECTION ONE

Narrative Patterns

The Innocent Persecuted Heroine: An Attempt at a Model for the Surface Level of the Narrative Structure of the Female Fairy Tale

ILANA DAN

We shall here attempt to apply the principles of Propp's (1968) analysis of the surface level of narrative structure of the heroic fairy tale to the female fairy tale (for the two kinds of fairy tale, see Nikiforov 1927: Paragraph 5; Jason 1976: Chapter 4.2, Table 3). Propp's notion of function, consisting of narrative role and narrative action, is complemented in the present model by Nikiforov's notion of episode (Nikiforov 1927: Paragraph 4.4), and Jason's notion of connectives (see present volume). The model presented here is but a first attempt; changes and clarification of issues are expected through further discussion.

The model was constructed on the basis of seventeen texts¹ of the AT types, numbers 403 (The black and the white bride), 706 (The maiden without hands), 712 (Crescentia), and 883 A (The innocent slandered maiden), their common trait being double persecution of the heroine, both in her parental home and in her husband's house. AT 403 was added as a typical marvelous tale, even though in Aarne's version there is only one persecution in it. Most texts, however, combine this tale with one of a previous persecution in the parental home taken from another AT type. Tales in which the heroine endures trials, such as AT 510 (Cinderella) or AT 875 (Clever peasant girl),

This paper was translated from the original Hebrew and edited by my teacher H. Jason. I wish to thank her for her guidance during my work. The texts of the stories were translated by L. Alvo.

¹ The texts are taken from the Israel Folklore Archives (IFA). The IFA texts were recorded since the late fifties from immigrants to Israel. Data about the Archives and its holdings were published by Jason 1965 and 1975b, and in Noy and Schnitzler 1967, 1968, 1970, 1971. All of the seventeen texts handled here were collected from immigrants who came to Israel from Islamic countries, and thus belong to the same culture. The texts are listed in the appendix by their IFA numbers.

form a separate group whose model will presumably differ from the present one; they have therefore been excluded from our discussion.

The female fairy tale tends towards the sacred legend: the marvelous helper, in almost all of the texts, is an agent of the sacred power such as an angel or Elijah the Prophet (on the notion of the agent-of-the-sacred, see Jason 1975a). The heroine and villains work and are judged in the framework of the society's religious and ethical value systems. The heroine is depicted as particularly virtuous: she will not be seduced, even in the most horrible of circumstances, and is charitable. The villains, in contrast, are sinners: seducers, slanderers, murderers, and misers. There are also hybrid texts that start as female fairy tales about the innocent persecuted maiden and end as pure sacred legends with the punishment of the villains/sinners by the sacred power. The tendency toward the sacred legend is much weaker in tales more oriented towards the marvelous, such as AT 403 (The black and the white bride), AT 510 (Cinderella), AT 707 (The three golden sons), AT 709 (Snow White).

THE MODEL

A move is presented which features twenty functions, each one consisting of one action and two roles. Functions are grouped into episodes.

Narrative Roles

There are five basic roles in the model:

1. Heroine
2. Groom/husband
3. Heroine's male relatives (father, brother)
4. Villains:
 - 4.1. Male seducers
 - 4.2. Socially elder female relatives of heroine or her husband
 - 4.3. False bride
5. Benevolent roles:
 - 5.1. Helper (marvelous)
 - 5.2. Agent
 - 5.3. Benefactor

The Episode

The episode is delimited by transitions in space and time (for discussion of space and time connectives, see Jason, "Model . . .," this

volume). Such transitions, however, can occur also inside an episode. The major transitions that are decisive for the discrimination of the episode are the ones between qualitatively different spaces. An example is the spatial transition from the home of the heroine's family to the marvelous outer space between episodes I and II. This issue is still unclear, and an investigation of a larger corpus of texts is required in order to clarify it. It appears that besides the time and space determinants, there is a coincidence of several other elements that delimits the episode (about the determinants of time and space see Jason 1969, as well as 1976: Chapters 19 and 20). Nikiforov's definition of an episode as "the functional connection of the secondary narrative role with the pivotal narrative role" (1927: Paragraph 4.4) does not seem to fit our model, as too many narrative roles are involved in each episode.

The Functions

In the following, functions and connectives are listed by order of appearance. The narrative roles in each function are indicated in small capitals.

Information

connective 2

Episode I

Function 1

Initial state of well-being is described.

Separation of heroine from family.

FAMILY gives heroine over to VILLAIN.

Examples: (a) widowed father marries a second wife; (b) brother marries before sister is married off; (c) wife is careless and thus husband eats pregnancy-inducing apple; (d) family, while away, trusts daughter to stranger (male); (e) family sends daughter to groom in care of an old woman.

Function 2

VILLAIN harms HEROINE.

Examples: (a) male villains try unsuccessfully to seduce heroine and slander her to her family; (b) female villains (stepmothers, sisters-in-law, aunts, old women) torture heroine by heavy work, or by inducing swelling of her belly to simulate pregnancy.

Function 3

FAMILY banishes HEROINE, or heroine runs away from family.

Examples: (a) heroine runs away from seducers; (b) upon villain's slandering or by direct initiative,

	family (father, brother) tries to kill heroine (cut her arms and legs) and abandon her; (c) female villains blind and abandon heroine.
Space/Time connective	Heroine wanders off into marvelous space; time lapses.
<i>Episode II</i> Function 4	Rescue of heroine and meeting of future husband. HELPER aids HEROINE in her distress. Examples: (a) marvelous being feeds heroine and guards her security, (b) heals her; (c) restores her cut extremities.
Function 5	AGENT connects HEROINE with future husband. Examples: (a) king's retinue (watchmen, hunters, dogs, horse), or heroine's crying attract king's attention to heroine; (b) a family takes heroine in.
Function 6	FUTURE HUSBAND meets HEROINE. Examples: (a) prince searches for heroine, meets her, and falls in love with her; (b) son of agent-family meets heroine.
Space connective	Future husband conveys heroine to his house.
<i>Episode III</i> Function 7	Prince marries heroine. PRINCE marries HEROINE.
Time connective	Time passes, during which heroine bears several children.
<i>Episode IV</i> Function 8A	Heroine separates from husband. HUSBAND temporarily leaves home and HEROINE, thereby exposing her to villain's intrigues. Examples: (a) prince leaves on journey or for war; (b) merchant leaves on business.
Function 9A	VILLAIN intrigues against HEROINE. Examples: (a) heroine bears child in husband's absence; letters between her and husband are changed by villain (male or female) to effect that she should be banished; (b) male villain ineffectively tries to seduce heroine, and writes false letter of banishment.
Function 10A	HUSBAND (his family) banishes HEROINE or heroine runs away from husband (his family).

	Examples: upon false letter or slander, (a) husband or (b) his mother drives heroine (with baby) away.
Function 8B	HUSBAND sends HEROINE on journey and trusts her to villain. Examples: (a) heroine, with children, goes to visit her parents, and king's vizier accompanies her; (b) heroine is sent to groom in care of an old woman, aunt, or stepmother.
Function 9B	VILLAIN harms HEROINE. Examples: (a) vizier ineffectively tries to seduce heroine, and kills her children; (b) female villain bringing heroine to prince blinds her and abandons her and substitutes own daughter as false bride.
Function 10B	HEROINE is separated from HUSBAND. Examples: (a) heroine wanders off; (b) heroine is left somewhere by female villain.
Space connective	Heroine wanders off to another place (by way of woods, sea, mountains).
<i>Episode V</i>	Heroine acts to rehabilitate herself.
Function 11	HEROINE temporarily changes her identity in order to approach her FAMILY. Examples: (a) heroine disguises as male; (b) heroine takes shape of bird.
Function 12	BENEFACCTOR helps HEROINE. Examples: (a) lower-class person takes heroine in as male servant; (b) king's servant (gardener) becomes aware of curiously singing bird (transformed heroine).
Function 13	HEROINE works to attract attention of other NARRATIVE ROLES. Examples: (a) heroine opens public institution (inn, bath, coffee house) where people assemble; (b) heroine displays her picture in public and observes passers-by's reactions; (c) heroine works as servant in public institution; (d) heroine, in shape of bird, seeks king's (her husband's) attention by strange behavior and song.
Time connective	Some time elapses until other narrative roles are attracted.

Space connective	Change of stage: next episode starts in husband's and/or heroine's parents' whereabouts.
<i>Episode VI</i>	Heroine is rehabilitated and villain punished.
Function 14	HUSBAND discovers VILLAIN's treachery. Examples: (a) husband returns home and discovers truth about false letters; (b) prince discovers his bride is false; (c) servant notices bird's marvelous song.
Function 15	HUSBAND and other narrative roles set out in search of HEROINE. Examples: (a) husband searches for banished heroine; (b) husband and vizier go through the world; (c) husband orders bird to be caught; (d) heroine's family searches for her; (e) villains go through the world.
Space connective	Searchers reach heroine's place (inn, bath, coffee-house, picture).
Function 16	HEROINE recognizes HUSBAND, FAMILY, VILLAINS. When all narrative roles reach her institution, or assemble for feast in house where she is male servant, she recognizes them.
Function 17	HEROINE reveals identity to other NARRATIVE ROLES. Examples: (a) disguised heroine reveals her identity; (b) husband disenchants bird, and recognizes wife.
Function 18	HEROINE tells her story to other NARRATIVE ROLES. Examples: (a) heroine tells her story to assembly as tale in the third person; (b) disenchanted heroine tells husband her story.
Function 19	Benevolent NARRATIVE ROLE(S) punishes VILLAIN(S). Examples: husband/king punishes (a) villain(s), (b) false bride.
Function 20	HUSBAND reinstalls HEROINE. Examples: (a) marriage is resumed; (b) prince marries true bride.

Comments

Episode IV showing the separation of the couple has two alternative sets of functions, depending on which of the two, husband or wife (heroine), leaves the common home. The result, however, is the same — the heroine leaves for the unknown world.

Function 11 can float. The heroine disguises either at the start of the journey (transition in space), in the middle of it, or at the end, i.e. the relative positions of the connective in space and of function 11 are not stable.

The order of functions 17 and 18 is interchangeable, and so is the order of functions 19 and 20.

ANALYSIS OF SAMPLE TEXTS

Two texts are analyzed in full according to the surface model just presented. The chosen texts represent two types of the female fairy tale: one text is akin to the novella, which is set in the realistic mode (AT 883 A); one is firmly set in the marvelous mode (AT 403, AT 480, AT 709). (On the notion of mode, see Jason 1976: Chapter 2.2.)

Text IFA 5650

This text was narrated by an immigrant from Morocco (AT 883 A [The innocent slandered maiden]).

Information
connective 2

There was a merchant who had a son and a daughter.

Episode I Function 1(a)

Once the merchant wanted to go on a pilgrimage. The son requested his father to take him to Mecca on the pilgrimage. The merchant answered him that he should stay home with his sister and watch over her. Before he left on the pilgrimage, the merchant approached his friend the butcher and asked him to give a pound of meat to his son and daughter every day. When the time for the pilgrimage came, the merchant went off.

Function 2(a)

Days passed and the son and daughter [were] at home. The son's clothing became soiled, his sister said to him: "I shall launder your clothes for you," and she did. The sister climbed to the roof in order to hang her brother's clothes, and while she was on the roof, the butcher saw her. He fell in love with her and desired her for a wife. The next day the butcher brought a pound of meat to the son and daughter of the merchant, and said to the son: "Tell your sister to answer me." The brother turned to his sister and said to her that the butcher requested that she answer him. The sister answered her brother: "Tell the butcher that if he wants to give you a pound of meat, fine, if not, he should go on his way!" The next day the butcher again said to the brother that he should tell his

sister to answer him. The sister answered again: "Say to the butcher that he should give the pound of meat, and if not, let him go on his way." On hearing the words of the merchant's daughter, the butcher raged because she had refused him. In anger he contrived to sully the reputation of the daughter in the eyes of her father. Therefore he wrote a letter to the merchant: "Your daughter deviates from the straight path and has done reprehensible and disgusting deeds." When the merchant received the butcher's letter and read its contents, he immediately sent a letter to his son in which he wrote: "Kill your sister, for she has stained the name of our family and our honor. From her clothing, you shall make a flag and dip it in the blood of your betraying and erring sister; then unfurl it in the widest streets so that all may see what the judgment of a shameless rebel is."

Function 3(b)

The son waited in the house until the letter came. On the letter's arrival the sister asked him: "What is written in the letter?" The brother read the letter to her. Then the sister said to her brother: "Do not do to me as is written in the letter. I will give you my clothes, so that you may make a flag of them. We will slaughter a kid goat and dip the flag in its blood." The sister left, took off her clothes, and gave them to her brother. The brother killed a kid goat and dipped his sister's clothes in the blood of the kid which he had slaughtered,

Space connective

and the sister went out to wander in the wide world.

Function 3(b)

When the merchant returned from his pilgrimage, the son waved the blood-soaked flag before his father, and the father rejoiced that justice was apparently done to his rebellious daughter.

Space connective

The merchant's daughter wandered from city to city and from land to land, finally arriving at a far-away country whose king did not eat every kind of food.

Episode II

Function 5(a)

His only food was that which was hunted. One day, the hunters of that king went off to hunt and saw the merchant's daughter. The merchant's daughter began to run as lightly as a fleet deer. That day, the hunters did not find game. They wandered from mountain to mountain, from one field to the next. Thus for the duration of eight days they found no game. On the ninth day, when they returned empty-handed to the king, he said to them: "If today you also do not hunt and bring me any game, I shall order your heads to be cut off." The king gathered his councillors and said to them: "You must give advice so that the hunters will find game today; if not, I shall order your heads cut off." The councillors answered the king: "Tomorrow, slaughter a

cow and cut her body in two parts. On one half put salt, and on the second half do not put salt; then we shall see what living thing will come to eat the meat of the cow. If it eats from the half on which there is salt, then it is a living thing which comes from those animals that walk on the face of the earth (mankind, dog, donkey, bear, wolf, lion, or other living thing). And if it eats from that half on which there is no salt, then it comes from those living things who are beneath the earth (demons). The king followed the order of his advisers. He killed a cow, placed salt on one half and left the other half without salt. When the merchant's daughter came, she ate from the half on which there was salt, she drank water, and tried to rest a bit;

Space connective

then the hunters caught her and took her to the king's palace.

Episode III

Function 6(a)

They bathed her, cut the hair on her head which had grown wild, changed her clothes, and brought her before the king. The king saw her as a woman of great beauty;

Function 7

the merchant's daughter thereby captured his heart and he took her for his wife.

Time connective

She bore the king two sons.

Episode IV

Function 15(d)

The merchant, who at first rejoiced at the judgment done to his shameless daughter, began to regret [the deed] in his heart. The parental mercies in him awakened, after which the longing for his daughter increased. When the merchant's longing in his heart for his daughter awakened, he said to his son: "Go and search where my daughter has disappeared. Perhaps you will find her grave in the cemetery." The merchant would weep day and night for his daughter who had disappeared and in the evening after a whole day of crying, he would return to his house. Once the merchant said to his son: "What do you think, my son, did my daughter die or not?" The son answered his father: "Father, my sister lives; she is to be found in the wide world." The merchant, his son, and the butcher arose and began to wander and search for the daughter.

Space connective

[Change of stage.]

Function 8B (a)

The queen, yearning for her father and for the members of her family, stopped speaking; at times she would think about her home and the members of her

Function 9B (a)

family. As her great yearning increased, she ceased speaking, and did not even answer the questions which she was asked. The king gathered his advisers and said to them: "Please do according to your wisdom to induce my wife so that she will again open her mouth and talk." The councillors advised the king that he should take one of his sons and a butcher's knife in front of the queen and pretend as if he would slaughter the son. If the queen would open her mouth and cry out against her son's slaughter, then she would continue to speak like a human being, and if not, she would remain silent all the remaining days of her life. He did so, and pretended that he wanted to slaughter his son. The queen became agitated and attempted to speak. In her effort, a blade of grass fell out from her throat and she began to talk with the king and continued to speak and discuss like a human being. With the passing of three months, the queen said to the king: "It is my wish to go to see my father, whether he still lives or is dead." The king consented and sent with the queen their two children, the vizier, the priest and his small slave. They rode on their animals a distance of three days. The sun beat down on their heads, and then the queen said to the servant, the priest and the vizier: "Let us sit and rest a bit." And as they sat to rest, the vizier began to say bad words and tried to dishonor the queen. The queen refused to accede to him and then the vizier killed one of the children. The priest also tried to dishonor the queen and the queen also refused to accede to him. The priest killed the second son of the queen. They buried the children, and then the vizier and the priest turned and entered the queen's tent and raped her.

Function 10B

Then the queen said to them: "Now we shall wash and return to the palace." They answered her: "We are afraid that you will run away." The queen said to them: "Tie my legs with a rope." They tied her legs with a rope, and to the rope they tied a stone so that she could not flee. And so with her legs tied to a stone the queen went out into the wide world. The vizier and the priest killed the slave, returned to the king, and said to him: Your wife has run away.

Space connective

The queen, who went out into the wide world,

Episode V

Function 11 (a)

met a shepherd and asked him to sell her a kid. The shepherd sold her a kid. The queen killed the kid, and she wore the stomach [of the kid] on her head as a hat. She wore men's clothes;

Space connective

thus the queen wandered until she came to a different city,

Function 12 (a)

and found someone there who sold coffee and had a tavern. She suggested to the owner that she work for

	him, but he answered her: "I am sorry but I cannot accept you for your head seems to be leprous and bald."
Function 13 (c)	She persuaded the tavern owner until he consented to accept her as a worker.
Space connective	[Change of stage.]
<i>Episode VI</i>	
Function 15 (d)	The butcher and the queen's brother said to the merchant, the queen's father: "Let us go and search to see what happened to your daughter, if she is still alive or is already dead." They rode on their horses and went out on the road.
Function 15 (b)	The vizier and the priest also said to the king: "Let us ascertain what befell the queen, whether she is alive or dead," and they too went out to search for the queen.
Function 16	God and fate arranged it so that the king, the vizier, and the priest entered from one side of the city and the merchant, his son, and the butcher, entered by way of another gate of the same city. They both asked one of the city's residents where there was a stable to lodge their horses. He showed them a stable and further advised them that they should go to a certain tavern where they sold the best coffee. And thus it happened that the king, the vizier, and the priest, as well as the merchant, the butcher, and the merchant's son came to the same tavern and sat to drink coffee not far from each other, although they did not know about each other.
Function 18	The queen, disguised as a man and wearing the stomach on her head, said to the tavern owner: "Give me two coins so that I may prepare supper with them for these guests." The owner agreed and gave the queen two coins and she prepared supper for the king, the merchant, and the people with them. They ate, drank, and asked to sleep, but they could not. And in the manner of kings and princes, they asked the waiter to tell them a story. The waiter put them off and said that tomorrow he would tell them a story. The next day as he again prepared supper for them, the merchant asked the waiter to tell a story. The waiter said: "There was a merchant who had a son and a daughter. When he wanted to go on the pilgrimage, he said to a certain butcher to bring a pound of meat every day to his daughter. The merchant went to Mecca on the pilgrimage and left his son and daughter in the house. The butcher would bring a pound of meat to the house every day for the son and daughter. One day, as the merchant's daughter laundered her brother's clothes, the butcher saw her and desired her. He came the next day to her house and brought her a pound of meat and tried to dishonor her, but she defended her honor and did not accede to him. The butcher became angry because

the merchant's daughter refused him. So the butcher wrote a letter to the merchant and informed him that his daughter had left the straight path and was doing evil and reprehensible things." The next day the queen made a drinking and dinner party. At the party, after eating and drinking, the guests wanted to sleep, but sleep wandered from the king's eyes. The king asked the queen, whom he did not recognize, to tell a story, as was done for kings, to whom stories are told when they cannot sleep until sleep comes to their eyes. The queen said: "There was a certain king who ate no meat, save for roasted meat, which he hunted with his own hands. Once, he sent hunters to hunt him game. The hunters went out to hunt and found only one doe in a wild place in the desert. The hunters tried all day to trap the doe, but did not succeed. On the eighth day, the king sent for his councillors and commanded them: 'You must trap that doe, and bring her to me, if not, I shall order your heads cut off'. The advisers suggested to him: 'Place two bags of *couscous* and two pieces of meat. On one piece of meat put salt and on the other do not, and put them at the place where the doe is wont to come. If she eats from the piece without salt, then she is of those who are beneath the earth. And if she eats from the piece which has salt, then she is a beast of those which walk on the face of the earth'. The animal came and ate from the portion which had salt, and they trapped and caught her."

Function 17

On saying this, the queen removed the stomach which was on her head, and fell on the necks of her father and the king.

Function 19 (a)

According to the king's order, they cut off the heads of the butcher, the vizier, and the priest as they were traitors and adulterers,

Function 20 (a)

and they returned to the king's palace. The king remarried his wife, and they lived in peace, pleasantness, and well-being for many years till the end of their days.

The distribution of characters among the narrative roles is as follows:

Heroine: merchant's daughter

Groom/husband: king

Heroine's male relatives: father-merchant

Villains:

male seducers: butcher, vizier, priest

female relatives: none

false bride: none

Benevolent roles:

helper: brother

agent: hunters

benefactor: tavern owner

Text IFA 6273

This text was narrated by an immigrant from Egypt (AT 709 [Snow White] I, AT 480 *D—Jason 1975b [Persecuted stepdaughter], AT 709 II-V, AT 403 [The black and white bride] IV b, c, V, VI).

Information connective 2

Once there were a king and queen and they had no children. One day the king said to the queen: "We have been married for a long time and we have not brought forth any children." The queen was very sad and she sat and wept, for she feared that the king would marry another woman so that he would have an heir. And now there appeared an old woman, who asked her: "Why are you crying? What do you lack to cry [about]?" The queen told the old woman [about] the thing, and the old lady said: "Do not cry, I shall give you a pomegranate. Eat half of it and give the other half to the king. If you bear a daughter call her Rumanah [Arabic: pomegranate]." And so it was. With the passing of nine months, the queen bore a daughter who lit up the place where she stood. She was beautiful and the queen called her Rumanah as she promised the old woman.

Time connective

With the passing of some years,

Episode I

Function 1 (a)

Function 2 (b)

the queen died and the king married another woman. This woman had a friend [who was] a wizard, and she had a daughter from the king, but not as beautiful as Rumanah. The stepmother was jealous of Rumanah, for she was very beautiful. She would ask the wizard: "Who is more beautiful?" And the wizard always answered: "You are pretty, and I am more, but Rumanah is a thousand times more beautiful." Once she asked him: "What does one do to get rid of Rumanah?" He said to her: "Take some dirty cotton, take her down to the cellar, and ask her to knit stockings from it." The stepmother did as the wizard said, and the girl sat in the cellar and wept. And the old woman who appeared some years ago to her mother came again: "What is the matter with you, my child? Why are you crying? Do not worry. Listen to what I will tell you and do it. Now there will pass before you a red sea, leave it; a black sea will pass, leave it; a white sea will pass, dip the cotton in it and also your face and hands." The child did as the old woman told her, and lo! here in her hands, [was a pair of] stockings, all ready, and she became more beautiful. The stepmother heard from Rumanah how it was and wondered greatly. And from jealousy, what did she do? She gave her [own] daughter some cotton and took her down to the cellar. Really, the old woman also appeared to this girl and asked her why she was crying. The girl

	did not answer her nicely but yelled at her. Then the old woman said to her: "There will pass by you a red sea, leave it; a black sea will pass, dip in it your hands and face, and the cotton." The child did as the old woman said, and she became uglier than she was. Meanwhile, the king traveled out of the country.
Function 3 (b)	The stepmother became very angry and asked the wizard what to do. He said to her: "Send a letter to the king and tell him that his daughter goes out with boys and returns at a late hour." When the king read the letter, he sent his vizier and commanded him to kill his daughter and bring him [some] of her blood. The vizier took Rumanah, but he pitied her. She understood immediately that he had to kill her, and she said to him: "If you truly pity me, leave me here, kill a dog, give his blood to the king and tell him that it is my blood." The vizier did as she said
Space connective	and she went off alone.
<i>Episode II</i> Function 4	She saw a light from afar, and when she arrived there, she saw a house of forty thieves. She saw vegetables on the table; she washed them, cooked them, after which she ate. When she perceived that the thieves were coming, she hid and did not reveal herself. The thieves felt that she was there, but she did not want to come out. One of the thieves decided to hide, and did so. The next day, she thought that all of them left and she came out from her place. Then he caught her and said: "Are you a girl or a woman?" She answered him: "I am a girl." Thus the girl lived with the thieves. She would prepare food for them and every day one of them would bring her a gift.
Function 3 (c)	One day the queen asked the wizard: "Who is fairer than I am?" He said to her: "You are fair, I am more, but Rumanah is a thousand times more beautiful." "But she is dead!" "No, she is staying at [the home of] forty and one thieves. If you want to rid yourself of her, make yourself into a seller of jewelry and place this ring on her [finger] and she will die." The queen did as the wizard said and the daughter died. The queen returned to the palace happy that she had rid herself of her.
Function 5	When the thieves returned and saw that she was dead, they placed her in a glass coffin in order to see her every day. One day a king's son went out to hunt. He hunted a bird, and it fell near the princess' coffin.
Function 6	The prince went to get the bird and saw her. He asked the thieves
Space connective	to transfer the coffin to him.
Function 5	He summoned men to bury her. And as they were

washing her, they took the ring off. She immediately came alive. They immediately returned the ring [to her finger] and said to the prince: "What will you give us if we cure her?" "I will give you everything you ask for." They asked him for fowl to make soup with. They removed the ring from her finger and gave her soup to drink. The king saw that she arose and gave them everything they asked for.

Episode III
Function 7

He asked her to marry him, and she agreed. But she said to him: "First of all, invite the forty thieves." He invited them to the wedding, which lasted seven days and seven nights.

Time connective

After some time passed,

Episode IV
Function 8B (b)

the queen asked the wizard: "Who is more beautiful than I?" "You are fair and I am more, but Rumanah is a thousand times more beautiful." "But Rumanah is dead!" "No she is not dead, but she is married to the king's son." She said to him: "What shall I do?" He said to her: "Take this hairpin and place it on her head. She shall immediately turn into a dove and fly away. After that, take your daughter and put her in Rumanah's stead, and tell the king that you are his wife's mother. After which you will say to him that she is sick."

The stepmother took her daughter and brought her to the palace. After that she went to the king and told him that she was his wife's mother, and wanted to see her. He showed her to Rumanah's room and she placed the hairpin on her head.

Function 9B (b)

As the king's daughter flew

Function 10B/11

from the window,

Space connective

she called her daughter and set her in her place. She went to the king and said to him: "Look, my daughter is sick and needs rest." "That's nothing. I shall take her down to the cellar and send her a physician."

Space connective

We will return to the king's daughter.

Episode V
Function 13 (d)

While she was in the palace, she would always eat oranges, and throw the seeds in the garden, until there grew an orange tree. After her stepmother changed her into a dove, she would fly into the courtyard, and each time, she would go to the gardener before he began to water [it] and would say to him: "Do not forget to water all the trees. Do not forget to water the orange tree!" and would give him a peck on the head. The gardener would fall asleep and would not water the trees.

Time connective	Thus it was every day, until all the trees withered.
<i>Episode VI</i>	
Function 12 (b)/ 14 (c)	The king asked the gardener's wife: "What happened?" and she told him the things.
Function 15 (c)	The king waited until the dove came and then spread a net over all the trees, and she was caught and couldn't fly away.
Space connective	He took her to his palace,
Function 15 (c)	and every day, he would take care of her, more than he would take care of his "sick wife."
Function 9B (b)	One day the stepmother asked the wizard: "Who is fairer than I am?" He said to her: "You are fair, I am more, but Rumanah is a thousand times more beautiful." "How?!" screamed the stepmother, "but she turned into a dove!" "Yes, she changed into a dove, but the king caught her and is taking better care of her than he is of your daughter." She said to him: "What shall I do?" He said to her: "Go to the king and tell him that you dreamt that he caught a white dove and if he would kill her and spread her blood on his sick wife, she would become well." The queen did as the wizard said.
Function 17 (b)	The king went to the dove, bathed her, and lo! he was pierced with the pin. Immediately, the king's daughter returned
Function 18 (b)	and told him everything that happened.
Function 19 (a,b)	He returned the pin to her head and asked the queen to invite all her friends to come to the palace when he would cure his sick wife. The stepmother rejoiced and invited the king and all the princes. The king brought the dove before everyone, and instead of killing her, he removed the pin from her. The king's daughter ran to her father and told him everything that happened. They asked the queen and the wizard if this was correct. They had no choice but to tell the truth. Then all who loved the king and his daughter arose and each one took in his hand a piece of wood and said: "Whoso loves the king should add oil!" And so they made a fire and burned the queen and the wizard.
Function 20 (b)	And the two kings and the daughter lived a life of wealth and happiness.

The distribution of characters among the narrative roles is as follows:

Heroine: Rumanah

Groom/husband: prince

Heroine's male relatives: her father

Villains:

male seducers: none
female relatives: stepmother and wizard
false bride: stepmother's daughter

Benevolent roles:

helper: vizier
agent: robbers, men washing the dead
benefactor: gardener and his wife

APPENDIX

The seventeen texts used in our analysis are listed below. The two texts presented in full in this paper are italicized.

AT 403:

IFA 6273, *Egypt* (+ AT 480, AT 709)
IFA 6508, Persian Kurdistan
IFA 6541, Morocco
IFA 6710, Libya
IFA 6760, Morocco (+ AT 705)
IFA 6855, Morocco (+ AT 705)

AT 706:

IFA 3444, Yemen
IFA 4485, Iraq
IFA 6210, Libya
IFA 6895, Lebanon

AT 712:

IFA 5000, Egypt

AT 883 A:

IFA 55, Yemen
IFA 646, Iraq
IFA 3800, Morocco
IFA 4730, Morocco
IFA 5154, Afghanistan
IFA 5650, Morocco

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Ali Baba and the Forty Thieves: An Attempt at a Model for the Narrative Structure of the Reward- and-Punishment Fairy Tale

RINA DRORY

A model for the reward-and-punishment fairy tale is presented here, parallel to the model devised by V. Propp for the heroic fairy tale (Propp 1968). Both are models for the surface level of the narrative structure. The model is a rough proposal, and awaits further discussion.

Texts which can be grouped roughly under the following headings are classed as reward-and-punishment fairy tales: "The kind and unkind girls" (AT 480ff.); "Truth and falsehood" (AT 613); "Open sesame" (AT 676ff.); "The two washerwomen" (AT 750*J—Jason 1965); and "The two presents to the king" (AT 1689 A).

The reward-and-punishment fairy tale features two symmetrically opposed protagonists (see Jason 1976: Chapter 4.2.4). This genre tends towards the sacred legend: the actions of the narrative roles are evaluated to some extent in the framework of the socioreligious system of general values and specific norms. On this basis the two protagonists are contrasted to each other. The texts range from the completely marvelous realm (such as groups AT 480 and 613) to the completely sacred realm, where our model fits the sacred legends (such as group AT 750*J—Jason 1965; group AT 676 occupies a middle role). The aspect of values and norms is related to the semantic level of the ethnopoetic work, and has not been worked into the model. In order to include it in the model, deleted functions would have to be postulated, a technique which does not seem desirable to use at this stage of the research. The semantic aspect of the ethnopoetic work is still too little known to allow such manipulations on the surface level model of the work.

I wish to thank my teachers H. Jason and D. Segal for their guidance in my work. The paper was translated from the original Hebrew by L. Alvo.

Our model uses the concepts designed by Propp (1968) and Jason (Jason 1976 and this volume, "Model . . . "): move, function, narrative action and narrative role as elements of the function, and connective.

The reward-and-punishment fairy tale consists of two symmetrically opposed moves which are formally identical. Each move consists of six functions and three connectives; two more connectives separate the two moves from each other. Individual texts occasionally have additional connectives which could not be incorporated into the model.

A move can be defined as a chain of functions which starts with the violation of a state of equilibrium between hero A and hero B, and ends with the restoration of this equilibrium. The first move starts with hero A having a certain lack, and ends with the liquidation of this lack; the second move starts with hero B striving for a state of surplus, and ends with the loss of the assets which he had at the beginning of the move (or of the whole story).

NARRATIVE ROLES

There are five narrative roles in the model:

- (1) Hero A;
- (2) Hero B;
- (3) Guide;
- (4) Donor;
- (5) Entity-to-be-won.

Heroes A and B are parallel and stand in contrast to each other. Hero A is the protagonist in the first move of the story; he acts and reacts in the proper way, and is rewarded. Hero B is the protagonist in the second move of the story; he acts and reacts contrary to the proper way, and is punished. The sex of both heroes may be either male or female, but in the same text they have to be of the same sex. Contrary to the heroes of the heroic fairy tale and the female fairy tale, who are unmarried and win a spouse in the course of the story (see Dan, this volume), the hero of the reward-and-punishment fairy tale tends to be older, and to have a wife and children. (In AT 676 and 750*J—Jason 1965, this is regularly the case, as is true in many versions of AT 613. In AT 480 the heroines are always maidens of marriageable age.) In order to sharpen the contrast between the two heroes, they are described as being brothers or neighbors (AT 676, AT 750*J—Jason 1965), companions (AT 613), or stepsisters (AT 480).

Although, as a rule, any one role is filled by one and the same character throughout the whole story, there are also exceptions which

occur frequently. The most often found exception is that of two characters playing the hero B role. With male protagonists (groups AT 613, AT 676, AT 1689 A), it is the wicked brother/neighbor and his wife; with female protagonists (group AT 480), it is the stepmother and her own daughter.

In group AT 613 the donor role is distributed among several characters who make the action progress in stages: the demons or animals (usually three) whose secrets the hero overhears, thereby gaining marvelous knowledge; the agents, about whom he learns from the demons' conversation, who provide treasures and marvelous remedies; and the king, who offers the princess and kingdom in exchange for the marvelous remedy.

The guide leads or sends the hero to the donor. This role may be filled by a marvelous entity, either animate or inanimate. In some cases, the guide first tests the hero before offering his services. In some texts, hero B also plays the guide, in that he sends the other hero away to an imaginary address, which turns out to be that of the donor.

The donor is a marvelous entity which supplies the wants of hero A: wealth, and sometimes princess and kingdom (group AT 613). Tales of group AT 480 often end as a female fairy tale, with the winning of a prince by heroine A. This ending is not analyzed here, as it belongs to the female fairy tale proper. (See Dan, this volume, Text IFA 6273, function 2(b), in which a whole reward-and-punishment fairy tale is included in a regular female fairy tale [group AT 709].) The princess' father may be included in the category of donors.

The entity-to-be-won is often a treasure; in all cases, it brings material well-being. In some cases (group AT 613), a princess plus kingdom is won, in addition to riches. Treasure, princess, and kingdom all have the same purpose — providing for the material well-being of hero A.

NARRATIVE FUNCTIONS

We list below the functions and connectives which form our model for the reward-and-punishment fairy tale (the characters playing in narrative roles are indicated in small capitals).

Move I

(1) Information connective 2 There is an initial state of equilibrium between the two heroes; it is violated.

Examples: (a) two brothers or neighbors are unequal in wealth; (b) of two sisters, one is a

	daughter and the other a stepdaughter. HERO B (or his wife) attacks HERO A.
Function 1	Examples: (a) hero B refuses to aid hero A; (b) hero B plunders and drives away hero A; (c) hero B tortures hero A.
(2) Space connective	Hero A is transferred to marvelous space.
Function 2	GUIDE leads HERO A to donor.
	Examples: (a) hero A gets/overhears advice as to what to do; (b) hero A is directed/brought to donor.
Function 3	HERO A meets DONOR.
Function 4	At the end of journey hero A meets donor. DONOR sets HERO A tasks.
	Examples: (a) donor unwittingly reveals to hero the location of treasures; (b) king offers princess (kingdom, treasure) to man who can cure her; (c) donor orders heroine to perform household tasks.
Function 5	HERO A performs successfully tasks set by DONOR.
	Examples: (a) hero A refrains from greed; (b) hero A cures princess; (c) heroine A fulfills tasks.
Function 6	DONOR rewards HERO.
	Examples: (a) hero takes treasures (advice) from donor; (b) king gives princess, kingdom, wealth to hero A; (c) donor gives treasure, beauty to heroine A.
(3) Space connective	Hero A returns from marvelous space to human space.

End of Move I

(4) Information connective 1	Hero A (or another narrative role) becomes aware of his improved state.
(5) Information connective 2	An equilibrium is attained.

Move II

(6) Information connective 1	Hero A informs hero B of the way he attained his improved state.
Function 7	HERO B is induced by HERO A's story to imitate him.

Examples: (a) hero B's wife sends her husband to imitate hero A; (b) hero A warns hero B not to

	imitate him; (c) stepmother sends her own daughter to imitate stepdaughter.
(7) Space connective	
Function 8	Hero B is transferred to marvelous space. GUIDE leads HERO B to donor. Example: hero B reaches donor in same way as hero A in function 2.
Function 9	HERO B meets DONOR. Example: hero B meets donor in same way as hero A in function 3.
Function 10	DONOR sets HERO B tasks. Example: donor sets hero B same tasks as hero A in function 4.
Function 11	HERO B fails in performing tasks set by DONOR. Example: hero B reacts in symmetrically opposite way to the way hero A reacts in function 5.
Function 12	DONOR punishes HERO B. Examples: (a) hero B is punished by death; (b) heroine B is punished by ugliness or poverty.
(8) Information connective 1	Hero B's relatives and hero A are informed about hero B's punishment.

Notes

The test which donor sets for hero (functions 4-6, 10-12): This test appears explicitly in texts with female protagonists (groups AT 480 and 750 *J—Jason 1965), but is not expressed overtly in texts with male protagonists (groups AT 613, AT 676, AT 1689 A). The female protagonist is given certain tasks, fulfills them positively or negatively, and is rewarded or punished. The male protagonist is not explicitly tested, may not even meet the donor, and takes his reward (treasure) by himself, against the donor's will. On the level of the narrative structure, when hero B is punished by the donor, it is the punishment which hero A, who actually stole the donor's treasures, should have received. Yet on the semantic level, the heroes are tested not by the donor but by the ethical norms. These work in the fairy tale as automatic rules, to which the characters react automatically and are automatically rewarded. Therefore, these rules are not explicitly mentioned. They form a kind of "rules of the game" in the fairy land. The principal underlying ethical norm seems to be the warning given by "X" to "Man": "Don't be avaricious, Man!" Hero A behaves according to this norm and is rewarded, while hero B violates this

norm and is punished. As already mentioned, this level has not been included in the model, as its inclusion would demand the postulation of deleted functions and deleted characters ("X" and "Man").*

Hero A's reward (function 6): In group AT 613, this function includes a whole epic fairy tale, as shown below.

Our Propp's
functions functions

4	12	Donor puts hero to test
5	13	Hero performs successfully donor's tasks
6	14/19	Donor rewards hero
		(a) Hero receives marvelous remedy and knowledge (often in several phases)
15		(b) Hero reaches marvelous town
25		(c) King of the town offers princess to whoever can heal her
26		(d) Hero heals princess
31		(e) King gives hero princess and kingdom.

Hero B's punishment (function 12): This function can be doubled, when the role is filled by two characters: hero B and his wife, or step-mother and her daughter. Each of the characters may be punished separately, in a whole function.

FOUR SAMPLE TEXTS

Our model is worked out on a corpus of twenty-eight texts.¹ The following analysis of four texts represent four groups of tales, ordered along the continuum marvelous-sacred. Text IFA 9292, AT 480 *D—Jason 1965, is on the marvelous extreme of this continuum (being part of a regular female fairy tale); Text IFA 452, AT 613, while being a regular reward-and-punishment fairy tale, has embedded in it parts of a heroic fairy tale; in Text IFA 6798, AT 676, the ethical-sacred forms the framework for the activity of the narrative roles (the acts of the two heroes are evaluated and rewarded in this framework); and the last one, Text IFA 6840, AT 750 *J—Jason 1965, is at the other extreme of our continuum—it is a regular sacred legend, wherein the acts of the heroines are set and evaluated in the sacred-ethical framework, and the donor is an agent-of-the-sacred (Elijah the Prophet).

* This technique is used in the deep-level model presented in Jason, "Model . . .," this volume.—Editor.

¹ The corpus of twenty-eight texts was recorded over the last fifteen years from immigrants to Israel who came from Islamic countries. The texts are filed with the Israel Folklore Archives (IFA), Ethnological Museum, Haifa. For a description of the Archives and its holdings, see Jason 1965 and 1975b. The texts used are listed in the appendix by their IFA number.

Text IFA 9292

This text was narrated by an immigrant from Buchara. See also AT 510 *C—Jason 1965 I, AT 510 *D—Jason 1975b, AT 480 *D—Jason 1975b, and AT 510 IIa, IVa. Here only AT 480 *D is analyzed.

Move I

- (1) Information connective 2 [. . .] And the mother got well, as was understood, and now continued with greater energy to put the child to work and be more cruel to her.
- Function 1(c) Once, the child seated herself outside and knitted, and, to her surprise, her knitting needle fell into the yard of an old woman who lived with them in the neighborhood.
- (2) Space connective [Heroine A goes to the old woman.]
- Function 3 The girl turned to the old woman with the request that she give her the needle.
- Function 4(c) The old woman said: "Come, my child, and take the needle by yourself." The girl went down to the old woman's house and got the needle. Then the old lady begged her: "Please my child, sweep half of my room, and leave the other half, and also sweep half of my yard and leave the other half."
- Function 5(c) And the girl took a broom with nimbleness and swept all of the yard and the whole room; she took the old woman's jar and ran to the river and drew water for her and brought it to her.
- Function 6(c) On seeing the child's nimbleness, the old woman blessed her and said: "It shall be granted that when you enter your home, your face will shine as the sun and the moon and you shall be as beautiful as they are."

Move II

- (3) Space connective As the child entered the house,
- (4/5) Information connective 1 the stepmother saw her stepdaughter as beautiful and as bright as the sun and the moon. She was completely filled with anger and asked her: "What did you do that you became so beautiful?"
- (6) Information connective 1 The child answered her that her knitting needle fell into the old woman's house, and as she went to get it the granny asked her to sweep half her room and half her yard, and so she did, and afterwards the granny blessed her.
- Function 1(c) Right away, the stepmother took two large jars and placed them on her [stepdaughter's] head and commanded her to bring water from the well. At the same time there was a heavy wind, and the child, with eyes brim-

	ming over and shaking all over with cold, ran to bring water.
Function 7(c)	And meanwhile, she took her own daughter and ordered her to do as her stepdaughter did, so that she would merit the granny's blessing. The daughter went outside playing with her knitting needle, and the needle fell into the granny's house,
(7) Space connective	[Heroine B goes to the old woman.]
Function 9	and like the one before her, she asked the granny to give her the needle.
Function 10	The granny said to her: "Come and get it yourself." At the time that she went there, the granny asked her to sweep half of her room and half of her yard,
Function 11	and the child did exactly as asked. She swept half the room and half the yard.
Function 12(b)	And when the old woman saw this, she cursed her saying: "It shall be granted that when you enter your house a horn shall grow on your forehead." And now, truly, as she entered the house, a horn sprouted from her forehead.
(8) Information connective 1	The woman was frightened and screamed: "Oh, woe is me! Alas! Alas! What happened to you?" Then the daughter told her of the old woman's curse. [. . .]

The distribution of characters in narrative roles is as follows:

Hero A: stepdaughter
 Hero B: daughter
 Guide: knitting needle
 Donor: old woman
 Entity-to-be-won: beauty

Text IFA 452

This text was narrated by an immigrant from Afghanistan (AT 613).

(1) Information connective 2	Two brothers set out to wander. They decided to go anywhere they wanted. And what they would earn they would split between them. They went a few days and arrived at a crossroad. They saw a sign which said that this road had an end, but the other had none. They stood and thought: "What is to be done? Which road do we choose?" Finally they decided that each one would take a different road, and at the end of a year they would meet again at that same spot and divide their profits. The first decided to go on the road which had an end, and the second one on the other. They cast lots.
Space connective	One went on the road which had an end. At evening time, he came to a city and remained there.

(2) Space connective	The other, who set out on the road which had no end, walked all day, and at night he came to a high mountain.
Function 2(a) (Propp's function 12)	He climbed the mountain and saw an old woman sitting there; in her hand was a ball of thread and she was rolling it. She asked him: "Hey, sir, what are you doing here? Are you tired of living? Why did you come here? You will surely be killed here." He asked her: "And what are you doing here?" She answered him: "Me they bewitched, and I remain stuck here and I cannot move." He asked: "And what is that ball in your hand?" She answered: "This is day and night. When I roll the ball, it is day, and when I unroll it, it is night. Now, you flee from here. At night there is an assembly of beasts here and if they see you, they will kill you." He said to her: "I will not run; I will stay here, and we shall see how my luck will be." She said: "If so, go hide there in the ruin. There was once a windmill there. Go lie under the rock. And do not let out a sigh, do not cough, and do not talk until tomorrow, and tomorrow I shall free you." He agreed. He went and lay down under the rock.
Function 3 (Propp's 14)	Near midnight, he saw that there came the leopard and after him the wolf and other beasts. They set up the throne and arranged the place nicely. And now the king of beasts came also. He sat on his throne and called his subjects. He asked each one what they had to tell.
Function 6(a) ₁	The wolf came and said: "My lord, the king, my condition is very good. I live in abundance. Now a short distance from here there is a herd, and each sheep weighs a hundred pounds. But there is a shepherd who is very strong who watches over the herd. Nevertheless, I succeed each time I prey on a sheep. But if we succeed in getting rid of the dog, it will be better for us. The king has an only daughter [who is] very sick. No medicine has helped her. They say that only if she drinks from the broth of a dog's brain will she be cured." The man heard this and noted it down on paper.
Function 6(a) ₂	The cat came and said: "My lord, the king. My situation is very good. Do you see this mountain? I remain quiet and rats come. When they get to the mountain, they cannot move, for the mountain is all of gold. And I prey on them just like that, and I am content that I support myself in abundance without trouble." The man noted down also what the cat said.
Function 6(a) ₃	And finally, the rat told that in the mountain there is a treasure of precious stones which he enjoys for himself. And this, too, the man noted down. The beasts ended their meeting and each went his way. The king of beasts wished his subjects success in overcoming their difficulties.
Function 5 (Propp's 15)	He went to the marketplace. He hired some workmen, and brought them to the mountain to dig. When they got

near the treasure, he sent them back to the city. He entered the place of the treasure. He took [enough] precious stones to fill all his pockets, and some bars of gold. He went to the shepherd and offered to buy his dog. The shepherd said to him: "Thanks to this dog my herd exists, despite that each night they prey on a sheep or two. And if the dog were not here, they would prey on the whole herd in one night." He said to him: "What do you care? Let the owners of the herd worry. I will give you a large sum for yourself, and you can buy a herd for yourself, and also a dog." After long bargaining and insistence, the shepherd agreed. He [the man] killed the dog, removed its brain, boiled a broth from it, placed it in a jar, put it into his knapsack,

Space connective
(Propp's 23)

and went to the city.

Function 4(b)
(Propp's 25)

At the city gates, the watchman asked him who he was and what his business was. (According to the king's instructions, they had to ask all who came to the city what they did, and if the person entering was a doctor, he had to be brought to the king.) He said to them that he was a doctor. They took him and brought him immediately to the king's palace and presented him to the king. The king asked him: "What [kind of a] doctor are you?" He said: "I am a great doctor." The king said to him: "My daughter is sick with a mortal disease. All the doctors in the country could not heal her. Can you heal her?" He said: "Yes." The king said: "I have a condition. If you can cure her, she shall be your wife, and one half the kingdom shall you reign. And if not, your head shall be cut off." The man agreed. The king showed him a large pile of cut-off heads and said to him: "Do you see? All of these were doctors who could not cure my daughter. Therefore I cut off their heads, and to you I shall do the same." The man said: "If I do not succeed, you may do to me what you will." The king said: "Good, all right."

Function 5(b)
(Propp's 26)

They brought him to the daughter's room. He saw that she was dying and it was impossible to see whether she was still alive. He said: "Everyone present must leave, and the girl and I must remain alone." Everyone left the room. He closed the door. He took out the jar and spread a drop of the broth on the patient's mouth, and she began to breathe. He fed her again afterwards, and she opened her eyes. He gave her some more, and she moved her hands and thus she arose, little by little, and sat on the bed. The man opened the door and called the king, who waited outside. The king saw, he jumped for joy, and began to kiss the man. He said to him: "Go out until she is well healed, and after that you may enter." The king left and the man fed the girl every day from the broth, for several days, until she was healed and became

Function 6(b)₄
(Propp's 31)

completely well. The man warned her not to tell how she was healed; if she were to tell she would die on the spot. She got up. She opened the door. The king and queen entered. They hugged and kissed their daughter and the man.

Time connective
(3) Space connective
(6) Information connective

The king said: "I hereby keep my promise — half of my kingdom is yours, and my daughter shall also be your wife." The man said: "Very well, indeed, but at this time I do not want anything from you except for one certain thing." The king wrote out a contract and sealed it with the royal seal and gave it to him. He went and brought workmen and builders. They built a king's palace on the mountain. He took the king's daughter for his wife and lived the life of a king, and had it good, and was king of a new city.

At the year's end, he remembered his friend and that he promised him to meet him at the crossroad.

He left the palace. He went toward the meeting place.

He waited a day, two days, a week, and his friend did not come. He began to think: "What happened to him? Certainly something is wrong." He went in the direction that his friend had gone. He arrived at the city. He went and walked around the city a day, two days, and did not find him. On the third day he went to a restaurant and saw his friend with torn clothes, filthy, full of soot, sitting near the fireplace cooking his food (head, legs, and innards of an animal). He went to the restaurant owner and ordered a large portion of food, and said: "Send it to me with that man sitting by the fireplace." The owner said to him: "I have better waiters and I will send it with them; what is that dirty lout to you?" He said to him: "You need not care, you will send it only with this man. And this is your fee." And he paid him a fine sum and went to the inn. The restaurant owner called the man and ordered him to bathe and put on his clothes and to bring the king his food at such-and-such an inn. The man washed, dressed, and took the food, and went to the inn trembling completely, and gave it to the king. As he wanted to leave, the king asked him to eat with him. The man was afraid, but the king calmed him. They sat down to eat. The king asked him: "Who are you, and what do you do?" The man told his whole story. The king said to him: "Do you want me to show you your friend?" He said: "Yes." The king said to him: "And here he is, who sits before you. I am your friend. And now I am ready to fulfill my promise. Come, and I shall give you half of everything that I have. And my wife has a cousin as beautiful as she is; marry her." The friend asked him: "How did you come to all this?" The king told him everything that happened to him on his night of wandering.

Function 7(b)	The friend said to him: "I do not agree to your favors. Why should I steal from you? At first, I wanted to go in that direction, except that I could not. So now I will do that." The king warned him not to do so, for his was an exceptional incident. For now there was no dog, no flock, no sick king's daughter. But with all the warnings, he did not agree. Finally, the king said to him: "I give up everything to you. The kingdom, the treasure. I am ready to be your vizier. You be king. Only do not endanger yourself. You will not succeed and they will kill you." The friend did not agree
(7) Space connective	and went down the same road, and came to the mountain
Function 8	and saw the old woman who asked: "My son, what do you do here?" He said to her: "I lost my way," and he asked her to hide him so that he would not be torn up. The woman felt sorry for him and showed him the way to enter the windmill. He entered and lay under the millstone.
Function 9	In the middle of the night, the beasts came and each one took his place. The king of the beasts called on each one of them and asked him what happened to him during the year.
Function 10	The wolf came and said: "My lord, the king, I do not know what happened. From the time we separated a year ago, the dog disappeared, and with him the herd. I wish that there was a dog, for with the presence of a dog with the herd, I could nevertheless prey each night on a sheep or two. Now, there is no dog and no herd and I am dying from starvation." The cat came and said: "My lord, the king, since a year ago, they flattened the mountain. There are no rats and there is not the wherewithal to maintain myself, for the mountain became a city, and I am dying of starvation." The rat came and said: "Human beings have taken over the treasure and I cannot lie down there and rest; I am going around, moving and wandering."
Function 11	The leopard arose and said: "It is possible that on that night there was a human being here and that he listened to our discussion. For human beings are a greedy lot, and surely they did all this." The king of beasts said: "Suppose that even tonight a human came to listen to our discussion."
Function 12	The king of beasts gave an order. They searched in every place. They came to the windmill and found the friend and tore him [to bits] immediately.

The distribution of characters in narrative roles is as follows:

Hero A: first brother

Hero B: second brother

Guide: road/old woman

Donor: beasts, king
Entity-to-be-won: treasures, princess, kingdom

Text IFA 6798

This text was narrated by an immigrant from Tunis (AT 676).

Move I

(1) Information connective

Once upon a time, there were two brothers. One of them was rich and had no children. The other was poor and burdened with many children. And the poor one had not even a cent, nor even a slice of bread in the house. And the poor man's wife would say to him from time to time: "Go and ask for a gift of money from your brother."

Function 1(a)

One day the poor brother could no longer stand his poverty and need. What did he do? He went to his rich brother and revealed to him: "My children are on the verge of death from starvation; there is not even a slice of bread in the house." His brother answered him: "Go to my wife; everything is in her hand, and what she offers you, accept." The brother approached his sister-in-law and asked for a piece of bread from her. The wife said to the poor man: "Bring your wife and children here." When everyone had come, she commanded them: "Go into the granary, where there is also a fresh-water well. First, dip yourselves in the water, you two and all the children. After that, roll on the floor of straw and thorns. From the wheat grains which stick to your bodies, bake bread." There was no choice for the unfortunates but to do as their rich sister-in-law said, even though the thorns pricked their flesh badly. The poor woman ground the wheat grains which stuck to their bodies, boiled them, and fed all the children. But the flour was not enough for more than a small spoonful for each child. The poor brother became angry and declared: "Even though we would die of hunger, I will not go a second time to my rich brother! I am tired of this [kind of] life!" And he decided to leave his wife and children,

(2) Space connective

and fled to the forest. That day there was a wild and heavy storm; there was thunder and lightning.

Function 3

And in the forest the poor man saw seven giants riding on camels. Frightened and confused, the poor man climbed quickly up a tree. And the giants approached meanwhile, and some of them said: "The scent of a human we here smell; how good and how pleasant it

would be for us to prepare a meal of his flesh!"—Others from among the giants quieted them: "Why suddenly would a human be found here? Only an error of your nose makes you smell a human."

Function 4(a)

And below, near the tree, there was a rock. The giants faced the rock and called: "Sezam, Sezam! Open the door!" And now there opened in the midst of the rock an opening into a cave, and in it were seven bowls filled with *couscous*, and in each bowl the head of a cow. The giants ate and stuffed themselves, each one eating *couscous* and the head of a cow. After that, each one of them took a huge stave in his hand and began to clean his teeth. And the poor brother sat in the tree, and looked and saw everything. And at mealtime, the feast-ers said: "If we would find a human here, his body we would eat in one chew and his blood we would drink with one sip." After which they seated themselves on their camels and left the place, and the cave closed after them.

Function 5(a)

Immediately, the poor man came down from the tree, approached the rock, and cried: "Sezam, Sezam, open the door!" Immediately, the entrance to the cave opened, and the man went inside. And there was *couscous* and a cow's head in a bowl. And he also found plenty of gold and silver.

Function 5(a)

The poor man filled all his clothes and also his shoes and his hat.

(3) Space connective

On his way home,

(4) Information connective 1

he passed by a honey cake store. He called the store owner: "All the cakes are for me, for my hungry chil-dren." And he paid the full price for them. Afterwards, he built in place of his miserable hut a great palace,

(5) Information connective 2

wide and beautiful, and in it were beautiful rugs and furnishings, just like a king's palace.

Move II

Time connective

After some time had passed, the eve of Passover arrived.

(6) Information connective 1

The rich brother's wife said to her husband before the holiday: "Perhaps we should visit your poor brother, see what happened to him since his last visit to us. We have some old tomatoes and some rotten apples which are not good for us. We will send them [over] with our maid, a gift for your brother." The maid arrived at the place where the poor hut [had stood] and what did she see? In its place stood a lovely house, a huge palace, and a watchman stood by it. The rich brother's maid asked the watchman: "Where are the people that lived in this house?" "They are still here, this is their palace,"

answered the watchman. The maid wanted to enter inside, but the watchman insisted: "I cannot give you permission to enter here, for you do not have a permit." The maid returned to her rich master and said: "I need some kind of a permit or pass so that the watchman standing at the doorstep of your brother's palace will give me permission to enter." The rich brother and his wife were astonished at the maid's words and went after her to stare at the new palace. "Come in!" the brother's voice was heard from within the palace. The pair went in, after they threw the food which they brought with them under the stairs. The rich man's wife asked her brother-in-law: "From where did you get so much money?" The brother told her the whole story.

- Function 7(a) On their return home, the rich man's wife said to her husband: "You will also go to the forest, find the cave's location, and bring home lots of money." The rich brother did as his brother had done.
- (7) Space connective He came with seven camels loaded with bags to the place where the cave was
- Function 9 and called: "Sezam, Sezam, open the door!"
- Function 10 The entrance to the cave opened; the rich brother went in, and began to fill the bags which he brought with him.
- Function 11 He had already loaded gold and silver on six of the seven camels which he brought with him, and the seventh was waiting to be loaded.
- Function 12(a) And now the giants arrived at the place, and what did they see? A human being loading their treasure on his camels! They asked him: "Was not the first course enough for you? You escaped then, but now you are caught!" They fell upon him and tore him to bits, and they hung his head over the entrance to the cave.
- (8) Information connective 1 The rich man's wife saw that her husband was not returning,
- Function 11 so what did she do? She went to the police and informed them: "My brother-in-law sent his brother to a certain place and maybe he even killed him there." They brought the brother to the police station; they inquired, searched, and investigated him, and he told them his whole story.
- Function 12(a) When the policemen were convinced that the brother's story was true and unshakable, they executed the slanderous sister-in-law on the grounds that she had testified falsely.
- Function 6 Thus, the poor brother inherited all his rich brother's property as well.

The distribution of characters in narrative roles is as follows:

Hero A: poor brother

Hero B: rich brother, his wife

Guide: none
 Donor: giants
 Entity-to-be-won: treasures

Text IFA 6840

This text was narrated by an immigrant from Tunis (AT 750 *J—Jason 1965).*

Move I

(1) Information connective 2

There was once a woman who did not have the means to arrange for the Passover feast, because she had no money in the house for provisions for the feast, either to buy a lamb or to prepare the house. The eve of Passover was approaching and the woman had nothing. Her rich neighbor had a lamb tied on a rope. She had bought new clothes for her children as well, and had prepared the house. And the poor woman had ten children, and in her house there was nothing for the feast.

(2) Space connective

She decided to go to the river and wash her children's clothes,

Information connective 2

because she had no money to buy new ones, and because on the Passover feast it was forbidden to wear dirty clothes. A piece of leavening might have stuck to them.

Function 3

While she was washing, an old man came up [to her]

Function 4(c)

and asked her: "What are you doing, my daughter?"

Function 5(c)

"I am washing the clothes of my children," [answered the woman].

Function 4(c)

"Is your house cleaned for the Passover feast?" asked the old man.

Function 5(c)

"Yes," answered the woman.

Function 6(c)

"So should it be!" the old man blessed [her],

Function 4(c)

and [the old man] continued to ask [the woman]: "Do you already have a lamb for the feast?"

Function 5(c)

"Yes," [the woman answered the old man].

Function 6(c)

"So should it be!" [the old man blessed the woman].

Function 4(c)

"Do you have new clothes?" [the old man asked the woman].

Function 5(c)

"Yes," [the woman answered the old man].

Function 6(c)

"So should it be!" [the old man blessed the woman]. Afterwards the old man gave the woman a coin to buy provisions for the feast.

(3) Space connective

The woman returned home

* The same text is analyzed in Example 8 of Jason, "Model . . .," this volume, according to a deep-level move.—Editor.

End of Move I

(4/5) Information connective 1/2 and what did she see? A lamb tied up by the house, and the house clean and ordered, and the cupboard, which was empty, now full of clothes. And the change which she got from the coin never diminished.

Move II

(6) Information connective 1 The woman slaughtered the lamb and her rich neighbor saw that and asked her: "From where do you have all this abundance?" The woman told her her story: "On the seashore, while I was washing the clothes, an old man came and blessed me."

Function 7 What did the rich woman do? She found some old and torn clothes and

(7) Space connective ran to the seashore to wash them.

Function 9 The old man came to her
Function 10 and asked her: "What are you washing, my daughter?"
Function 11 "The clothes of my poor children!" answered the woman, crying [to the old man].

Function 10 "Is your house already clean for the Passover feast?" [the old man asked the woman].

Function 11 "No," [the woman answered the old man].

Function 12 "So should it be!" [the old man blessed the woman].

Function 10 and the old man continued to ask [the woman]: "Have you a lamb for Passover?"

Function 11 "No," [the woman answered the old man].

Function 12 "So should it be!" [the old man blessed the woman].

Function 11 "Do you have new clothes for the feast?" [the old man asked the woman].

Function 12 "No," [the woman answered the old man].

Space connective "So should it be!" [the old man blessed the woman].

(8) Information connective 1 The woman returned home,
Information connective 2 and lo! all her wealth and goods which were in her house had disappeared.

Information connective 2 Of course, the old man was none other than Elijah the Prophet, may his memory be blessed.

The distribution of characters in narrative roles is as follows:

Hero A: first woman

Hero B: second woman

Guide: none

Donor: Elijah the Prophet

Entity-to-be-won: wealth

APPENDIX

The twenty-eight texts used in our analysis are listed below. The four texts presented in full in this paper are italicized.

AT 480 *D—Jason 1965:	IFA 1111, Yemen
IFA 3982, Afghanistan	IFA 1161, Yemen
IFA 8210, Persian Kurdistan	IFA 1919, Tunis
<i>IFA 9292, Afghanistan</i>	IFA 2231, Iraqi Kurdistan
AT 613:	IFA 2258, Yemen
<i>IFA 452, Afghanistan</i>	IFA 2343, Tunis
IFA 654, Tunis	<i>IFA 6798, Tunis</i>
IFA 2975, Iraq	AT 676 *A—Jason 1975b:
IFA 3702, Persia	IFA 1637, Iraq
IFA 3877, Persian Kurdistan	IFA 2308, Tunis
IFA 7009, Egypt	AT 750 *J—Jason 1965:
IFA 7433, Turkish Kurdistan	IFA 5977, Iraq
IFA 7450, Iraq	<i>IFA 6840, Tunis</i>
AT 676:	IFA 7803, Lebanon
IFA 262, Yemen	AT 1689 A:
IFA 665, Yemen	IFA 2344, Tunis
IFA 1110, Yemen	IFA 8731, Iraq

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The Morphology of the French Fairy Tale: The Ethical Model

CLAUDE BREMOND

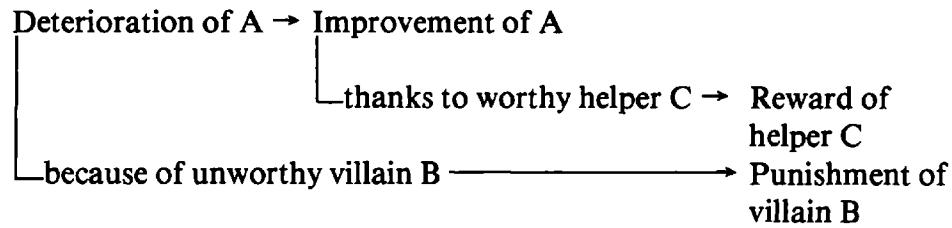
Following the methods employed by V. Propp in his analysis of the Russian fairy tale (Propp 1968) and by A. Dundes in his analysis of the North American Indian tales (Dundes 1964), we shall attempt to construct a formal model for the purpose of analyzing and classifying the episodes of the fairy tale. Our corpus of tales consists of 120 French versions of fairy tales (AT types 300 to 736; see Aarne and Thompson 1961) which appear in the tale index of P. Delarue and M. L. Tenèze (Delarue 1957; Delarue and Tenèze 1964); our examples are drawn from this index. We shall, however, choose only a few examples from this work to illustrate our approach. Being almost purely deductive, our model should be applicable, *a priori*, to every kind of morally edifying narrative which is governed by the optimistic requirement of a happy ending.

1.0. THE INITIAL MODEL

We begin with the following hypothesis: the episodes which make up the content of the French fairy tale can be structured according to a model which identifies three pairs of functions:

1. Deterioration → Improvement.
2. Merit → Reward.
3. Unworthiness → Punishment.

These three pairs are connected to each other by the following canonical grouping:



Example 1: In the Alsace version of AT 300, the king's daughter, threatened with being devoured by the dragon, plays the role of victim A in the DETERIORATION of her fate; the dragon plays the role of the UNWORTHY villain B; the young man who rescues the princess (IMPROVEMENT of A's situation) and kills the dragon (PUNISHMENT of B) plays the role of the WORTHY helper C; his marriage to the princess will be his REWARD.

Our model merely transcribes the banal assertion that in the fairy tale “the virtuous ones are always rewarded and the wicked always punished.” We have, it is true, three sequences and not two. This is because the wickedness of the wicked exerts itself to the disadvantage of a victim, and the virtue of the virtuous to the benefit of a beneficiary, so that we can complete the sequences MERIT → REWARD, and UNWORTHINESS → PUNISHMENT with the sequence DETERIORATION (unmerited) → IMPROVEMENT (merited).

Our model adopts certain qualities from both Propp and Dundes, but deviates in some respects from both. From Propp, we have adopted the idea that the permanent elements of the tale are the functions of the characters, that the number of the functions which comprise the fairy tale is limited, and that (in the sequence) the succession of these functions is always identical (Propp 1968: 21-22).

1.0.0. We reject, however, Propp's definition of the function as “the action of a character, defined from the point of view of its significance for the course of the action” (Propp 1968:21). In our opinion, the function can be fulfilled not only by a character's action, but by any event concerning one or several characters who are acting either as agents (if they perform the action), or as objects (if they are subjected to the event or action). In Propp's conception, the characters are both acting and being acted upon in most of the functions.

For instance, in Propp's function (8) A (Villainy or Lack), the act of villainy always involves two actors: the villain who inflicts the injury and the victim who suffers it. Thus, function (8) A represents a state for the victim and an action for the villain. Similarly, in his function (19) K (Misfortune liquidated), an agent brings about the liquidation of misfortune, which benefits an object; and in function (30) U (Punishment of false hero), the punishment is always inflicted on a victim (the guilty), often as a result of intervention by a judiciary

agent. Thus, in defining the function, the subjective aspect of the event is more important than its active aspect.

1.0.1. We also do not accept without reservation the principle of minor significance by whom and in which manner the functions (as slots) are filled in. Propp corrects his own postulate by his theory of the “spheres of action” allotted to each person (1968: Chapter 6). Two related functions, such as the pair (8) A and (19) K (Villainy and Liquidation of misfortune), the pair (11) ↑ and (20) ↓ (Departure and Return), the pair (16) H and (18) I (Combat and Victory), and the pair (21) Pr and (22) Rs (Pursuit and Rescue), etc., concern the same characters, whether they be agents or objects. Our model takes the actor into account, includes him in the label designating the event, and indicates whether he is agent or object. We then write not Villainy, but “a degradation inflicted on A, a victim, by B, an agent of deterioration” (if the victim and the agent of deterioration are two distinct characters), or “a deterioration inflicted on victim A by agent of deterioration A” (if the victim and the agent of deterioration are the same character inflicting damage on itself).

1.0.2. Following Dundes’ example (which makes use of a remark that Propp formulated, but failed to draw conclusions from), we do not represent the structure of the tale as a chain of events as long and as rigid as Propp’s sequence of thirty-one functions. Actually, the number of functions could be considerably reduced because several of Propp’s functions designate the same type of event, sometimes captured in its generality, sometimes realized within a definite context. For example, the function (24) L (Claims of false hero) is really a particular case of the function (8) A (Villainy). The functional identity of these two is proved by the fact that they both introduce the function (30) U (Punishment of false hero or of villain). The functions can therefore be regrouped into pairs: (16) H (Combat with villain) and (18) I (Victory over villain); (25) M (Assignment of difficult task) and (26) N (Accomplishment of task), etc. Such pairings of functions, one OPENING and the other CLOSING a dramatic situation, are the true elementary sequences of the story. Their combinations can generate more complicated sequences. For example, as Dundes demonstrated, the two elementary sequences, Assignment of task → Accomplishment of task, and Lack → Lack liquidated, can combine to form a complex sequence, Lack → Assignment of task → Accomplishment of task → Lack liquidated.

For Propp’s chain of thirty-one functions, Dundes substituted a body of ten functions grouped into five pairs. For our model, we have made an even greater reduction, keeping only six functions grouped

into three pairs. Table 1 lists the correspondences between Propp's functions and our units.

Table 1. Functions in narrative structure

Our units	Propp's functions
Deterioration	(8) A — Villain causes injury (from victim's perspective)
Improvement	(19) K — Liquidation of misfortune
Unworthiness	(8) A — Villainy (from villain's perspective)
	(24) L — Claims of false hero
Punishment	(18) I — Victory over villain
	(30) U — Punishment of false hero or of villain
Merit	(13) E — Hero's reaction to donor's test
	(18) I — Victory of hero over villain
	(19) K — Liquidation of misfortune
	(26) N — Difficult task accomplished
Reward	(14) F — Hero acquires use of magical agent
	(22) Rs — Rescue of hero from pursuit
	(29) T — Hero given new appearance
	(31) W — Hero marries and ascends throne

1.0.3. We must, however, leave Dundes as well as Propp if we do not want to merely represent the structure of the tale as a linear array of events chronologically arranged one after the other. According to our model, the structure of the tale is based on an array of sequences progressing on several parallel lines. In Dundes' model, the items seem to be presented as if there were first a lack, then the assignment of a task, then the accomplishment of the task, and finally the liquidation of the lack. It is evident that the last two events (Accomplishment of task and Liquidation of lack) are not successive events, but rather simultaneous: the same event functions simultaneously as the Accomplishment of the task and as the Liquidation of the lack. Propp has called this phenomenon "double morphological function" (1968: 69-70); we regard it as an integral property of the narrative structure.

For example, the function (8) A (Villainy or Lack) has a double morphological function in that it introduces, on the one hand, the sequence (8) A → (30) U (Villainy → Punishment) and, on the other hand, another sequence (8) A → (19) K (Lack → Lack liquidated). Similarly, the function (18) I (Victory over villain) very often coincides with the function (30) U (Punishment of false hero or villain), etc. In order to keep count of these double, triple, and quadruple morphological functions of the same event, we must combine our functions, sometimes one after the other when they succeed each other in time, and sometimes one above the other, when they occur simultaneously (in much the same way as musical notes are arranged in a symphonic piece). This arrangement is indispensable for illustrating the fact that a tale, even a very simple one, always relates simultaneously the various intertwined fortunes of several actors or the varied

interests of the same actor. (For a more detailed discussion of Propp's and Dundes' models see Bremond 1964, 1968.)

1.1. *Hierarchy of Three Sequences*

The three sequences which are combined in the model do not have the same degree of compulsion. UNWORTHINESS implies DETERIORATION inflicted upon a victim; MERIT implies IMPROVEMENT of a beneficiary. Consequently, neither of the sequences MERIT → REWARD nor UNWORTHINESS → PUNISHMENT can exist in isolation, but must be grafted on to the sequence DETERIORATION → IMPROVEMENT. The latter, on the other hand, does not imply the other two: DETERIORATION can occur without the intervention of an unworthy villain; IMPROVEMENT can occur without the intervention of a worthy helper. We can, therefore, assume that the initial model, if it takes into account a large number of situations, is not always fully realized in our tales. The sequence DETERIORATION → IMPROVEMENT is obligatory; the sequences MERIT → REWARD and UNWORTHINESS → PUNISHMENT are optional.

The quality of compulsion, according to the initial model, is the first distinguishing element which can be applied to episodes or to fragments of episodes. There are some groupings of three sequences, some of only two, while some are reduced to the basic sequence DETERIORATION → IMPROVEMENT. In addition to the complete model, which we will name type IV, the following three lacunary types can be anticipated:

- Type I Deterioration of A → Improvement of A
- Type II Deterioration of A → Improvement of A
 - └ because of unworthy villain B → Punishment of B
- Type III Deterioration of A → Improvement of A
 - └ thanks to worthy helper C → Reward of C

Example 2: In the beginning of the Nivernaisian version of AT 451, a crow flies off with a little girl's bonnet and, followed by the child, carries it to the woods to a large hut where the bird leaves the hat. The child is starving (DETERIORATION); she seeks refuge in the hut, where she finds shelter and food (IMPROVEMENT).

In this episode, neither the child nor the crow can be considered responsible for the misfortune, since neither of them is punished in the end. Similarly, the improvement from which the child benefits in finding the provisions and shelter in the hut is not attributed to any helper who will be rewarded later as a result of this. The scheme of

the model is therefore reduced here to the sequence: DETERIORATION → IMPROVEMENT.

This lacunary form of the model is usually reserved either for the introductory episode of the tale or for an episode of transition, a weak moment which joins two important episodes. In some marginal cases, however, the essential part of the tale is condensed into this sequence.

Example 3: The version from Auvergne of AT 654 ("The Three Brothers") relates how a father, too poor to provide work for his sons, sends them away to learn a trade. After three years they return, and each one works wonders in his craft. Then the father weeps with joy to see his three sons so skillful.

In this tale, everyone benefits (IMPROVEMENT); the father need no longer be concerned about the future of his sons, since each one of them has become a master in his trade. But their merit does not receive any particular reward (except for their father's congratulations, which is not sufficiently emphasized to be coded). We classify this narrative in type I of the model. By way of contrast, we show a Breton version of the same AT 654.

Example 4: The father promises 30,000 francs to the son who will be the most skillful in his craft. Each one demonstrates what he can do. The son who performs the most astonishing feat receives the promised sum of money.

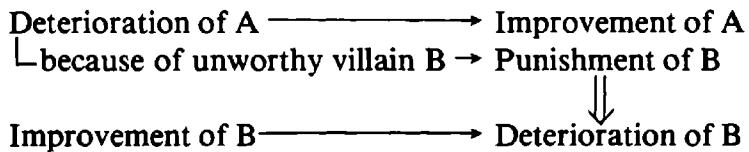
To the sequence DETERIORATION → IMPROVEMENT here is added a sequence MERIT → REWARD. This version belongs to type III of the model.

1.2. *The Implication of the Model*

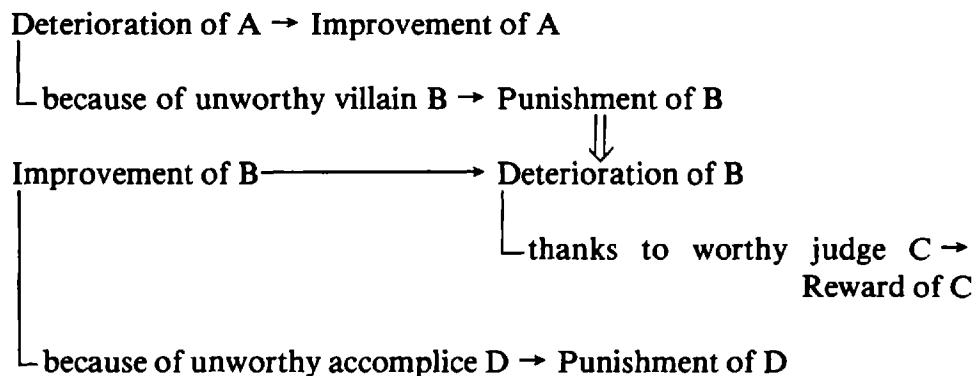
Let us now examine the properties of the lacunary models II and III. These models structure the situation by granting a privilege to a particular point of view: that of character A, first the victim of DETERIORATION, and then benefiting from the IMPROVEMENT. The REWARD given to the helper is for him a kind of IMPROVEMENT, just as the PUNISHMENT inflicted on the villain is for him a kind of DETERIORATION.

Let us pass from the perspective of A to that of the helper C. The REWARD received is at the same time an IMPROVEMENT of C's fate. It is therefore connected with a former DETERIORATION, or at least a deficient state of affairs. Similarly, from the villain B's perspective, the PUNISHMENT received is at the same time a DETERIORATION of his fate; it is therefore connected to a former IMPROVEMENT, or at least to a satisfactory state of affairs. Therefore, our models of types II and III imply the complement of a sequence: IMPROVEMENT → DETERIORATION for type II; DETERIORATION → IMPROVEMENT for type III.

1.2.0. SPECIFICATIONS FOR THE LACUNARY MODEL TYPE II. By using the sign \Downarrow to mark the implicational link between PUNISHMENT and DETERIORATION, one can develop the lacunary model II according to the following formula:

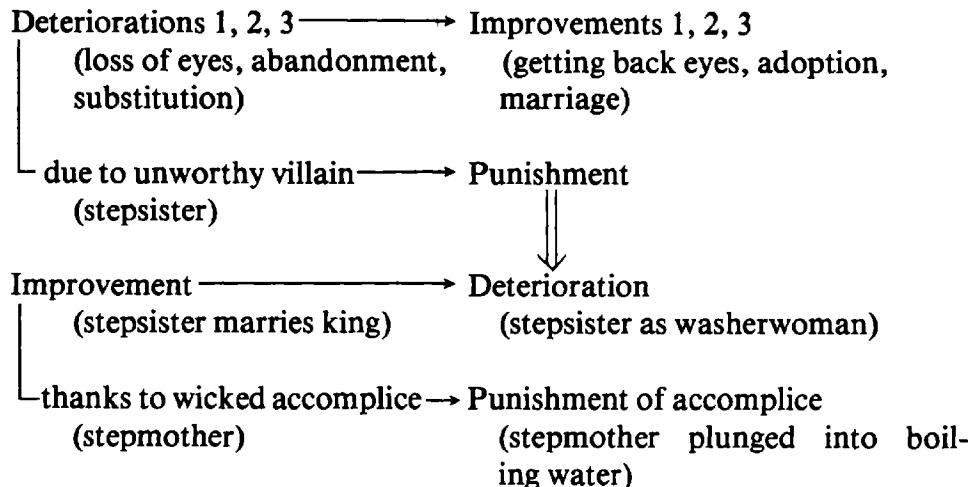


The sequence, which enriches the model in this way and which also presents itself as the inverse of the first sequence DETERIORATION \rightarrow IMPROVEMENT, can develop into a model which is itself the inverse of the one from which we began: the PUNISHMENT inflicted on B is a deserved DETERIORATION. The judiciary administrator of this DETERIORATION can, therefore, accomplish a worthy act, and consequently be rewarded; similarly, B's previous IMPROVEMENT, now canceled by the PUNISHMENT which is inflicted on him, appears in retrospect to have been unmerited (because the PUNISHMENT cancels it). The administrator of B's original IMPROVEMENT, if he is not B himself, could have performed an unworthy act and been punished for it as an accomplice of B. The new model, which is grafted onto type II of the first model, can itself fulfill types I, II, III, and IV. Type II of the first model, therefore, permits a specification of four subtypes which we shall term II(I), II(II), II(III), II(IV). This last subtype corresponds to the following scheme, which represents the most complete form:

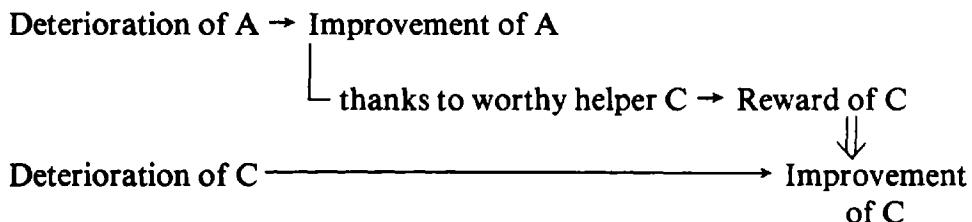


Example 5: In the Gascon version of AT 403, the heroine is led in a carriage by her stepmother and her stepsister to the palace of the king who is to marry her. On the way, the stepmother tricks her into entrusting her eyes to her stepsister (DETERIORATION₁), then throws her out of the carriage into a quagmire (DETERIORATION₂), and substitutes her stepsister as fiancée to the king (DETERIORATION₃). The heroine is rescued by some courageous youths (IMPROVEMENT₁), recovers her two eyes (IMPROVEMENT₂), finally proves her identity to the king, and becomes queen (IMPROVEMENT₃), while the stepmother is boiled in saltwater and her stepsister becomes a washerwoman.

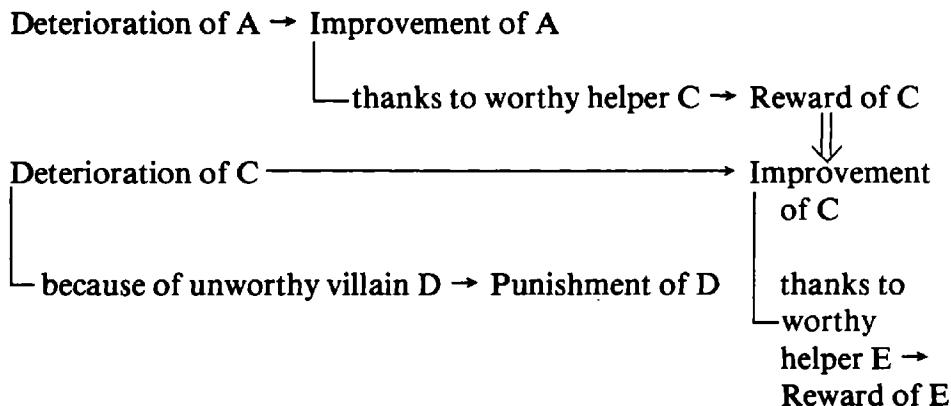
This narrative fits into subtype II(II) according to the following scheme:



1.2.1. SPECIFICATIONS OF THE LACUNARY MODEL TYPE III. The lacunary model type III develops according to the following formula:



We can recognize in the sequence DETERIORATION OF C → IMPROVEMENT OF C a lacunary model of the type I. It can be enriched under the same conditions as the first sequence DETERIORATION OF A → IMPROVEMENT OF A, until it fulfills the following complete form:

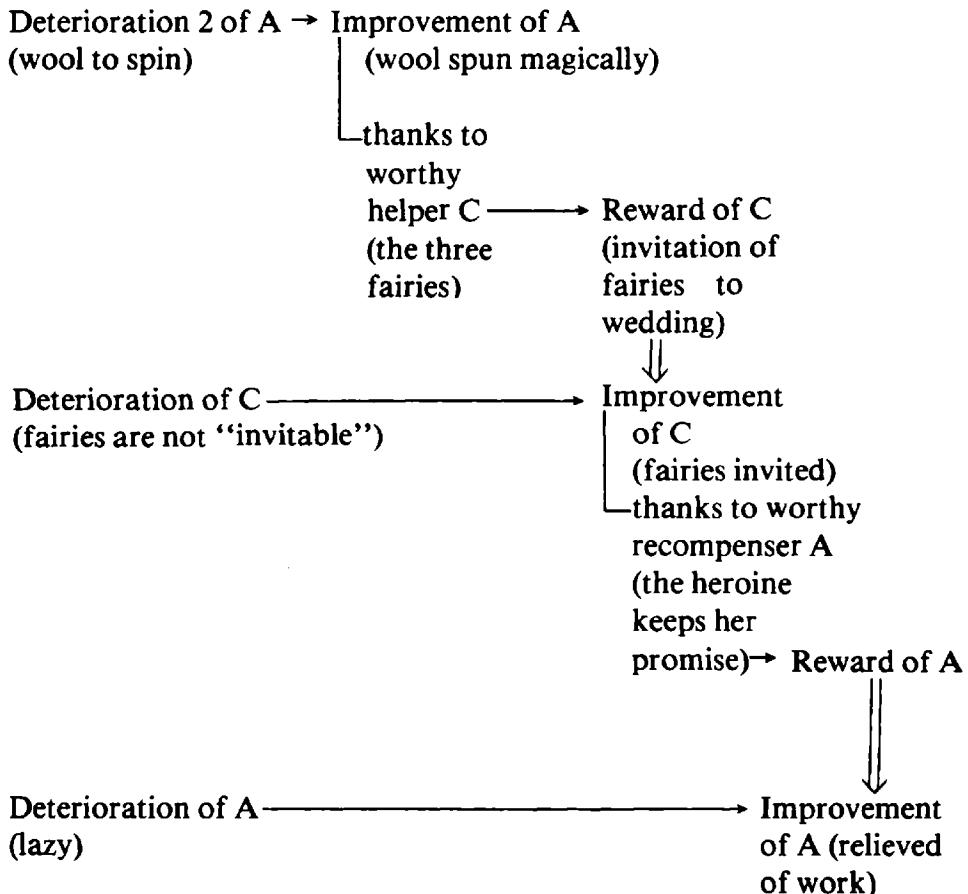


Like the first model, the model which is constructed from the basic sequence DETERIORATION OF C → IMPROVEMENT OF C can be lacunary or

complete: it divides into four types (I, II, III, IV), which may serve to specify type III of the initial model.

Example 6: In the Charantais version of AT 501, a lazy young girl is placed in a palace as a spinning woman (DETERIORATION₁); the king will marry her if she succeeds in spinning an enormous quantity of wool (DETERIORATION₂). She is helped by three hideous fairies, Drooling-Chin, Big-Teeth, Big-Eyes, who spin the wool for her on condition that they will be invited to the wedding (IMPROVEMENT₂). The heroine keeps her word and invites them (REWARD OF HELPER and ACQUISITION OF MERIT BY THE RECOMPENSER). Their entry creates a scandal, they explain that they owe their deformities to their long practice of spinning. The king, startled, forbids his young wife to ever touch a spindle again during her lifetime (REWARD OF WORTHY RECOMPENSER and IMPROVEMENT₁).

We classify this adventure as type III(III) according to the following scheme:

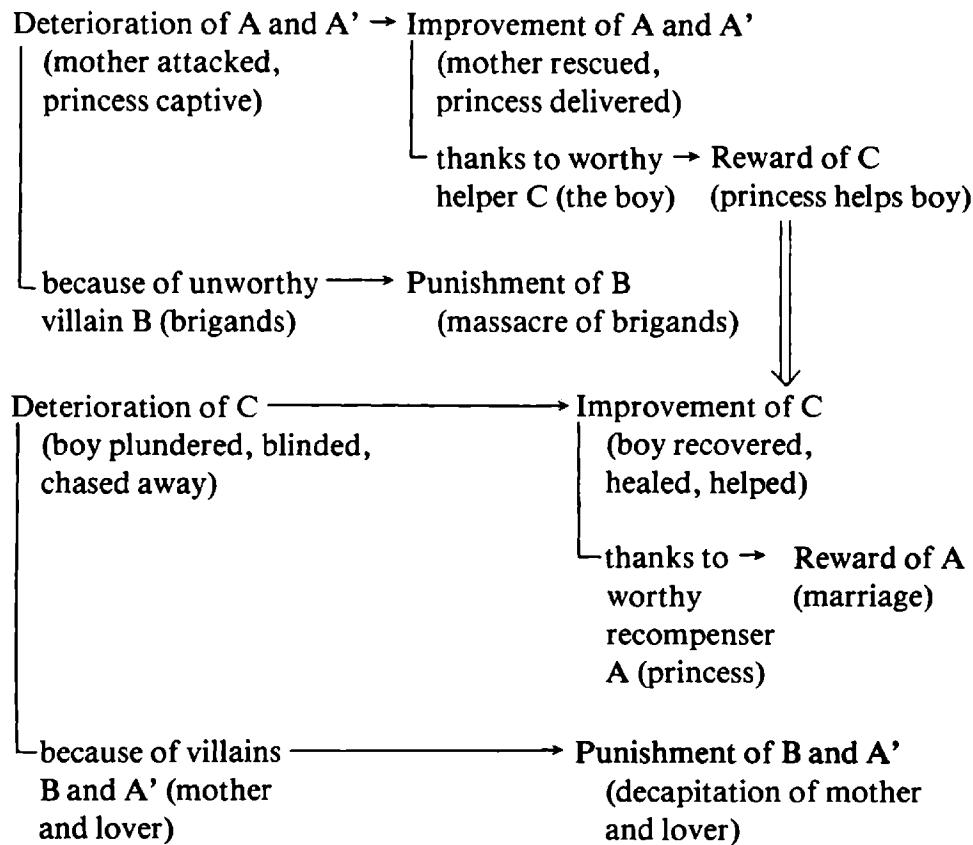


1.2.2. SPECIFICATIONS OF THE COMPLETE MODEL TYPE IV. The complete model type IV permits simultaneously the two series of specifications which separately characterize the lacunary model types II and III. We obtain, in this manner, sixteen subtypes, which we will term IV(I.I.), IV(I.II) . . . IV(IV.III), IV(IV.IV). The first figures in paren-

theses correspond to the specification brought by the sequence VILLAINY-PUNISHMENT, the second to that brought by the sequence MERIT-REWARD.

Example 7: In the Lorraine version of AT 590, a young boy owns a magic bracelet which makes its wearer invisible; he arrives with his mother at a castle. A princess is held captive there by some brigands (DETERIORATION OF VICTIM A BECAUSE OF WICKED VILLAINS). The brigands attack the boy's mother (DETERIORATION OF VICTIM A' BECAUSE OF, ETC.), the boy kills the brigands (PUNISHMENT OF B), saves his mother, and frees the princess (IMPROVEMENT OF A AND A' THANKS TO WORTHY HELPER C). But one of the brigands survives. He becomes the mother's lover and they seize the magic bracelet, blind the boy, and chase him from the castle (DETERIORATIONS 1, 2, 3 OF WORTHY HELPER C, BECAUSE OF UNWORTHY VILLAINS B AND A'). Thanks to the devotion of the princess, whom he succeeds in joining, the boy recovers his sight, his bracelet, and his castle (IMPROVEMENTS 2, 1, 3 REWARD HELPER C AND ACQUISITION OF MERIT BY THE HELPER-RECOMPENSER A). The boy kills his mother and the brigand (PUNISHMENT OF VILLAINS B AND A') and marries the princess (REWARD OF HELPER-RECOMPENSER A).

We present these episodes by the following scheme, in which type IV(I.IV) can be recognized:



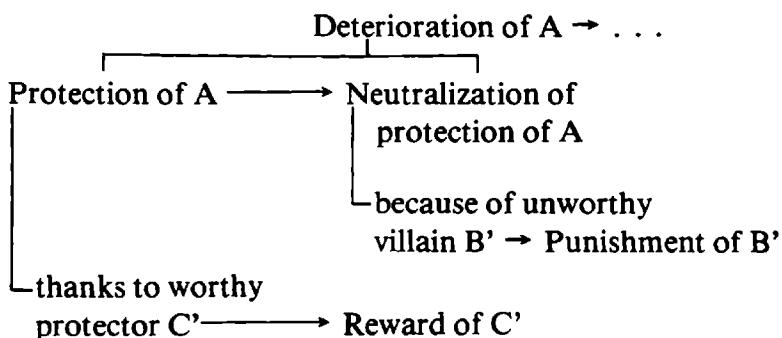
2.0. EXPANSIONS OF FUNCTIONS OF THE FIRST MODEL

Each of our six functions, grouped into the three sequences of the first model, designates not a punctual event, indecomposable, taking place all at once, but a process that requires a certain period of time to work itself out, in other words, an action that has duration. The narrator can choose to sum it up in one word or take the time to describe it in detail in a sequence of several events. For example, the DETERIORATION inflicted on a victim can be the sum of several successive misfortunes, which we call DETERIORATION₁, DETERIORATION₂, etc., as in example 5. Or — and we now focus on this particular case — the accomplishment of the function can be presented by the narrative, as first checked by an obstacle, and then made possible thanks to a favorable circumstance or a wise contrivance. We shall present this expansion of the function in a subsequence OBSTRUCTION → NEUTRALIZATION OF OBSTACLE. But the OBSTRUCTION and the NEUTRALIZATION take on, according to the particular case, either the value of the sequence IMPROVEMENT → DETERIORATION, or the value of the sequence DETERIORATION → IMPROVEMENT. Actually, the OBSTRUCTION that is striving against the DETERIORATION OF A is a PROTECTION OF A; the OBSTRUCTION striving against its IMPROVEMENT is a FRUSTRATION OF A. Similarly, the OBSTRUCTION which first opposes the acquisition of a DEMERIT by B and then his PUNISHMENT has the value of PROTECTION; the OBSTRUCTION which first opposes the acquisition of a MERIT by C and then his receiving a REWARD has the value of FRUSTRATION.

Moreover, each of the subordinate sequences which appear in this way can serve as a basis for the construction of a model (the PROTECTION of A can be due to a deserving protector C' who will be rewarded; the FRUSTRATION of A can be caused by a frustrator B' who will be punished, etc.).

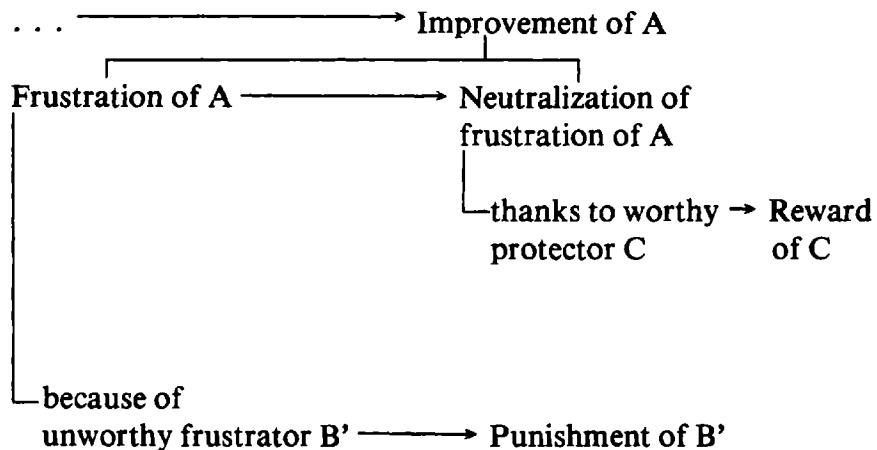
We can therefore foresee the following expansions for each of the six functions.

2.1. *Expansions for Deterioration*



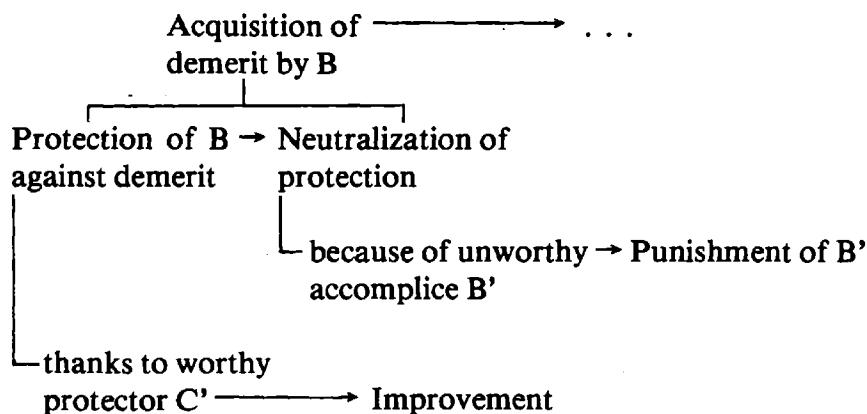
Example 8: In the Provence version of AT 327 C, the child Pitchin-Pitchot is eating figs at the window. The last one falls into the garden, but Pitchin does not go to fetch it because the Ogre could have passed by and put him in a sack (PROTECTION₁). The following year a magnificent fig tree grows from the seeds of the fig, and Pitchin climbs this tree to pick its fruit (PROTECTION₂). The Ogre passes by and says, "Branch, lower yourself" (NEUTRALIZATION OF PROTECTION) and Pitchin-Pitchot falls into the Ogre's sack (DETERIORATION).

2.2. *Expansions for Improvement*



Example 9: In the Limousin version of AT 593 ("Fiddevav"), the servant courts the serving maid (DETERIORATION); he receives only rebuffs from her (FRUSTRATION OF IMPROVEMENT). He turns to a wizard who gives him some rabbit droppings to put under the cinders. The result is that anyone who wants to rekindle the flames suffers the misfortune of continuously breaking wind. The servant undertakes to break the spell, but only on condition that he receives the hand of the serving maid (NEUTRALIZATION OF THE FRUSTRATION, AND THEREFORE IMPROVEMENT).

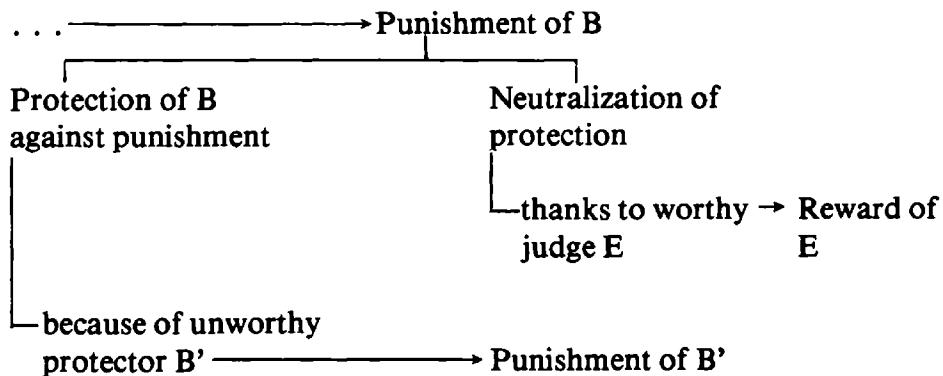
2.3. *Expansions for Demerit*



Example 10: In the Picardy version of AT 555, the poor man, whose cabin has been transformed by St. Peter into a beautiful house, goes back many times, on the insistence of his wife, to ask the Apostle for a castle (DEMERIT 1), then a kingdom (DEMERIT 2), then the title of Pope (DEMERIT 3). St. Peter complies with his desires, but becomes increasingly irritated and warns the peasant against the foolish requests of his wife. When she finally sends her husband to ask for the place of Almighty God (DEMERIT 4), he is thrown out of Heaven, and finds himself with his wife in his poor cabin again (PUNISHMENT).

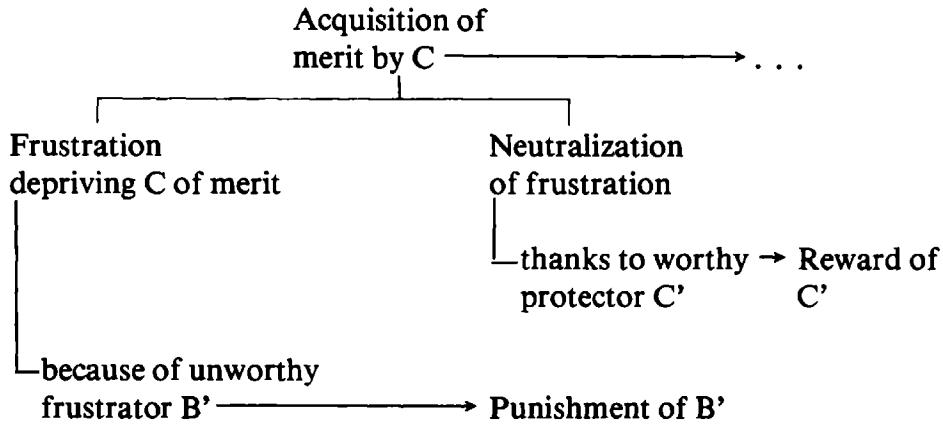
Each of the requests of the enriched peasant is equivalent to a demerit (DEMERIT 1, 2, 3, 4). The first three times, the peasant receives from St. Peter a warning which is equivalent to a PROTECTION against the temptation of a new excess; but his wife's influence, which is stronger, causes him to disregard the warning (NEUTRALIZATION OF THE PROTECTION). The wife, who is responsible for this neutralization, will be punished at the same time as her weak husband (PUNISHMENT OF UNWORTHY ACCOMPLICE).

2.4. *Expansions for Punishment*



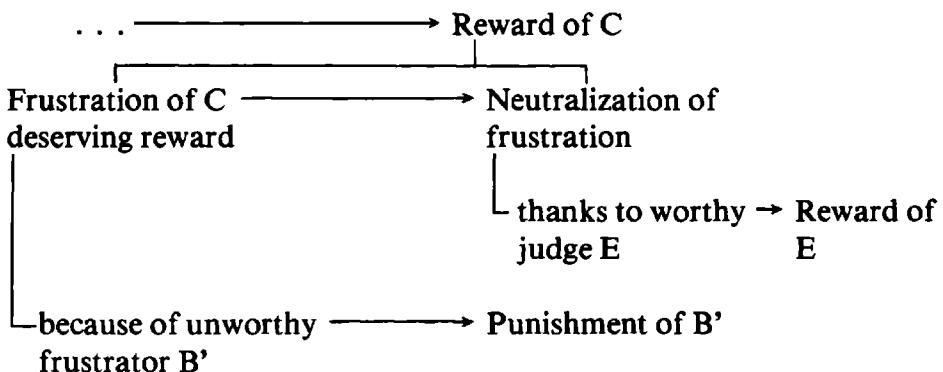
Example 11: In the Nièvre version of AT 652, the young prince, who possesses every desirable quality, has been carried off by a servant, Roquelaure, who then accuses the queen of having devoured her child (PROTECTION, AGAINST PUNISHMENT, and second DEMERIT). Roquelaure brings up the child, makes him long for the treasures and castles he possesses, and then decides to kill him in order to get rid of him (PROTECTION₂, AGAINST PUNISHMENT, and third DEMERIT). But the prince, thanks to the help of a servant woman who reveals to him his origin and his gifts, transforms Roquelaure into a large dog chained to his arm (NEUTRALIZATION OF PROTECTION), and the serving woman into a beautiful rose in his basket. He presents himself before the king his father, reveals the truth, frees his mother, restores Roquelaure and the servant woman to their human forms; Roquelaure is punished and the woman rewarded.

2.5. *Expansions for Merit*



Example 12: In the last episode of the Nièvre version of AT 310, the heroine, who was imprisoned by a fairy in a tower, is freed by the prince. Subsequently, the father of the prince offers the kingdom to the one among his sons whose wife is the most beautiful (AT 402) (the possession of a beautiful wife = ACQUISITION OF MERIT). In order to take revenge, the fairy has changed during the magic flight (AT 313 III) the beautiful face of the heroine into a donkey's head (AT 873 *A—Jason 1965) (FRUSTRATION, DEPRIVATION OF MERIT). The heroine and the prince appease the fairy, who returns to the heroine her beauty (NEUTRALIZATION OF FRUSTRATION). The prince displays the heroine and wins the kingdom.

2.6. *Expansions for Reward*



Example 13: At the end of the Alsace version of AT 300, an impostor, who has cut off the seven heads of the dragon after the hero's victory, comes to the palace before him and claims the hand of the princess (FRUSTRATION OF REWARD). The marriage is about to take place, when the hero appears and, in turn, produces the seven tongues of the dragon, thus confounding his rival by demanding: "Who is to be believed, he who has the heads, or he who has the tongues?" (NEUTRALIZATION). The hero marries the princess (OBTAINING OF REWARD), while the impostor is quartered (PUNISHMENT OF FRUSTRATOR).

3.0. SYNTACTIC LINKS BETWEEN MODELS SUCCEEDING ONE ANOTHER IN TIME

The analysis of the implications of the initial model, and of the expansions of its functions, shows two types of syntactic links between models. The initial model, which is a result of the development of the basic sequence DETERIORATION OF A → IMPROVEMENT OF A, can receive, by a conversion of perspectives, the complement of the models which correspond to the viewpoint of the debaser of A, unworthy and punished (IMPROVEMENT OF B → DETERIORATION OF B) or of A's helper, worthy and rewarded (DETERIORATION OF C → IMPROVEMENT OF C). Or any one of the six functions of the initial model can be fulfilled during the story, according to a series of events which repeat, even within the function itself, the structure of the model. We are concerned with a link joining two models, whose sequences are at least partially simultaneous.

We will now examine the syntactic links by which one model, existing during a later time period than another model, can be linked to that other model through a series of related events. We pass, therefore, from a SYNCHRONIC syntax to a DIACHRONIC syntax of models. We distinguish between three types of links (these will be reduced to two, however, as the first is only mentioned in passing).

3.1. *Succession of Two Independent Models*

Some narratives consist in the narration of a series of adventures, one following the other and most often affecting the same character, but not arising from one another, and not having any other connection than that of the chronological connection, which places one BEFORE and the other AFTER. The models corresponding to each of these adventures are independent of one another, although coordinated according to an order of sequence. Their juxtaposition can be analyzed according to the following model:

Deterioration₁ of A → Improvement₁ of A → Deterioration₂ of A → Improvement₂ of A

Example 14: In the Lorraine version of AT 612, Victor Lafleur, returning from a journey, finds his wife dead (DETERIORATION₁). A magic apple enables him to revive her (IMPROVEMENT₁). Victor Lafleur goes off on a new journey; on his return, he learns that his wife has remarried during his absence (DETERIORATION₂); he enlists in the army and forgets his unfaithful love (IMPROVEMENT₂).

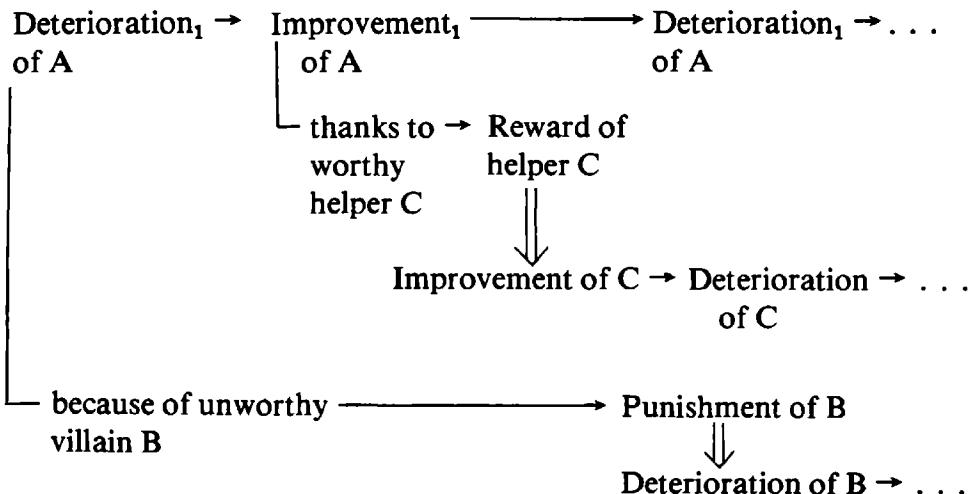
In the beginning of this tale, the intrigue does not yet follow any "thread"; we are dealing with two separate stories, which take place

one after the other, and involve the same character, but are not two episodes connected in the same story. The simple chronological sequence of the two independent models is a juxtaposition rather than a syntactic link: no subordinating link exists between them and neither one can be used to characterize, specify, or classify the other. This does not hold true for the other two types of links, which we have yet to examine and which we will name the "extension" and the "double morphological function."

3.2. *Linkage of Two Models by the "Extension" of the First into the Second*

Let us take the three terminal functions of the model: IMPROVEMENT of A, PUNISHMENT of B, REWARD of C. The narrative can be continued by recalling one or the other of these three results. It therefore exploits one of the logical possibilities introduced by the terminal functions: (1) the IMPROVEMENT which makes up for a DETERIORATION introduced the possibility of a new DETERIORATION which cancels the acquired REWARD; (2) the REWARD of the worthy helper is equivalent to a merited IMPROVEMENT which can also be canceled by a later DETERIORATION; or (3) the PUNISHMENT of the villain is equivalent to a deserved DETERIORATION which can be made up for by a later IMPROVEMENT.

The initial model, therefore, provides the starting point of the three new models, which are able to continue the story in three directions, each corresponding to the fate of the three protagonists taking part in the initial model: the victim A, the unworthy punished villain B, the worthy helper C. These new "departures" of the intrigue can be presented in the following scheme:



The narrator of the fairy tale chooses one of the models for continuing his narrative and excludes the others. Thus, he avoids involving his narration in several parallel adventures (this is what distinguishes the folktale, a more primitive narrative genre, from more complex genres such as the novel). It follows that the "hero" of the tale can be defined as the character through whom the transition is made from one model to another, whatever role he may play in one or the other.

3.3. Linkage of Two Models by "Double Morphological Function" of the Same Event

Propp has drawn attention to the fact that two functions, presented in succession in the narrative sequences and normally realized by two chronologically distinct events, can occasionally be simultaneously realized by one and the same event which, so to speak, "kills two birds with one stone." Propp says that an event of this sort fulfills a "double morphological function." When transferred to our problem, this observation means that the same event can fulfill a terminal function in an anterior model, and an initial function in a posterior model, thus establishing the syntactic link that permits passage from one model to the other. We will represent this link, the true bridge between two models, by the sign || (to be distinguished from the implication arrow ↓ also used).

Each of the three terminal functions of the anterior model can be fulfilled by an event which, at the same time, assumes one of the three initial functions of the posterior model. Nine cases are envisioned:

1. The IMPROVEMENT of A, which corrects a former DETERIORATION, can coincide for this same character A with:
 - 1.1. A new DETERIORATION, whose IMPROVEMENT will then be related;
 - 1.2. The acquisition of MERIT, for which the REWARD will be related;
 - 1.3. The acquisition of a DEMERIT, whose PUNISHMENT will then be related.
2. The reception of a REWARD, which sanctions a MERIT, is an IMPROVEMENT which can, in another connection, be of value to its beneficiary:
 - 2.1. A DETERIORATION, the reparation of which will next be related;
 - 2.2. A second MERIT, the REWARD for which will next be related;
 - 2.3. A DEMERIT, the PUNISHMENT for which will next be related.
3. The reception of a PUNISHMENT, which sanctions a DEMERIT, is a DETERIORATION, which can, in another connection, be of value to its victim:

- 3.1. An IMPROVEMENT (also susceptible to DETERIORATION and then reparation);
- 3.2. A MERIT, the REWARD for which is then related;
- 3.3. A second DEMERIT, the PUNISHMENT for which is then related.

4.0. THE TWELVE DIACHRONIC LINKINGS OF TWO MODELS

In reuniting the three links of the “extension” type and the nine links of the “double morphological function” type, we can present a classification of the sequences of models in twelve categories:

- 1.0. $\text{Deterioration}_1 \rightarrow \text{Improvement}_1 \rightarrow \text{Deterioration}_{1,ditto} \rightarrow \text{Improvement}_{1,ditto}$
- 1.1. $\text{Deterioration}_1 \rightarrow \text{Improvement}_1$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Deterioration}_2 \rightarrow \text{Improvement}_2$
- 1.2. $\text{Deterioration} \rightarrow \text{Improvement}$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Merit} \rightarrow \text{Reward}$
- 1.3. $\text{Deterioration} \rightarrow \text{Improvement}$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Demerit} \rightarrow \text{Punishment}$
- 2.0. $\text{Merit} \rightarrow \text{Reward}$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Improvement} \rightarrow \text{Deterioration}$
- 2.1. $\text{Merit} \rightarrow \text{Reward}$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Deterioration} \rightarrow \text{Improvement}$
- 2.2. $\text{Merit}_1 \rightarrow \text{Reward}_1$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Merit}_2 \longrightarrow \text{Reward}_2$
- 2.3. $\text{Merit} \rightarrow \text{Reward}$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Demerit} \longrightarrow \text{Punishment}$
- 3.0. $\text{Demerit} \rightarrow \text{Punishment}$
 $\quad \quad \quad \parallel$
 $\quad \quad \quad \text{Deterioration} \rightarrow \text{Improvement}$

3.1. Demerit → Punishment

||
Improvement → Deterioration

3.2. Demerit → Punishment

||
Merit → Reward

3.3. Demerit → Punishment₁

||
Demerit₂ → Punishment₂

Each linking is discussed briefly below with an example to illustrate its realization in the corpus.

4.1.0. Deterioration₁ → Improvement₁ → Deterioration_{1 ditto}

Improvement_{1 ditto}

This sequence of two models is characterized by a questioning of the improvement obtained by a character.

Example 15: Burgundian version of AT 511 ("One-Eye, Two-Eyes, Three-Eyes"). Persecuted by her stepmother who leaves her to die of starvation (DETERIORATION₁), Annette receives a wand from the Holy Virgin, which enables her to obtain a well-stocked table by lightly striking a black sheep (IMPROVEMENT₁). The stepmother notices this and persuades her husband that the sheep should be eaten (DETERIORATION_{1 ditto}). Annette receives the animal's liver, which she buries in the garden. From it a huge tree grows and bears fruit which is inaccessible to all but Annette, for whom the branches lower themselves (IMPROVEMENT_{1 ditto}).

4.1.1. Deterioration₁ → Improvement₁

||
Deterioration₂ → Improvement₂

This sequence corresponds to the case where the IMPROVEMENT of a deficient situation is first achieved at the cost of an important sacrifice. The value which has been sacrificed is then restored.

Example 16: In the Breton version of AT 569 ("The Knapsack, the Hat, and the Horn"), the hero has received a magic napkin capable of procuring every kind of nourishment; he exchanges it for a stick, whose five hundred little compartments each contains an armed soldier, who is under the command of the owner of the stick (IMPROVEMENT₁, compensated for by a DETERIORATION₂ → the loss of the napkin); the hero then uses his cavalry to recapture by force the lost napkin (IMPROVEMENT₂).

Tales which begin with a pact with a supernatural being (our versions of AT 400, AT 500), or with a voluntary sacrifice of a heroine to

escape the claims of an incestuous father (AT 510 B, AT 706) by vowing to marry herself to the first creature she meets, even an animal (AT 425ff.) etc., also follow this scheme.

4.1.2. Deterioration → Improvement

||
Merit → Reward

This sequence corresponds to the case in which the hero, while improving his own situation, acquires a MERIT, which brings about a second IMPROVEMENT as a reward.

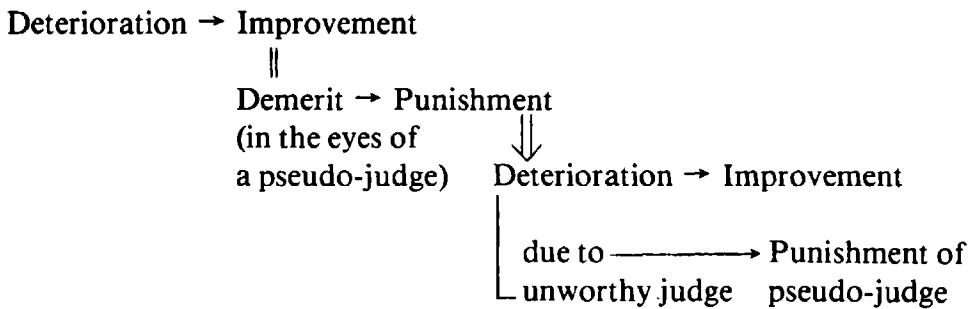
Example 17: Provence version of AT 571 C ("The Biting Doll"). The doll, which provides gold, has been stolen from its young mistress by a greedy neighbor. But this neighbor only obtains droppings. He throws the doll onto a dung heap. The king passes by and squats down to satisfy an urgent need. The doll sticks on to him, and no one can take it off except the little girl, whom the doll immediately recognizes. Grateful to her, the king marries the girl. In this case the same act allows the heroine to make up for the DETERIORATION inflicted on her by the neighbor (she gets her doll back) and also to act as a worthy helper (she corrects the DETERIORATION inflicted on the king).

4.1.3. Deterioration → Improvement

||
Demerit → Punishment

This sequence corresponds to the case in which a character benefits by an IMPROVEMENT of his fate under conditions which make him, in this improved state, appear guilty, either to the narrator (who shows his disapproval in one way or another) or to a character in the story, who can then undertake to punish what he considers to be a crime. In the former case the DEMERIT is objectively presented, existing in the eyes of the universal consciousness; in the latter case, it only exists subjectively in the consciousness of a judge who can be blind, excessive, or partial.

The two cases call for different development. In the first case, the improvement only appears unworthy in the subjective eyes of an envious, abusively severe judge, and the punitive action which sanctions this pseudo-demerrit is actually an unjust act of persecution. This persecution calls for an ultimate compensation for the wrong caused to the innocent person, and eventually, the punishment of the unworthy judge. The scheme is then the following:

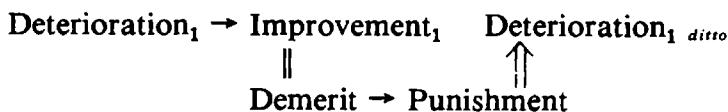


Example 18: In our Gascogne version of AT 410 ("Sleeping Beauty"), the heroine is engaged to a hideous prince. Having seen him, she rejects him, thus drawing on herself the anger of the prince's godmother, an old fairy who condemns the heroine to sleep forever (we know that after a hundred years, a prince awakens her and marries her).

In the second case, the IMPROVEMENT is presented as objectively unmerited and the PUNISHMENT is justified. This punishment can be followed by a series of atonements (cf. 4.3.0 below), but an extension of this sort is optional: it indicates a sympathetic hero who has committed a faulty action, whereas stopping the sequence at the PUNISHMENT indicates the inexpiable crime of a real "villain."

Example 19: In the version from Picardy of AT 555 ("The Fisherman and his Wife"), the increasingly ridiculous claims of the wife, who demands from St. Peter first a beautiful house, then a castle, then a kingdom, and then the title of Pope, are satisfied, but they push the Apostle to the end of his patience (IMPROVEMENTS ACCOMPANIED BY DEMERITS). When she demands the position of Almighty God, she receives her just PUNISHMENT for her excess, and finds herself once more in her poor cottage.

In this particular case, the PUNISHMENT takes the form of canceling out the IMPROVEMENT received (see 4.1.0 above), which can be formulated as:



4.2.0. Merit → Reward



This sequence corresponds to the case in which an IMPROVEMENT which resulted as a reward for a MERIT is subsequently jeopardized.

Example 20: In the Lorraine version of AT 670, a shepherd saves a serpent's life; as a reward he receives the gift of understanding the language of animals (IMPROVEMENT). But, under pain of death, he must not repeat what he thus learns. A little later, he overhears a joke exchanged between his horse and his mare and bursts into a peal of laughter. His wife asks him what he is laughing at and when he refuses to tell her, she loses her temper and pursues him with pleas and threats until she makes the poor man decide to sacrifice his life in order to satisfy her (DETERIORATION).

4.2.1. Merit → Reward

$$\begin{array}{c} \| \\ \text{Deterioration} \rightarrow \text{Improvement} \end{array}$$

Example 21: In the Nièvre version of AT 500 ("The Name of the Helper"), a girl has to weave an enormous amount of wool (DETERIORATION). A supernatural being, named Ricabert-Ricabon, offers to accomplish the task. In return, the girl must promise to remember the name of her helper and to repeat it to him a year later or lose her soul. The girl accepts and the wool is beautifully woven (IMPROVEMENT thanks to a meriting helper). But the girl forgets his name and is grieved, until one of her servants sees Ricabert in a forest by chance. He is dancing around a fire, chanting his name and rejoicing that he would soon possess the girl's soul. Then, when the year passes, the girl is able to tell the supernatural being that his name is Ricabert-Ricabon (REWARD). He disappears, furious at having been deprived of the girl's soul, which he hoped to carry away (DETERIORATION with REWARD).

4.2.2. Merit₁ → Reward₁

$$\begin{array}{c} \| \\ \text{Merit}_2 \rightarrow \text{Reward}_2 \end{array}$$

Unlike the previous sequence, this one occurs frequently. For example, the charitable gesture or courteous words of the hero to an old woman whom he meets on his journey results in the granting of the means to succeed in an exploit: this success is therefore the REWARD of the first MERIT; but because the exploit is also a service rendered to a third party, the hero acquires a new MERIT and receives a second REWARD (the hand of the princess, etc.).

Example 22: The Nièvre version of AT 402. The hero, married to a fairy metamorphosed into a frog, is on his way to a contest, where the victor will be the one who can present the most beautiful woman. When the frog falls into a puddle and becomes spattered with mud, the hero speaks to her compassionately (Acquisition of MERIT₁). Thus he breaks the spell, and the frog is transformed into a magnificent princess (REWARD₁). He can now present the most beautiful woman at the competition (MERIT₂) and thereby receive the kingdom which was at stake (REWARD₂).

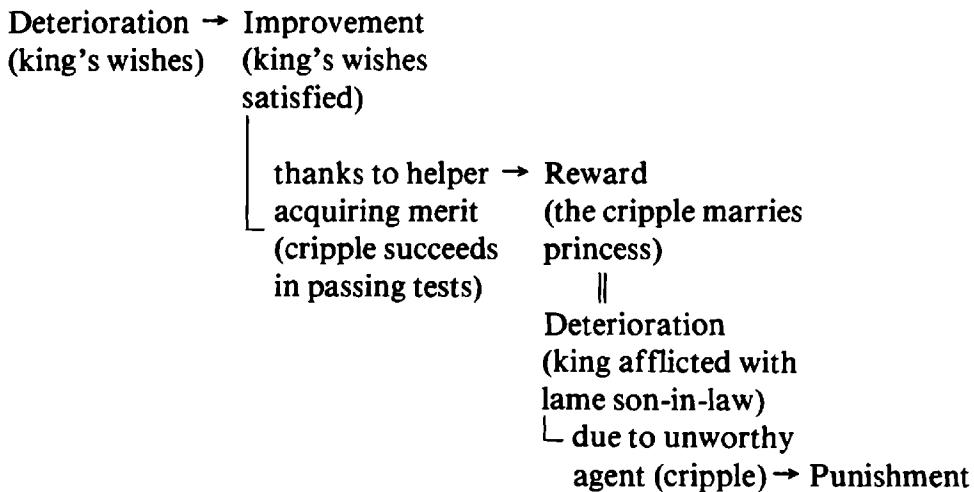
4.2.3. Merit → Reward

$$\begin{array}{c} \| \\ \text{Demerit} \rightarrow \text{Punishment} \end{array}$$

This sequence corresponds, in our corpus, mainly to tales in which the hero, by receiving his deserved REWARD for his MERITS, arouses the hostility of an envious character or of a remunerator who only gave the reward against his will, and who consequently persecutes the hero.

Example 23: In the Breton version of AT 513, the young cripple accomplishes the tasks necessary to win the hand of the princess. The king sees himself compelled to accept him as his son-in-law: "You will have my daughter, because a king cannot break his word. But you should at least be aware that I give her to you against my will, and that you have not won my friendship, far from it."

The complete scheme here is:



4.3.0. Demerit → Punishment

↓
Deterioration → Improvement

This sequence corresponds to every kind of PUNISHMENT which is interrupted before the appointed time.

Example 24: In the Nièvre version of AT 449, the wicked wife has been transformed into a mare by the godmother of the hero, who has to ride her while pricking her with his sword like a spur (PUNISHMENT=DETERIORATION). But on the ninth day, in spite of a warning, he falls asleep and drops his sword. His wife immediately takes on her human form (IMPROVEMENT) and changes him into a gnat.

4.3.1. Demerit → Punishment

||
Improvement → Deterioration

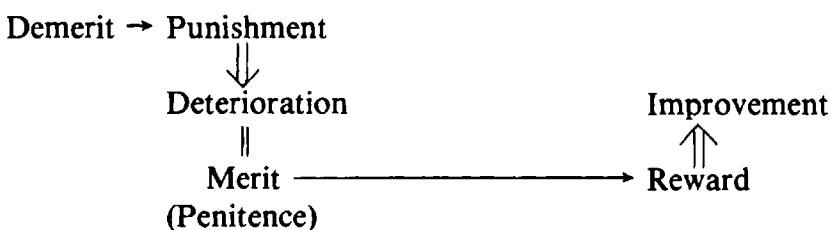
We have not found an example of this combination in our corpus, but in general, this sequence could correspond to a case in which the punishment which a character receives is presented as being beneficial to him in some way (for example, it is a "good lesson"), but the

benefit of this IMPROVEMENT is later impaired (the lesson is quickly forgotten, the person falls back into error, etc.).

4.3.2. Demerit → Punishment

$$\begin{array}{c} \| \\ \text{Merit} \rightarrow \text{Reward} \end{array}$$

This sequence corresponds to the case in which the PUNISHMENT inflicted as a revenge is considered, either by the avenger or by another judge to have the value of an atonement: in expiating his crime, the penitent acquires a MERIT which calls for a REWARD. The latter usually takes the form of withholding the consequences of the punishment. The entire sequence is presented in the following scheme:



Example 25: In the Breton version of AT 471, Louizik yields to his curiosity and follows his brother-in-law (DEMERIT), an angel who has taken on human form to marry Louizik's sister, but who returns to Paradise every morning. The angel turns around, orders him to follow him to the end of his journey, and leaves him for 150 years outside the gates of Paradise (PUNISHMENT). When this time of penitence has passed (MERIT), he opens the gate to Louizik, who enters and finds his family again.

4.3.3. Demerit₁ → Punishment₁

$$\begin{array}{c} \| \\ \text{Demerit}_2 \rightarrow \text{Punishment}_2 \end{array}$$

This sequence corresponds to a situation which is common both in the real world and in literature: the punishment does not wipe out the crime, but consists in a mark of disgrace, which singles out the guilty person for further punishment. In our corpus, it often fulfills the opposite of the cases quoted in paragraph 4.2.2.

Example 26: In the Aubrac version of AT 507 ("The Monster's Bride"), the king's daughter is promised to the person who will bring the finest figs. Three brothers start off, one after another, and meet an old woman who asks them what they are carrying in their basket. "Some dung," reply the brothers (DEMERIT₁). The old woman retorts, "Very well, you will find dung." In fact, when the king puts his hand into the basket to take out the fruit, he pulls it out soiled with excrement (PUNISHMENT₁ and DEMERIT₂ of the brothers). The king has the unfortunate boys roughly thrown out (PUNISHMENT₁).

5.0. CLASSIFICATION OF EPISODES.

We have shown that the structure of the French fairy tale (and of every narrative which strongly “moralizes”) can be considered to be reduced to: (1) the fulfillment, lacunary or entire, of a model with six paired functions; and (2) combinations of this model within itself, according to syntactically varied links, either SYNCHRONIC (associating several models in order to account for the various aspects of a situation in the course of the same episode) or DIACHRONIC (linking one model to another in order to account for passing from one episode to another in the succession of the events in the narrative).

One could therefore ask whether a morphological classification of French fairy tales, of the kind that Propp thought of establishing, is possible from our analysis. Do the three methods of characterizing episodes, which we have considered, lend themselves to being regrouped and placed in a hierarchy based on a single principle of classification? Or, are we dealing with three independent principles, concerning dimensions of an irreducible code?

Without claiming to present a formal answer to this question, as our investigation is still in an embryonic state, we hope to bring about a unique system of classification. This one, it is true, only applies to tales that can be reduced to an initial model or to a diachronic linking of two models. Beyond this, it is necessary to divide the plot into sections. A tale composed of three connected models $a \rightarrow b \rightarrow c$, for example, must be broken down into two sequences, $a \rightarrow b$, and $b \rightarrow c$; these two sequences can then be classified separately.

With the reservation that a more careful examination will, no doubt, compel us to add some corrections to our program, we consider today (October 1972) that our task of classification must proceed according to the following stages:

1. Breaking up the tale into sequences of models corresponding in the diachrony either to one independent model or to two syntactically linked models (twelve categories of links).
2. Specification of the models according to the degree to which they fulfill the canonical model (types I, II, III, IV).
3. Specification of the sequences of functions MERIT → REWARD and DEMERIT → PUNISHMENT according to the characteristics of the complementary models they introduce (types II(I), II(II), etc.).
4. Specification of the functions of each sequence according to its extensions (models of the types, I, II, III, IV, which characterize the accomplishment of the function).

The following example will give an idea of the concrete results of our procedure.

Example 27: The Nièvre version of AT 506 (“Princess Rescued from Slavery”)

tells the story of John of Bordeaux. During the course of a journey, he ransoms and frees two girls from slavery. Then he sees a corpse abandoned on a dunghill and provides the money necessary for its burial. Continuing on his way, he again meets one of the two young girls. She reveals herself to be a princess and offers herself in marriage to her deliverer. John of Bordeaux accepts. But another of the princess's suitors throws him into the river by means of treachery, and then tells everyone that John ran away in order not to marry his fiancée. John drifts with the stream for days and days until a magpie offers to pull him out of the river and to take him back to the princess. John accepts and, in exchange, promises "what is dearest to him in the whole world." John makes himself known to the princess and marries her; the unmasked rival is drowned. A few years later, when a son is born to John of Bordeaux, a voice awakens him and reminds him of the promise he made to the magpie: "What is dearest to you is your child . . . You only have half of him, the other half is your wife's; I want the part which belongs to you." John prepares to cut his son in half, but the voice stops him: "Do you remember the dead man on the dunghill? I was the corpse, and the magpie. As your reward, I acquit you."

According to our principles, there are four models in this narrative; they are connected in a manner which can be depicted in Figure 1.

Each of these four models gives rise to a first classification: the models marked 1 and 2 belong to type III; the model marked 3 belongs to type IV; the model marked 4 belongs to type I. The connection between model 1 and model 4 will be classified among the specifications of type III(I). The link between model 2 and model 3 will be classified among the expansions of type IV of the function REWARD. The link between model 3 and model 4 arises out of a "double morphological function." It will be classified in category 1.1 of the diachronic sequence (IMPROVEMENT obtained at the cost of a DETERIORATION).

In its present state, our index refers seven times to this version of AT 506: four times in order to index the content of the models, three times to disengage the syntactic links uniting the models two by two. Each of these mentions is brought to bear on a thread which consists, on the one hand, of the indication of a morphological type (example: type III(I)) and, on the other hand, of a brief summary of the corresponding events (example: John of Bordeaux has a corpse, abandoned on a dunghill, buried at his own expense. As a reward, the corpse later exempts him from giving up half of his son, which John had promised to the corpse when it was in the form of a magpie). The threads which are constructed in this manner are finally reunited and classified according to their morphological description (all the threads of type III(I) together, in the subcategory of type III, etc.).

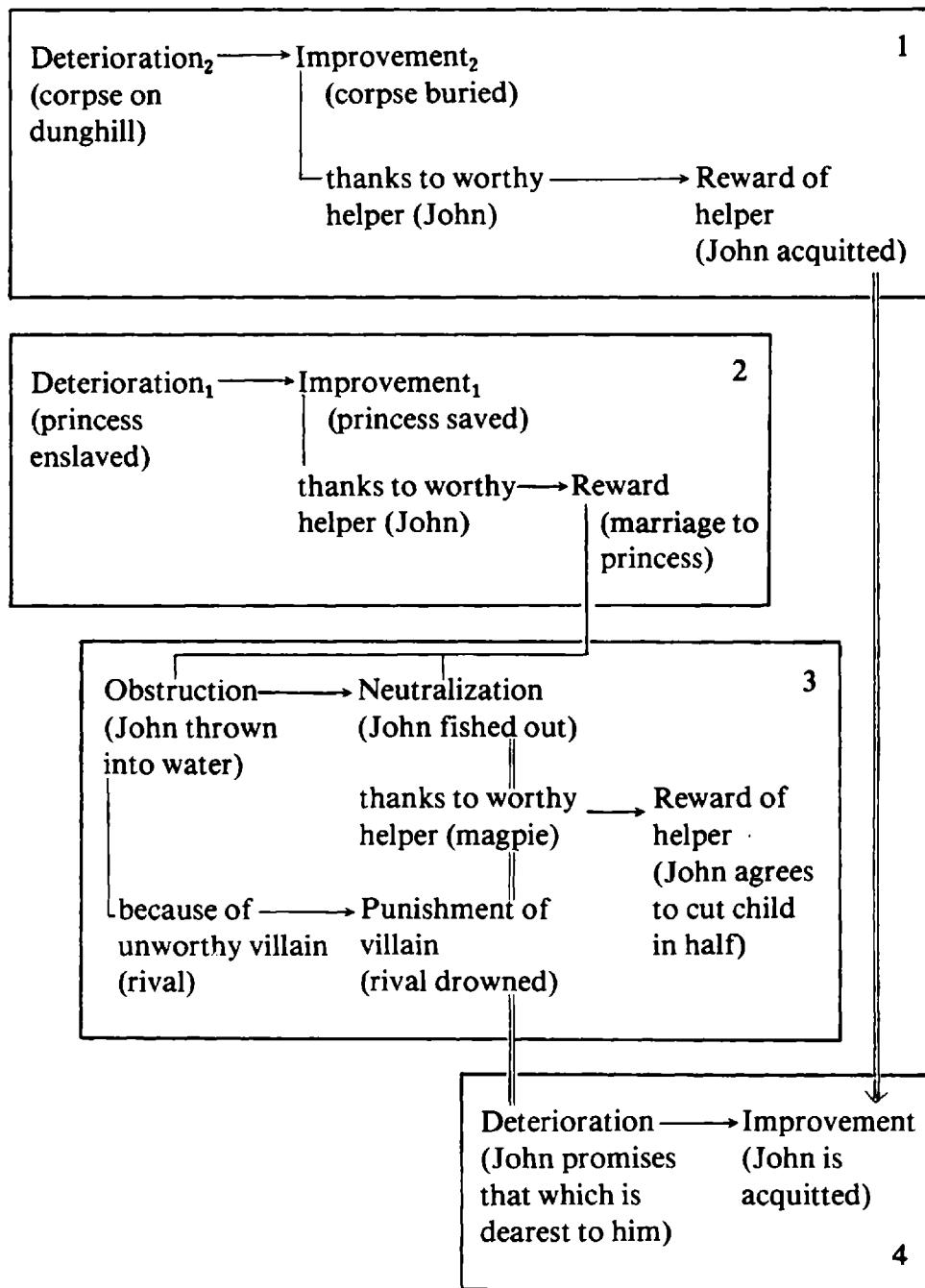


Figure 1. Analysis of example 27

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Fundamentals of a Grammar of Oral Literature

ERHARDT GÜTTGEMANNS

1.1. This paper deals with some recent developments in the structural analysis of narrative Bible texts. These texts stem mainly from oral tradition, although they now are fixed in writing. The structural approach is still new in exegetical theology. It feeds on the works of the Russian formalist school of literary criticism, the works of the Prague Circle in linguistics and aesthetics, the Copenhagen Circle of Louis Hjelmslev with his works on a general theory of grammar (Hjelmslev 1928, 1943), the "New Criticism," the generative approach in grammar theory (Chomsky 1957, 1965), the French structuralist school of literary criticism and semiotics (Schiwy 1969), and the recent attempts to develop a text grammar and grammars of different kinds of texts (Dressler and Schmidt 1973). Part of the theory which I am presenting here is called "generative poetics" (Güttgemanns 1971: 215–230; 1972). This theory is a combination of the fundamentals of poetics since Aristotle (Madsen 1970) and of the idea that texts (performance texts) are the product of a creativity governed by rules (competence) (Dieltjens 1970). In the following, only those points of my theory will be presented which can be treated extensively in this paper. (The theory and its references are presented in greater detail in some of my publications listed at the end of this paper [e.g. Güttgemanns 1973a].)

1.2. The universe of discourse which is the object of my investigation is the narrative texts of the New Testament, especially the Gospel texts, the Acts of the Apostles, and parts of the Revelation of St. John (the definition of these parts has not yet been worked out). However this material is too voluminous for the purpose of this paper and therefore I have restricted myself to the synoptic Gospels. The

synoptic Gospels are the first three books of the New Testament (the Gospel of Matthew, the Gospel of Mark, and the Gospel of Luke) and they are called "synoptic" because their wording and composition are partly identical. The common hypothesis of this fact is that the Gospel of Mark and a reconstructed oral source (commonly called "Q-source") were historically the first sources of the Gospels of Matthew and Luke and thus the literary type of a work such as a Gospel was established. The type of a Gospel is therefore a combination of two techniques for "making" texts, namely, the copying of sources fixed in writing and the free incorporation of oral traditions; such a combination explains both the verbal similarity and the differences of wording in the three Gospels mentioned. According to common opinion, the assumed sources of the Gospel are not homogeneous in themselves, but composed of several well-defined kinds of texts (so-called "small units") which are held together by a sort of compositional framework, by the same literary style, or by other means. *Nota bene*, I do not agree with this common opinion at all, but I refer to it as a background for my following argument. The main point of my argument is that the narratives of the Gospels can be better accounted for by a grammar of narrative texts. This grammar of narrative texts is part of a general text grammar and explains both the composition principles and the structural range of the types, on the one hand, and the rules of the "small units" as compositional elements, on the other.

1.3. Text grammar of narratives consists of two sets, a set of units of narrative content and a set of compositional rules. The former is analyzed by special methods of text semantics, the latter belongs to the domain of text syntax. The present paper deals with some aspects of the semantics of narrative texts in section 2 and with some problems of narrative syntax in section 3. Before starting the detailed exposition of these methods, I would like to give some principles of text grammar.

1.3.1. On the whole, text grammar deals with three fields, namely the "surface text," the "deep text," and the relations between these two. The directly observable empirical object of literary criticism is the fixed wording of a text. The term "text" in this sense means a certain verbal utterance or performance using the writing code. By this definition a "text" is only a "form of expression" of mental content or of the "form of content" (Hjelmslev 1928). This definition, however, seems unsatisfactory for several reasons. For instance, in the study of oral literature it is evident that a fixed wording of a text is a scientific abstraction (Bogatyrev and Jakobson 1929; Lord

1960). Therefore in the study of oral literature the term "text" does not mean a fixed wording, but could be interpreted as a patterned arrangement of all variants of a certain narrative. This pattern is not a directly given empirical object, but a scientific construct, i.e. a hypothesis of the descriptive metalanguage for a described object language. "Text" as a patterned arrangement is to be described as a relational matrix, i.e. a matrix the structure of which is not a result of the contents of the elements, but one in which the structural relations determine the range of the value of the elements possible in each relational knot of the matrix. Therefore, a text grammar as a relation of these textual relations is not a taxonomic grammar, but a relational grammar also integrating generative and transformational relations. Further, a certain "form of expression" is only one alternative of all possible expressions of a certain mental content (the various "texts" expressing the same mental content are paraphrases of each other). Hjelmslev has argued that the only object of theoretical linguistics should be the "form of content," not the "forms of expression" (Hjelmslev 1928), a position which is an important point of modern semiotics. Linguistics has to deal with the structure and the principles of mental content, with the ideas or concepts of thinking. It must be possible to translate these contents into a number of "forms of expression" (Nida 1964; Nida and Taber 1968). Otherwise mankind, expressing itself in very different "forms of expression" (languages), would not be able to communicate, and communication would be a mere exchange of code materials and not a participation in mental content and thinking. These and other reasons have led to the distinction between the "surface text" of a work of art, i.e. the directly given performance text mentioned above, and the "deep text" which has only a "virtual" mode of existence. For generative poetics this deep text is the main object of investigation. In the case of the synoptic Gospels the literary and compositional differences are only paraphrastic forms of expression for the same deep text or form of content (Güttgemanns 1973b). Otherwise it would not be reasonable to take these three Gospels as examples of one kind of text or as similar elaborations of the same sources; it would be necessary to take them as completely different surfaces which have no common "text" at all.

1.3.2. The deep text of a narrative is the mental content or the "sense" of the narrative. The phenomena of the "sense" or of the human production of symbols (Mainberger 1973) are studied in structural semantics (Greimas 1966). "Sense" means a consistent and coherent whole (according to Aristotle) or an organism of intentional acts (Husserl 1900-1901) and is treated in the so-called "inten-

tional semantics" (Carnap 1934). "Sense" is a function of two sets of grammatical operations, namely the operations of paradigmatics and the operations of syntax (or syntagmatics). The application of the former to the partial grammar of narratives will be presented in section 2 and the application of the latter in section 3.

1.3.3. The relations between the deep text and the surface text are defined by so-called projection rules which regulate the verbalization of the sense in a certain form of expression (Doležel 1972). This field has been dealt with mainly in generative grammar where the projection rules are investigated as "transformations" of deep structures into surface structures. I restrict myself here to these brief definitions, because further explanations are given below in greater detail.

MOTIFEMES AS SEMANTIC KNOTS OF NARRATIVES

2.1. The term "motifeme" refers to the concepts of the thirty-one "functions" of the fairy tale (Propp 1928; Breymayer 1972); their modification as "motifemes" ("narremes," etc.), binary reorganization, and logical generalization are discussed in the recent research of narratives or narrative universals (Dundes 1964; Greimas 1966; Bremond 1966; Dorfman 1969). In the following I shall present a new list of motifemes which is reorganized by certain logical rules and is more complete than all lists presently (August 1973) known to me.

2.2. A motifeme is a unit of the form of narrative content. In its "normal" state the motifeme (symbol: M) is defined by a proposition or a predicative relation between a narrated act (symbol: Act) and an actant (symbol: Ant) which is the agent of the act. This predicative relation is symbolized by $M = Ant + Act$. In many object languages this proposition is verbalized by the relation between the expression for an action (normally a verb) (symbol: a) and the expression for an acting character (normally a noun) (symbol: c). So the verbalized proposition (Doležel 1972: 59) has the form $m = c + a$. The surface cases serve as the grammatical tool to express this relation which can be understood as a deep case relation between the actants and the acts. In other words, the motifeme is the specific narrative relation between a narrated act and the performers of the act; the deep cases (or actants) serve as text-grammatical tools for this relation.

2.3. Motifemes should not be described as isolated phenomena, but as relations in a matrix. Therefore, the motifemes are described as

parts of motifeme sequences. These motifeme sequences are organized according to logical relations taken from traditional logic which will be presented in section 3. As a "form of content" the motifemes have a set of "forms of expression," namely, the allomotifs (symbol: m). The relations between the motifemes (deep structure) and the allomotifs (surface structure) belong to the operations of specification and verbalization mentioned above. The motifemes (or motifeme sequences) are a finite set of enumerable elements; the allomotifs form by definition an infinite set of nonenumerable elements if the set of tales is regarded as infinite.

2.4. A motifeme sequence is a logical relation between two motifemes (formalized as: $M_1 \rightarrow M_2$) which is the text-grammatical basis of the narrated "fabula." In the following, the relations prevailing between the members of the pairs of motifemes within the motifeme sequences will be described. If we try to establish a list of motifemes in a binary system we can distinguish three sorts of relations within the pairs. This three-fold relation is structured in the so-called Square of Opposition (in traditional logic since Aristotle) which will be presented in detail in section 3. These sorts of relations (or oppositions) are:

1. the relation of implication (or subalternation);
2. the relation of contrariety;
3. the relation of contradictoriness.

2.5. The proposed list of motifemes is as follows. (The italics of the terms will be used here as symbolic abbreviation, the Roman numerals indicate the "functions" of Propp. In the middle column, the logical relations existing between the members of the pairs are expressed by symbols from symbolic logic.)

<i>Interdiction</i> (II)	\leftarrow	<i>Violation</i> (III)
<i>Inquiry</i> (IV)	\leftarrow	<i>Information</i> (V)
<i>Dct</i> (Deceit) (VI)	\leftarrow	<i>Dcpn</i> (Deception) (VII)
<i>Lack</i> (VIIIa) } <i>Absence</i> (I)	$>\!\!-\!\!<$	<i>Lack Liquidated</i> (XIX)
<i>Request</i> (IX)	\leftarrow	<i>Beginning Counteraction</i> (X)
<i>Departure</i> (XI)	$>\!\!-\!\!<$	(<i>Unrecognized</i>) <i>Arrival</i> (XXIII)
<i>Qualifying Test</i> (XII)	\leftarrow	<i>Reaction</i> (XIII)
<i>Reaction</i> (XIII)	\leftarrow	<i>Receiving an Adjuvant</i> (XIV)
<i>Translocation</i> (XV)	$>\!\!-\!\!<$	<i>Return</i> (XX)
<i>Main Test</i> (XVI)	\leftarrow	<i>Victory</i> (XVIII)
<i>Identification</i> (XXVII)	\rightarrow	<i>Marking</i> (XVII)
<i>Pursuit</i> (XXI)	\leftarrow	<i>Rescue</i> (XXII)
<i>Masquerade</i> (XXIV)	$>\!\!-\!\!<$	<i>Demasquerade</i> (XXVIII)

Glorifying Test (XXV)	\leftarrow	Solution (XXVI)
Transfiguration (XXIX)	\leftarrow	{ Rescue (XXII) Inthronization (XXXI)}
Punishment (XXX)		{ Wedding (XXXI) Inthronization (XXXI)}

2.5.1. The relation of IMPLICATION is the relation between two motifemes (formal symbol: p, q) where q necessarily presupposes p but p does not necessarily involve q . For instance, an interdiction ($p = Int$) does not necessarily involve a violation ($q = Viol$); it may be followed by a nonviolation (symbol: \bar{Viol}). A violation ($q = Viol$) and a non-violation ($q = \bar{Viol}$) necessarily presuppose an interdiction ($p = Int$). The logically correct formula for this relation is $p \leftarrow q$ or $p \subset p$, which is in the strict sense a REPLICATION.

2.5.2. The relation of CONTRARIETY (or exclusion) is the relation between two motifemes one of which (p or q) may be “true” (symbol: t) and the other “false” (symbol: f), or both may be “false” altogether, but both may not be “true” altogether (formula: $p \mid q$). For instance, it may be narrated that one character is punished (*Pun*) and another is rewarded (e.g. *Inthr*, *Wedd*), but it may not be narrated that the same character is punished AND rewarded at the same time (*Pun* | *Inthr*, *Wedd*).

2.5.3. The relation of CONTRADICTORINESS (or contravalence or exclusive disjunction) is the relation between two motifemes of which only one may be “true” or “false,” but not both (formula: $p >—<q$). For instance, it may be narrated that a character suffers a lack (*L*). But it may not be narrated that the same lack which the character suffers is liquidated (*LL*) concurrently with its existence. It may only be concurrently narrated that an existing lack (*L*) is not liquidated (symbol: $\bar{L}\bar{L}$).

2.6. What is the list of motifemes with the logical relations of motifemes within the motifeme sequences used for? It was mentioned above that Gospel research distinguishes several kinds of texts which differ in style, theme, and form of expression. One commonly speaks of distinguished “forms” (or “genres”) the history of which reveals certain rules of tradition. The proposed approach, and especially the system of motifemes, gives a different solution to the problem: a narrative genre is the result of a certain combination of motifemes. The differences between the genres are the result of the different possible combinations of motifeme sequences, and the similarities between the genres are the result of the coherence of the motifeme

system underlying all the narratives in the Gospels. To demonstrate this assumption on the one hand and to illustrate the motifemes on the other, examples of three genres are described below in terms of the motifemes allotted to them.

2.6.1. An example for a DEBATE is given by Mark 12: 13-17. The first column quotes the text of the New English Bible, the second column indicates the motifemes, and the third column indicates the actants.

<i>Text</i>	<i>Motifeme</i>	<i>Actant</i>
A number of Pharisees and men of Herod's party		antagonist/opponent
were sent to trap him.	<i>Dct</i>	protagonist
They came and said:	<i>Inqu</i>	antagonist/opponent
"Master, you are an honest man,		protagonist
we know, and truckle to no one, whoever he may be; you teach in all honesty the way of life that	<i>Mark/Masq</i>	antagonist/opponent
God requires.		ordainer
Are we	<i>Int → Viol</i>	
or are we not permitted to pay	<i>Int → Viol</i>	
taxes		object
to the Roman Emperor?	<i>QT</i>	ordainer
Shall we pay or not?"	<i>Int → Viol or Viol</i>	
He saw		protagonist
how crafty their question was, and said, "Why are you trying to catch me out?"	<i>Demasq/Dcpn</i>	antagonist
Fetch me a silver piece, and let me look at it."	<i>Reac</i>	object

<i>Text</i>	<i>Motifeme</i>	<i>Actant</i>
They brought one	<i>Inqu/MT</i>	opponent → adjuvant
and he said		protagonist
to them,		opponent
“Whose head is this, and whose inscription?”		object → ordainer
“Caesar’s,”	<i>Deliv/Vic</i>	ordainer
they replied.		opponent
Then Jesus said,		protagonist
“Pay Caesar what is due to Caesar	<i>Int → Viol</i>	ordainer → object
and pay God what is due to God.”		ordainer → object
And they heard	<i>Vic</i>	opponent
him		protagonist
with astonishment.		

2.6.2. An example of a miracle story is taken from Mark 2:2a-12.

<i>Text</i>	<i>Motifeme</i>	<i>Actant</i>
And while he was proclaiming	<i>L</i>	protagonist
the message		object
to them,		recipient,
a man was brought		object/adjuvant
who was paralyzed.		recipient
Four men were carrying him,	<i>QT</i>	adjuvant/object
but because of the crowd		opponent
they could not get him near.		
So they opened up the roof over	<i>Reac</i>	adjuvant
the place where Jesus was,		protagonist
and when they had broken through		adjuvant
they lowered the stretcher on which the paralyzed man was lying.	<i>RA</i>	object/recipient

<i>Text</i>	<i>Motifeme</i>	<i>Actant</i>
When Jesus saw their faith, he said to the paralyzed man,		protagonist/adjuvant recipient
“My son, your sins are forgiven.”	<i>L → Int → Viol</i>	
Now there were some lawyers sitting there and they thought to themselves,		opponent
“Why does the fellow talk like that? This is blasphemy!	<i>Int → Viol</i>	ordainer
Who but God alone can forgive sins?”	<i>Masq</i>	ordainer
Jesus knew in his own mind that this		protagonist
was what they were thinking,		opponent
and said to them: “Why do you harbor thoughts like these?	<i>Demasq</i>	
Is it easier to say	<i>QT</i>	
to this paralyzed man,		recipient
‘Your sins are forgiven’,	<i>Reac: Int → Viol</i>	object
or to say, ‘Stand up, take your bed, and walk’?	<i>Reac: LL</i>	
But to convince you		opponent
that the Son of Man has the right on earth to forgive sins”—	<i>Int → Viol</i>	protagonist
he turned to the paralyzed man—		protagonist/recipient
“I say you, stand up, take your bed, and go home.”	<i>MT</i>	
And he got up, and at once took his stretcher and went out in full view of them all,	<i>LL</i>	recipient → adjuvant
so that they were astounded		opponent → adjuvant
and praised God. “Never before,” they said, “have we seen the like.”	<i>Vic</i>	ordainer

2.6.3. An example of a parable is taken from Matthew 22:1-10.

<i>Text</i>	<i>Motifeme</i>	<i>Actant</i>
The kingdom of Heaven is like this.		object
There was a king		ordainer
who prepared a feast for his son's wedding;	<i>Wedd</i>	object
but when he sent his servants to summon the guests he had invited	<i>Int → QT</i>	ordainer/adjuvant recipient
they would not come.	<i>Viol = Reac</i>	opponent
He sent others again, telling them to say to the guests, "See now! I have prepared this feast for you. I have had my bullocks and fatted beasts slaughtered; everything is ready; come to the wedding at once."	<i>Int</i>	ordainer/adjuvant recipient object
But they took no notice; one went off to his farm, another to his business, and the others seized the servants, attacked them brutally, and killed them.	<i>Viol</i>	opponent adjuvant
The king was furious; he sent troops to kill those murderers and set their town on fire.	<i>Pun</i>	ordainer opponent
Then he said to his servants, "The wedding feast is ready;		ordainer/adjuvant object

<i>Text</i>	<i>Motifeme</i>	<i>Actant</i>
but the guests I invited	<i>QT</i>	recipient → opponent
did not deserve the honor.	<i>Reac</i> → <i>L</i>	
Go out to the main thoroughfares,	<i>Int</i>	adjuvant
and invite everyone you can find	<i>QT</i>	recipient
to the wedding."		object
The servants went out into the streets,	<i>Viol</i> = <i>Reac</i>	adjuvant
and collected all they could find, good and bad alike.		recipient
So the hall was packed with guests.	<i>LL</i> = <i>RA</i>	ordainer/adjuvant

2.7. These three analyses demonstrate the following. In a DEBATE, a question (*Inqu*) by an antagonist (or opponent) has the intention to deceive the protagonist (*Dct*). The question is often combined with a hypocritical praise of the protagonist by the opponent (*Mark, Masq*) which is destroyed by the clever answer of the protagonist (*Demasq*) who is not deceived (*Dcpn*). Thus, the question of the opponents in a DEBATE is a qualifying test (*QT*) of the protagonist, who reacts positively (*Reac*) and therefore receives an adjuvant (*RA*) and so wins the struggle (*Vic*). In a MIRACLE STORY, the protagonist liquidates a lack (*LL*) which a recipient experiences. The lack presupposes the violation (*Viol*) of an interdiction (*Int*). So the protagonist has the task (*QT*) to deny the violation and the lack simultaneously. In a PARABLE, a donor (ordainer) makes a qualifying test (*QT*) for recipients. If the recipients do not react positively (*Reac*), they become opponents and a lack arises for the donor (*L*). This lack is liquidated (*LL*) by the positive reaction of other recipients in the same qualifying test (*Reac, LL*).

On the whole, my analyses have proven that the smallest units of content in the Gospel narratives are not the "small units" or the whole performance texts, but the motifemes as text-semantic knots of narratives. The traditional theory refers only to these performance texts, i.e. to the surface structure, and not to their semantic basis. My task is now to show that these motifemes also imply a text syntax which creates the "fabula" of the narratives.

SYNTACTIC STRUCTURES OF NARRATIVES AS LOGICAL COMBINATION RULES

3.1. As was said above, the motifeme sequences are patterned according to relations in traditional logic. I have already enumerated above the three relations of the Square of Opposition (the relation of implication, the relation of contrariety, and the relation of contradictoriness) and the relations in truth tables. Before the description of these relations let us consider the general question of the relation between logic and syntax.

3.2. Syntax is here understood in the frame of TEXT grammar, namely as a set of composition rules (see paragraph 1.3). This interpretation of syntax is a consequence of using the framework of the relational grammar. In this grammar, semantics, syntax and pragmatics are not separate fields of inquiry but different aspects of a mental whole which are differentiated for practical reasons. As will be remembered, "sense" is a function of the relational matrix (or "text"). Therefore, the text-syntactical aspect and semantic content of an element are only two sides of the same coin. According to these assumptions, the syntactical relations can be handled as a coherent whole. The best model found in philosophical tradition for structuring a whole is the Square of Opposition. If it can be demonstrated that the Square of Opposition can serve as the basic model of syntactic operations, then the close connection between syntax and logic becomes evident.

3.3. The traditional Square of Opposition structures the logical relations between four knots (*A*, *E*, *I*, *O*). The graphic representation is shown in Figure 1.

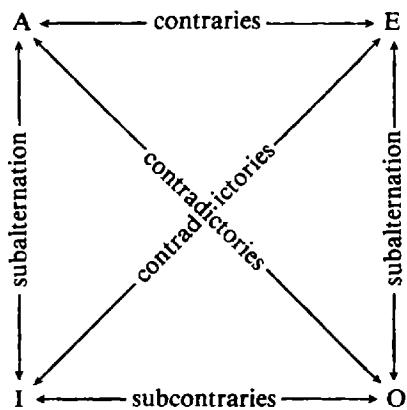


Figure 1.

3.3.1. The relation between *A* and *E* is an opposition (or exclusion) of two contraries (formalized as: $A \mid E$), i.e. either *A* is affirmed (or “true”) and *E* denied (or “false”) or the opposite, or *E* is affirmed and *A* denied. Or, both (*A* and *E*) are denied. But *A* and *E* cannot be both affirmed. In other words, *E* is the denied *A* and it can be formally written as \overline{A} (Table 1).

Table 1.

<i>A</i>	<i>E</i>	
t	t	f
t	f	t
f	t	t
f	f	t

3.3.2. The relation between *A* and *I* is the relation of implication (or subalternation) (formalized as: $A \rightarrow I$). The affirmed *A* can implicate the affirmed *I*; the denied *A* can implicate both the affirmed *I* and the denied *I*. But the affirmed *A* cannot implicate the denied *I* (Table 2).

Table 2.

<i>A</i>	<i>I</i>	
t	t	t
t	f	f
f	t	t
f	f	t

The same relations hold also for the relations between *E* and *O* which are also implications (or subalternations), so that we have two cases of implicative relations in the Square of Opposition.

3.3.3. The relations between *A* and *O*, and between *E* and *I* are contradictory relations. If *A* (or *E* respectively) is affirmed, *O* (or *I* respectively) cannot be affirmed at the same time, i.e. this relation allows only either the affirmation of *A* (or *E*, respectively) and the denial of *O* (or *I*, respectively) or the denial of *A* (or *E*, respectively) and the affirmation of *O* (or *I*, respectively). The two other relations, namely, the simultaneous affirmation both of *A* AND *O* and the simultaneous denial of both, are “false,” i.e. these relations are structurally not allowed or, better, “ungrammatical” (Table 3).

Table 3.

A	O	
t	t	f
t	f	t
f	t	t
f	f	f

3.3.4. The relation between *I* and *O* is a relation between subcontraries called also disjunction (formalized as: *I* v *O*). If *I* is affirmed then *O* can be either affirmed or denied. But if *I* is denied then *O* can only be affirmed (Table 4).

Table 4.

I	O	
t	t	t
t	f	t
f	t	t
f	f	f

3.4. The interpretation of these relations as relations between motifemes or motifeme sequences in our text grammar is demonstrated by an example, namely, by inserting the motifeme sequence *L* → *LL* into the Square of Opposition, as shown in Figure 2.

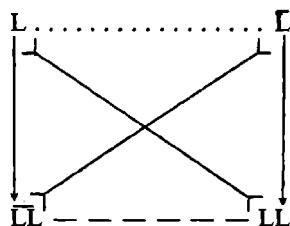


Figure 2.

If a narrative says there is a lack (*L*) (lack affirmed or “true”), it cannot simultaneously affirm the lack as liquidated (*LL*). Thus, *L* and *LL* have the relation of contradictories. If *L* is inserted into the knot *A*, then *LL* must be inserted into the knot *O*. Thus, the knot *O* is not a denial, but the annulment of the knot *A*: if the lack (*L*) is liquidated (*LL*), it is annulled and not denied (in the sense of logical relations). The denial of the lack (*L*) would be formalized as *L̄* (read as “nonlack”), whereas the annulment is formalized as *LL*.

As was said above, the knot *E* is the denial of the knot *A*, i.e. if *L* is inserted into the knot *A*, then \bar{L} should be inserted into the knot *E*. The knot *O* (*LL*) is the implication of the knot *E* (\bar{L}): if a lack is liquidated (*LL*), then a nonlack (\bar{L}) is the result. The knot *I* ($\underline{\bar{L}}\bar{L}$) is the implication of the knot *A* (*L*): if a lack is not liquidated (*LL*), then the lack is still extant (*L*). The knots *I* and *O* have the relation of disjunction: the liquidation of a lack (knot *O* or *LL*) cannot be denied (that would be the knot *I* or $\underline{\bar{L}}\bar{L}$) simultaneously with the denial of the nonliquidation of the lack ($\bar{L}\bar{L}$) (that would be the knot *O* or *LL*). The nonliquidation of a lack ($\bar{L}\bar{L}$), however, can be affirmed (or denied) before or after the liquidation of a lack (*LL*) is affirmed (or denied).

3.5. In order to demonstrate these relations inside the motifeme sequence $L \rightarrow LL$ as text-syntactical rules of the fabula, the sixteen possibilities of the Square of Opposition for all motifeme sequences are illustrated by the following example, which can be generalized for the other motifeme sequences.

3.5.1. Table 5 shows the exclusion of two contraries. As explanation and commentary it may be said: *L* and \bar{L} cannot be affirmed or narrated at the same time, because if a character suffers a lack, he

Table 5.

<i>L</i>	\bar{L}	
<i>L</i>	\bar{L}	ungrammatical
<i>L</i>	$\bar{\bar{L}}$	grammatical
\bar{L}	\bar{L}	grammatical
\bar{L}	$\bar{\bar{L}}$	grammatical

cannot have a nonlack simultaneously, i.e. a plentifullness. If a lack is affirmed, then the nonlack can be denied simultaneously, because this denial of the denied *L* (formalized as: \bar{L}) is an affirmation, i.e. *L*. If a lack is denied and a nonlack affirmed, then we have the same case the other way round. If a lack is denied, then the nonlack can be denied also. This case is, however, the reversal of the first line of the table; so it may only be an extreme case, e.g. in paradoxical narratives.

3.5.2. The relations between *L* and \bar{L} or \bar{L} and *LL*, respectively, are implications (Table 6a, b). A lack and the nonliquidation of a lack can be narrated simultaneously, but a lack and the denial of the nonliquidation, i.e. the liquidation, cannot be narrated simultaneously.

Table 6a			Table 6b		
L	LL		\bar{L}	LL	
L	LL	gr.	\bar{L}	LL	gr.
L	LL	ungr.	\bar{L}	LL	ungr.
\bar{L}	LL	gr.	L	LL	gr.
\bar{L}	LL	gr.	L	LL	gr.

The denials of a lack and of the nonliquidation of a lack are the same case as the case in the first line of Table 6b: the denial of a lack implies also that the lack is liquidated. But the denial of a lack does not imply the nonliquidation of a lack; this case is ungrammatical. The relation between a denied nonlack (= lack) and the liquidation of the lack is a contradiction and is only allowed in the table of contradictoriness. The last relation of Table 6b is the same as the first line in Table 6a.

3.5.3. The relations between L and LL or between \bar{L} and \bar{LL} are contradictions (Table 7a, b). A lack and the liquidation of the lack cannot be narrated simultaneously, but the affirmed (denied) lack can be narrated simultaneously with the denied (affirmed) liquidation of the lack. Absolutely ungrammatical is the case when the lack and the

Table 7a			Table 7b		
L	LL		\bar{L}	\bar{LL}	
L	LL	ungr.	\bar{L}	LL	ungr.
L	LL	gr.	\bar{L}	LL	gr.
\bar{L}	LL	gr.	\bar{L}	LL	gr.
\bar{L}	LL	ungr.	\bar{L}	LL	ungr.

liquidation of the lack are both denied; this case does not make any sense at all. The same relations can be checked also for the relation between \bar{L} and \bar{LL} , so that I do not need to give further details here.

3.5.4. The relations between \bar{LL} and LL are the relations of disjunction or of subcontraries (Table 8). The only case which is ungrammatical is the case when the nonliquidation of a lack is denied,

Table 8.

\bar{LL}	LL	
\bar{LL}	LL	gr.
\bar{LL}	LL	gr.
\bar{LL}	LL	gr.
\bar{LL}	LL	ungr.

i.e. the liquidation of a lack affirmed, and when the liquidation of a lack is denied, i.e. the nonliquidation of a lack affirmed. All other cases are grammatically possible.

3.6. These tables demonstrate the logically possible relations between the members of a motifeme sequence. These possibilities determine the text-syntactical-sequential order of the fabula: if a motifeme M_1 (e.g. L) is narrated, then only such motifemes M_2 (e.g. LL) are possible in the following context which have a logical possible relation to M_1 . As I have demonstrated elsewhere (Güttgemanns 1973a: 26-41), the motifemes listed above form a complete and coherent logical system which determines all possible text-syntactical relations between motifemes, even between those motifeme sequences which do not form a pair. It would be too complicated and too long to recapitulate this demonstration here. I can only advise the reader to make the proof himself.

3.7. As was said above, the relational grammar also integrates generative and transformational aspects. In the following paragraphs it will be shown that the Square of Opposition contains these transformational operations.

3.7.1. In the Square of Opposition the knots A and E are exclusive contraries. How does a narrative mediate between, for instance, a narrated (affirmed) lack (A) in the initial part of the narrative and a narrated nonlack (E) in the final part of the narrative? Graphically this mediation runs through the affirmation of a lack ($A = L$), the affirmation of the liquidation ($O = LL$) and the affirmation of a nonlack ($E = \bar{L}$). So the affirmation of the nonlack is achieved by the affirmation of the liquidation of the lack. This “running-through” is shown in Figure 3. In mathematical (topological)

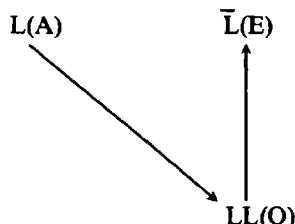


Figure 3.

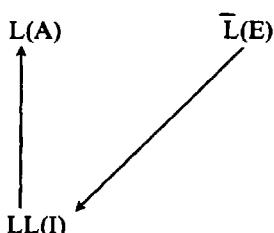


Figure 4.

graph theory such a diagram would be called a “directed arrow graph.” The corresponding complementary directed arrow graph is shown in Figure 4. These graphical representations demonstrate that (a) there is no direct connection between *A* and *E*, or between *I* and *O*, but only the mediation by *O* (or *I*, respectively); (b) the knots of contradictoriness have the function of mediation between the contraries; and (c) the transformation of *A* (or *E*, respectively) into *E* (or *A*, respectively) is a mediating function of the knots *O* and *I*. As I have shown elsewhere (Güttgemanns 1973a: 41-47), a complete transformational system can be derived from these principles.

3.7.2. These operations imply that the mediation between the knots *A* and *E* is a “dialectical” transformation of the content of *A* into the content of *E* by running through the content of *O*: the contrariety is mediated through contradictoriness, a mediation of “sense” in Hegelian terms. In referring to French structuralist literary criticism, the phenomena of narrative “sense” are interpreted as a dialectical mediation using the opposite relations of contrariety and contradictoriness. Thus, the relational text grammar of narrative is also a dialectic of sense generation.

3.8. In conclusion, I would like to say that the presentation of my method in the foregoing is very incomplete and curtailed. I have tried in this paper to give only some impressions of what is going on in “linguistic” theology and in generative poetics. Any discussion of my method and analysis must take into consideration my more complete publications in my own language.

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- 1973b Die synoptische Frage im Licht der modernen Sprach- und Literaturwissenschaft. *Linguistica Biblica* 29/30: 2-40.
- 1973c Narrative Analyse synoptischer Texte. *Linguistica Biblica* 25/26: 50-73.
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COMMENT by *Bengt Holbek* (Copenhagen)

The analysis of Mark 12:13-17 attempted in paragraph 2.6.1 will not work. Güttgemanns has failed to identify and distinguish between the two levels which are manifest in the text. At one level we have a very simple narrative: a group of Pharisees try to catch Jesus out by means of a disjunctive question, but he exposes the falsity of the question and puts them to shame. At a different level we have the question itself, i.e. the subject of the debate. This, however, has nothing to do with the narrative. They might have discussed an entirely different subject in the same way. In fact, the Gospels contain several tales built upon this very pattern, and similar tales are recorded by the thousands in Oriental as well as European literature and oral tradition (wisdom novelle and the like). Structural patterns of this kind are adequately discussed in Bausinger (1967).

The same holds true of the analyses in paragraphs 2.6.2-3. A wedding is mentioned in Matthew 22:1-10, but this does not mean that the function of the wedding in folktales is present. No hero wins the princess after long struggles.

If the concept of function (or motifeme) must be used in Güttgemann's analysis, he must at least accept his own definition that "Motifemes should not be described as isolated phenomena, but as relations in a matrix" (paragraph 2.3). His analysis fails precisely because he identifies each content element by itself, without reference to the structure in which it occurs.

BAUSINGER, HERMANN
 1967 Bemerkungen zum Schwank und seinen Formtypen. *Fabula*
 9:118-136.

REPLY by *Erhardt Güttgemanns*

Holbek's comments on my article are unsystematic and insufficient in several respects:

1. Holbek does not criticize the theoretical foundations of my analyses but some isolated points of their practical application to the three Biblical texts.
2. Holbek has not systematically consulted the larger theoretical articles of myself and others which I refer to. My paper is meant only as a very brief introduction to the theory I am building on the application of game theory to debates (the respective literature can be found in Breymayer 1972).
3. The "question itself," i.e. the topic or the subject, of debates is treated along a "tree of arguments" possible for certain subjects. I therefore distinguish, on the one hand, very clearly between the two levels mentioned by Holbek but, on the other hand, I make a connection between the subject of debates and its textual representation in different genres. In a narrative structure we have, of course, a special representation of the subject which can be transformed into a nonnarrative structure (by the principle of "kernel sentences"). But in our case it is proven by Mark 11:27-33 that the combination between narrative structure and the "tree of arguments" is a substantial feature of the debates in the synoptic Gospels.
4. Propp's "function" *Wedding* (No. XXXI) is not the same as the motifeme *Wedd* used in my theory. This theory is a logical and systematic

generalization and metalinguistic symbolization of narrative content. Therefore Holbek's critique is no argument against my theory.

5. Holbek argues that I identify "each content element by itself, without reference to the structure in which it occurs." He has, however, not realized that the structure of motifemes which I devised is built according to the Square of Oppositions. This Square is always found in the texts I analyze, so that I don't simply IDENTIFY units but DEDUCT the possible units from the Square underlying each "dialectical" mediation in narratives.

BREYMAYER, REINHARD

1972 Zur Pragmatik des Bildes. Semiotische Beobachtungen zum Streitgespräch Mk 12, 13-17 ("Der Zinsgroschen") unter Berücksichtigung der Spieltheorie. *Linguistica Biblica* 13/14: 19-51.

A Model for Narrative Structure in Oral Literature

HEDA JASON

1.1. The structure of oral literature can be divided into several levels:

- a. Wording — the language material with which linguistics deals.
- b. Texture — the organization of the wording. This is the proper domain of poetics: prosodic features of prose and verse of any order, the style of a genre, a culture, or a school of narrators and singers, and the individual idiosyncratic style of the performer (Lord's 1960 investigation is the classic example of texture investigation).
- c. Narration — the organization of the narrative's plot. In our paper this level will be discussed, along the lines of the Russian formalistic school.
- d. Dramatization — the organization of the performance: acoustic, visual, and kinetic aspects which are constituent elements of every performance of a work of oral literature, however short it may be (see Jason 1969, 1976: Chapter 11).

These levels of structural organization are interconnected to various degrees. When the investigation started, it seemed that narrative and textural structure were independent of each other, and had to be considered separately. The narrative can be translated into another language and even into another medium of communication, such as a play or movie, and still keep its structure. Recently, with more and more detailed analysis, this separation of levels does not appear to be so absolute.

On the surface level of the narrative, be it in prose or in verse, the narrative structure appears enmeshed in the arrangement of the

My thanks go to both Mrs. Dafna Shmuelof who patiently helped in adapting and arranging the many examples for the paper, and to the Ethnological Museum and Folklore Archives in Haifa (IFA) which have, as always, most kindly put their manuscripts at my disposal. The translation of texts into English was done by the author, where not indicated otherwise.

wording (see the examples which are all given verbatim). Thus even individual style, one of the factors in the texture organization, plays a role in the narrative structure at the very last and detailed surface level. To close the circle, the features of dramatic structure, especially its acoustic aspect, are closely interconnected with the textural structure, especially with its prosodic features. In a song, the textural organization and the musical organization are interdependent.

1.2. The reasoning in the following discussion will follow in the footsteps of linguistic theory. As a matter of fact, specific oral literature research has followed this course since its beginnings in the nineteenth century. Scholars were trained as philologists with a wide scope of interests, and many of the folklorists of the last century have left important works in linguistics and history, as well as contributions to oral literature research. (The Brothers Grimm are the most famous example.) The same methods were used in both fields, language and oral literature, and the same questions were asked. At that time questions about origins and development were the main concern, and thus the field of historical linguistics developed. Today the question is "how the thing works," and structural linguistics tries to find the answers. Today, again, both the linguist and the anthropologist, and the anthropologist's specialized counterpart, the folklorist, are trained in linguistic methods, and the anthropologist uses these methods much to the benefit of his work. The folklorist should try to do the same.

The investigation should envisage as its nearest goal a theory (a narrative "grammar") of descriptive adequacy for oral literature. In a later stage of development, a theory of explanatory adequacy may be pursued.

The first aim is to observe what qualities are found in the narrative material, what exists and what does not exist. It would be better to postpone the attempt to account for the data formally until a little more is known about the properties of the material itself.

The formalization of what is known so far cannot give much insight. Too little is known to permit the construction of a minimal grammar that could generate even a simplified, skeletal version of a work of oral literature which would make sense and not be simply a reproduction of the texts used for analysis.

1.3. It is more comfortable to work out a theory of oral literature on materials from our own culture; here the meaning of every detail is known, even if it is not explicitly formulated. In a foreign culture there is always the danger of a misunderstanding, of missing a point out of ignorance on the part of the investigator. This danger grows

by the degree to which the investigated culture is removed from the investigator's own, in that it is rare for a theorist of oral literature to be a real expert of a culture other than his own. Therefore the examples for the following discussion will be taken to a great extent from the writer's own culture or from cultures similar to her own.

2. The impetus for the investigation of the narrative structure in oral literature came from the Russian formalistic school of literary criticism in the 1920's (see Erlich 1955; Todorov 1966; Jason 1977). Shklovskij (1919), Skaftymov (1924), Volkov (1924), Nikiforov (1927) and, most famous of all, V. Propp (1968) introduced and developed the concept of narrative structure in oral literature research. Since the first translation of Propp's work into English (1958), scholars in the West picked up the basic thread of formalistic thought and started spinning it out (Dundes 1962, 1964; Bremond 1964, 1966; Jason 1967, 1971a, 1971b, 1972: Section 1; 1976: Part 2). This thread will be continued in the present paper.

2.1. The basic ideas of the formalists were the following:

- a. Two levels can be distinguished in oral literature: the concrete level of content and the abstract level of structure.
- b. The level of narrative structure has to be separated, for purposes of analysis, from the level of textural structure.
- c. On the level of narrative structure, two units can be conceptualized: the tale role and the action which the tale role performs.

On the basis of these concepts the various formalist models for oral literature have been devised.

Investigation has shown that Propp's (1968), Dundes' (1964), Bremond's (1966), and Jason's (1971b) models represent a rough surface layer of the tale. All of these models could be reduced to a three-function move with an additional unit, the CONNECTIVE (Jason 1967, 1976). This model is based on three of Propp's functions:

- Function 12, Donor puts Hero to test;
Function 13, Hero responds to Donor's test;
Function 14, Donor rewards Hero.

2.2. Let us describe this basic model. This model is composed of two basic units:

- a. the TALE ROLE;
- b. the ACTION.

These two form the unit FUNCTION. A function consists of three elements:

- a. one action;

- b. two tale roles: (1) the HERO,
 (2) the DONOR.

The tale role can be assigned two positions in the function: the position of the SUBJECT who performs the action, or of the OBJECT toward whom the action is directed:

Function	<i>Subject</i>	<i>Action</i>	<i>Object</i>
	Donor	puts to test	the Hero

Three functions form a MOVE. In the framework of the move, the actions of the function are assigned values: A: STIMULUS (TEST), B: RESPONSE, and C: RESULT (COMPENSATION).¹

The move model is built as follows:

Function A	<i>Subject</i>	<i>Action</i>	<i>Object</i>
Function B	Donor	puts Hero to test	Hero
	Hero	responds to test (positively/ negatively)	Donor
Function C	Donor	compensates Hero (rewards/punishes)	Hero

*Example 1*²

Function A:	<i>Subject</i>	<i>Action</i>	<i>Object</i>
	Elijah the Prophet	asks poor woman whether she has prepared the food for the Pesach feast	Poor woman
Function B:	Poor woman	answers affirmatively and does not complain, although she is so poor that she has no food	Elijah the Prophet
Function C:	Elijah the Prophet	gives wealth to	Poor woman

Tale roles: Hero—Poor woman
 Donor—Elijah the Prophet

(See full text of the tale in Example 8, Move 1.)

¹ The labeling of the functions, "stimulus," "response," "result," was suggested to me by C. Bremond, in order to avoid any associations of an ethical framework which expressions such as "reward" may arouse. It is a pleasure to thank here Mr. Bremond for the discussions which we had and from which I greatly profited.

² In the examples the texts are analyzed as far as this was necessary to demonstrate the point in each case. Thus, in most examples, the texts are only roughly analyzed; a full detailed analysis would take up too much space and obscure the point. Only in examples 8, 19, 25, 26a, and 26b was a full analysis attempted. Symbols used in the examples are explained in the Appendix, p. 131.

A function may be in the ACTIVE VOICE, as is the case in the chart and examples above or, more seldom, it may be in the PASSIVE VOICE in which Hero and Donor change places:

Function A. *Hero* sets himself in a situation to which he has to respond in regard to a DONOR.

Function B. DONOR perceives of an action of *Hero* which is valued as a response to Donor's test.

Function C. *Hero* takes his reward by himself from DONOR (even against the latter's will).

Note: for purposes of analysis a passive function can always be rephrased into an active form.

Example 2

Function C is passive:

	<i>Subject</i>	<i>Action</i>	<i>Object</i>
Function A:	R. Shabazi	asks to look after his sheep and gives miraculous rod to	Ibn Alwan
Function B:	[Ibn Alwan]	consents	[R. Shabazi]
Function C:	Ibn Alwan	steals rod from	R. Shabazi

Tale roles: Hero—Ibn Alwan
Donor—R. Shabazi

Text of the Tale:

Function A: . . . Then, SHABAZI was in his youth a shepherd. Once, he went somewhere . . . and asked *Ibn Alwan*, who was not yet famous, to look after his sheep. *Ibn Alwan* asked: "And what should I do if the sheep will want to drink?" "Here you have a rod, strike with it on that tree, and water will come forth."

Function B: [*Ibn Alwan*]: Good. [SHABAZI]

Function C: SHABAZI went away, and *Ibn Alwan* immediately tried the rod. Really, water came forth from the tree. "If that is so, I am running away with the rod," said *Ibn Alwan* in his heart. Then he left the sheep alone and made away. . . .

Note: Bracketed elements are deletions that had to be restored.

(Sacred legend; Yemenite Jews; IFA 824b; full text of the tale published in German translation in Noy 1963: Number 155; a fuller structural analysis of the tale is published in Jason 1967: Example 4.)

The function being in the active or passive voice has a meaning only in the frame of the move model, in which the functions receive their "A, B, C" value. Taken by itself, a function consisting of its three elements (subject, action, object) is neither active nor passive. The decisive relation which makes a function active or passive is the position of the tale roles (Hero, Donor) in regard to the value of the action in the function, i.e. their being the subject or the object of the

action. Each of the three values which the action can have (A: test, B: response, C: compensation) demands a certain distribution of the tale roles in regard to the action (as given in the columns labeled "Subject" and "Object" in the earlier tables).

By "position" of the tale role in the function, we do not mean a position on the linguistic level but on the narrative level (in this aspect the narrative structure is independent of the level of the texture):

Example 3

Function	<i>Subject</i> King's Daughter	<i>Action</i> returns from woods to	<i>Object</i> Father
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Text of the Tale:

... the King saw his DAUGHTER coming back to him safe and sound. . . .

(See full text of the tale in Example 26a; the quoted text is assigned to Move 15, Function A.)

2.3. The second category of units is the CONNECTIVE. This unit connects parts of the narrative, which is organized into functions and moves. A connective may be of two varieties:

- a. An information connective: information is given
 - 1. by one character in the tale to another,
 - 2. by the narrator to the audience.

Example 4

Information given to a character in the tale:

Information "The Servant . . . informed the Mother that their plan connective 1: had proved successful."

(See full text of the tale in Example 26a; the information connects Moves 4 and 6).

Information "He . . . TOLD them NOTHING of the girl and of what she connective 1: had said to him."

(Same text; the negative information connects Moves 10 and 12.)

Information given to listener:

Information connective 2: "Once there was a rich king."

(Same text; the opening words.)

- b. A transfer connective in (1) state, (2) time, (3) space:

- 1. transition in state (transformation from one state of being into another);
- 2. transition in time (lapses of time without action);
- 3. transition in space (transportations in space).

Example 5

Transition in state:

State connective: ". . . the apostate was already transformed into a woman. . . ."

State connective: ". . . he [the apostate] came up in the pool and was already a man. . . ."

(The connective is included in Function B in Move 1; see full text of tale in Example 25.)

Transition in time:

Time connective: "When three years had passed. . . ."

(See full text in Example 26a; connects Move 1, Function B and Move 2, Function A.)

Time connective: "Many years passed. . . ."

(Same text; connects Move 2, Function C and Move 1, Function C.)

Transition in space:

Space connective: ". . . the chest was floating calmly in the water. . . ."

(Same text; connects Moves 6 and 8.)

Space connective: "The girl . . . returned to the palace of her father. . . ."

(Same text; connects Moves 12 and 15.)

2.4. In the basic move there are only two tale roles: Hero and Donor. Tale roles are realized through CHARACTERS. Throughout one move a character cannot change his tale role. When a whole tale is composed of several moves, the same character can play in all moves of the tale. In that case, the character may change his role from one move to another, i.e. he may play Hero one time, and the Donor the next time, and vice versa. (For technical information, see Appendix, p. 131.)

*Example 6**Move 1*

Function 1A: [Z: — Beware of thieves, *Man*]

Function 1B: *X*, who co-owns a treasure box, goes to sleep —[Y]

Function 1C: *Y* steals the box from *X*.

Move 2

Function 2A: [Z: — Don't steal! — *Man*]

Function 2B: *Y*, who co-owns a treasure box, goes to sleep —[X]

Function 2C: *X* takes the box from *Y*.

Text of the Tale:

. . . they [*X*, *Y*] broke (into) the palace of the king of that city. Taking the box containing the gold things, and having gone (off with it), and during that very night arrived at a rice field —

Move 1

Function 1A: Text deleted

Function 1B: — they [*X*, *Y*] went to sleep at the bottom of a tree.

Function 1C: Through dishonesty to one of them [*X*], the other [*Y*], taking the box of things, bounded off. Having sprung off and gone —

Move 2

Function 2A: Text deleted

Function 2B: — he [*Y*] crept into a mound of straw and remained there.

Function 2C: That one [*X*] having arisen, when he looked there was neither the man [*Y*] nor the box of things. Thereafter, he [*X*] seeks and looks

about. When he [x] was seeking and looking, (he noticed that) there was a threshing floor near (the place) where they were sleeping. Having taken a (wooden) cattle bell, on the following day, in the evening, he [x] shook the cattle bell, and began to gore the corn stacks and mounds of straw that were on the threshing floor. Then that man [Y] who had hidden there, having said (to himself), "perhaps it is a bull," spoke (to it, to drive it away). Having spoken, when he [Y] looked, it was the first thief [x].

Note: Functions 1A and 2A were deleted and had to be restored.

(Swindler novella; Ceylon; Parker 1910-1914: 90-93; another episode from this tale in which the characters change tale roles from move to move is analyzed in Example 19; see another analysis of the same tale in Jason 1971b: Example 4.)

If we find more than two characters in a tale, two possibilities are open:

- a. the donor role is realized by two characters, one playing as Donor/tester, the other as Donor/compensator (see Example 17); and
- b. the tale is composed of more than one move, where again each move has only two tale roles, each one realized by one character.

A connective may feature a character, or it may exist without it too.

Example 7

Connective featuring a character:

Time connective: "When Milan reached the age of twelve years. . . ."

(See full text of song in Example 26b; connects Move 1, Functions B and C.)

Space connective: "The girl . . . returned to the palace of her father. . . ."

(See text in Example 26a; connects Moves 14 and 15.)

Connective without a character:

Time connective: ". . . three years had passed. . . ."

(Same text; connects Move 1, Function B and Move 2, Function A.)

2.5. The discussion of the character brings us to the lexicon of the narration. In a way similar to the model of language, the model of narration also consists of abstract constructed units (the invariants) which are realized through concrete content material — the lexicon (the variants). The abstract constructed units of "tale role" and "action" are filled in by units of content, the "TALE ROLE FILLER" and the "ACTION FILLER" (see Dundes 1962; Jason 1976). The fillers form the "lexicon" of the narrative repertoire (the corpus of oral literature of a certain culture which can be equated to the language (*langue*) of a social unit).

The narrative lexicon consists of characters (with their attributes), content-actions, and specifications of time, space, and state of existence. One abstract unit is filled in by one content unit: an action

unit by one concrete action, the content-action, a tale role by one character, and a connective by one specification of state, time, or space.

Whereas the abstract constructed units are, at least in their basic form, not culture-bound, the lexicon is very much so. Whether the villain in a fairy tale is to be a dragon or a ghost of some order, and whether the hero in a sacred legend is to be a parson, a shaman, or a rabbi, with all the attributes of their respective sociocultural contexts, depends on the respective culture. Animal characters would be the fox and wolf in Europe and the rabbit and lion in Africa.

The characters can be conceptualized as bundles of distinctive features, such as sex, age, mode (natural or fabulous of various kinds), looks, outfits, and social qualities (see Jason 1976: Chapter 18). Certain cooccurrence rules can be devised that determine which actions and characters qualify to appear in which position. These rules should be also, on the whole, culture-bound. (Note: Various entities can play as characters in tale roles: anthropomorphous and zoomorphic beings, various objects, natural forces, and even amorphous fabulous forces, such as the sacred power.)

2.6. The functions inside the move may be looked upon as being connected by concatenation, where cooccurrence rules take care that the proper functions join each other. The matter does not seem, however, to be so simple. Inside the move, causality seems to prevail. (The move as represented visually in a table should not deceive us — a move is NOT a paradigmatic model!)

Functions B and C demand the preexistence in the narration (realized or deleted) of Functions A and B respectively. Every response (Function B) assumes a preceding situation which demands a response: Function A: someone (the Donor) does something (an act of posing a test — a stimulation) to someone else (Hero). The response of the Hero (Function B) is a necessary condition to evoke the Donor's compensation (Function C). The test situation itself (Function A) does not demand a preceding action. The other way around, Functions A and B demand the following of Functions B and C respectively. The test situation demands a response, and the act of response demands a compensation. With the compensation the circle is closed and no further action is demanded. If the narrative is to continue, a new test situation has to be initiated.

Function C is wholly conditioned or governed by the result of Function A and Function B; if the response to the test is a failure, a wrong deed in the framework of the value system of the respective genre of oral literature, the compensation will be negative: Donor punishes Hero (active: a punishment; passive: a withholding of

reward). Whether Function C, the compensation, is considered to be a reward or a punishment for the Hero will also depend on this value system.

Example 8

A tale which includes both positive and negative compensation in the frame of the same value system of the genre (in this case, the sacred legend):

Move 1

Function 1A: OLD MAN (Elijah the Prophet) asks *Poor Woman* whether she has got ready the provisions for the Passover feast.

Function 1B: *Poor Woman* lies and answers affirmatively, not complaining about her poverty to OLD MAN.

Function 1C: OLD MAN rewards *Poor Woman* with wealth.

Information

connective 1: Poor Woman informs rich neighbor about source of her sudden wealth.

Move 2

Function 2A: OLD MAN asks *Rich Woman* whether she has got ready the provisions for the Passover feast.

Function 2B: *Rich Woman* lies and answers negatively, complaining about her poverty to OLD MAN.

Function 2C: OLD MAN punishes *Rich Woman* by impoverishing her.

Text of the Tale:

Information There was once a woman who did not have the means to arrange connective 2: for the Passover feast, because she had no money in the house for the provisions for the feast, either to buy a lamb or to prepare the house.

The Eve of Passover was approaching and the woman had nothing. Her rich neighbor had a lamb tied on a rope. She had bought new clothes for her children as well, and had prepared the house. And the poor woman had ten children, and in her house was nothing for the feast. She decided to go to the river and wash the clothes of her children, because she had no money to buy new clothes, and on the Passover feast it is forbidden to wear dirty clothes. A piece of leavened³ might have stuck to them.

Time

connective: While she was washing

Move 1

Function 1A₁: an OLD MAN came up [to *her*] and asked *her*: "What are you doing, my daughter?"

Function 1B₁: "I am washing the clothes of my children," [answered the *Woman*.]

Function 1A₂: "Is *your* house cleaned for the Passover Feast?" asked the OLD MAN.

Function 1B₂: "Yes," answered the *Woman*.

Function 1C₁: "So should it be!" the OLD MAN blessed [*her*],

Function 1A₃: and [the OLD MAN] continued to ask [the *Woman*] "Do you already have a lamb for the feast?"

Function 1B₃: "Yes," [the *Woman* answered the OLD MAN.]

Function 1C₂: "So should it be!" [the OLD MAN blessed the *Woman*.]

Function 1A₄: "Do you have new clothes?" [the OLD MAN asked the *Woman*.]

³ "Leavened" means here anything not fit for use at Passover.

- Function 1B₄: "Yes" [the *Woman* answered the OLD MAN.]
 Function 1C₃: "So should it be!" [the OLD MAN blessed the *Woman*.]
 Function 1C₄: Afterwards the OLD MAN gave the *Woman* a coin to buy provisions for the feast.

Space connective:	The woman returned home
Information connective 1:	and what does she see? A lamb tied up by the house, and the house clean and ordered, and the cupboard which, was empty, is now full of clothes.
Information connective 2:	And the change which she got from the coin never diminished.
Information connective 1:	
Function A:	The WOMAN slaughtered the lamb and her <i>Rich Neighbor</i> saw that and
Function B:	[The <i>Rich Neighbor</i>] asked HER: "From where do you have all this abundance?"
Function C:	The WOMAN told <i>her</i> her story: "On the seashore, while I was washing the clothes, an old man came and blessed me."
Information connective 2:	What did the rich woman do? She found some old and torn clothes and ran to the seashore to wash them.

Move 2

- Function 2A₁: The OLD MAN came to her and asked *her*: "What are you washing, my daughter?"
 Function 2B₁: "The clothes of my poor children!" answered the *Woman*, crying [to the OLD MAN].
 Function 2A₂: "Is your house already clean for the Passover feast?" [the OLD MAN asked the *Woman*.]
 Function 2B₂: "No," [the *Woman* answered the OLD MAN.]
 Function 2C₁: "So should it be!" [the OLD MAN blessed the *Woman*.]
 Function 2A₃: and the OLD MAN continued to ask [the *Woman*]:
"Have you a lamb for Passover?"
 Function 2B₃: "No," [the *Woman* answered the OLD MAN.]
 Function 2C₂: "So should it be!" [the OLD MAN blessed the *Woman*.]
 Function 2A₄: "Do you have new clothes for the feast?" [the OLD MAN asked the *Woman*.]
 Function 2B₄: "No," [the *Woman* answered the OLD MAN.]
 Function 2C₃: "So should it be!" [the OLD MAN blessed the *Woman*.]
- Space connective: The woman returned home,
 Function 2C₄: Information connective 2: and lo! all her wealth and goods which were in the house had disappeared.
 Information connective 2: Of course, the old man was none other than Elijah the Prophet, may his memory be blessed. . . .

Note: The functions had to be unfolded into consecutive equivalent parts which are assigned subscripts: Function 1A₁, Function 1A₂, etc.

(Sacred legend; AT 750 *J—Jason 1965, published in Hebrew; Tunisian Jews; IFA 6840; Noy 1966: Number 9.)

This story is set in the value system of the sacred legend. This value system overlaps the value system of the narrating society, its norms and ethics. That is not necessarily always the case. In the relationship between the man and the nonmiraculous (sacred or satanic) fabulous beings, completely different value systems prevail (about the divisions of the fabulous, see Jason 1976, i.p.). For instance, a man encounters demonic beings (*vilas*) in an epic song:

- Function 5A: VILAS wound *Brother*
 Function 5B: *Brother* repents—VILAS
 Function 5C: VILAS cure *Brother*
 (See the full text in Example 26b.)

Here, the Brother's remembering his loneliness and his only sister functions as the proper response to the *vilas'* test, and they reward the Brother. The narrative can be interpreted to the effect that the Brother's remembering his sister alludes to his acknowledgment that her warning not to go hunting in the woods has proved correct. He did not heed the warning and, consequently, was wounded by the *vilas*. This system of norms for behavior has nothing to do with the ethical system of human society.

The action in function A—the posing of the test—may be addressed to a particular Hero, but it may also be addressed to a class of potential heroes in general, such as a religious or moral commandment. In this latter case function B is the result of an encounter between function A and the Hero.

Example 9

- Function A addressed to a particular character:
 Function 3A: SISTER asks *Brother* to refrain from hunting for fear of *vilas*
 Function 3B: *Brother* goes hunting—[VILAS]
 Function 3C: VILAS catch *Brother* and wound him severely
 (See full text of song in Example 26b.)

- Function A addressed to men in general:
 Function A: [X]: Be aware of thieves! —*Man*
 Function B: *Hero* sleeps over —DONOR
 Function C: DONOR steals *Hero*'s treasure
 (See full text of tale in Example 6.)

In conclusion, a function stands in a causal relation in both directions: toward the function which precedes it and that which follows it.

Strictly speaking, for the model itself it is irrelevant whether actions are failures and punishments or successes and rewards in the framework of some value system or other. Function C, compensation, is an element of form which is a causal result of Function B, response. Its being "reward" or "punishment" is an element of content which depends on the message that the tale bears. This message is meaningful in the framework of the respective culture and forms part of the respective genre's value system.

Let us note that different genres of the very same culture may be set into different value systems (such are, for example, the sacred legend and swindler novella in the Eurasian cultures). At least a basic knowledge of the culture's value system and the value system in which the analyzed tales are set is indispensable in order to distinguish between acts which could classify as tests, responses, or compensations.

2.7. The following concepts taken from linguistics are applicable to the ABC-move-narration model:

2.7.1. DELETION. Deletion can occur both on the level of the function and on the level of the move. In the concrete wording of the text a TALE ROLE can be missing from a function and has to be restored from the general context of the move (note: the recovered elements are in brackets):

Example 10

- Function 17A: KING'S DAUGHTER does not find the rescuer — [King]
- Function 17B: *King* asks [THE TOWNSMEN] whether there are additional people in town.
- Function 17C: [TOWNSMEN] inform *King* about the existence of the triplets.

Text of the Tale:

- Function 17A: . . . his [the King's] DAUGHTER, who said again and again: "No! It is not this man! None of these men killed the lion." When all the inhabitants of the city had passed before the King's Daughter . . . [King]
 - Function 17B: . . . *He* [the King] asked [THE TOWNSMEN]: "Are there no other inhabitants of our city?"
 - Function 17C: "No," *He* [the King] was told [by the TOWNSMEN], "Only three children who live on the seashore."
- Notes: In Function 17A, the hero is deleted; in Functions 17B and 17C, the donor is deleted.
(See full text of the tale in Example 26a.)

A whole function or even two functions may be missing from a move, and may be restored from the literary context or from the knowledge of the respective society's overall culture:

Example 11

- a. Function 4A: [VILA: "Don't step into our dancing circle" — *Man*]
- Function 4B: *Brother* steps into VILAS' dancing circle
- Function 4C: VILA wounds *Brother* severely

Text of the Song:

- Function 4A: Text deleted
- Function 4B: *He* [the Brother] steps into a VILAS' dancing circle,
- Function 4C: The white VILAS shot at *him* [Brother],
Both eyes they took from him,
Both his arms they broke,
Both arms from the white elbows,
Both legs from the white knees.

Note: Function A is restored both on the basis of the literary form and on the basis of our knowledge of the folk beliefs of the society: *vilas* are invisible to humans, who may therefore unintentionally disturb their dancing circle, and intrusion angers the *vilas*.

(See full text of the song in Example 26b.)

- b. Function 14A: LION stumbles and falls before — *One Brother*
 Function 14B: *One Brother* stabs the LION
 Function 14C: [LION dies — *One Brother*]

Text of the Tale:

- Function 14A: But the *Child* [One Brother] bent down and the LION stumbled and fell.
 Function 14B: Immediately the *Child* grabbed the sword and stabbed the LION in the heart.
 Function 14C: Text deleted

Note: Function C is deleted and can be reconstructed from the literary context.
 (See full text of the tale in Example 26a.)

In a narration, Functions B and C may appear by themselves.
 There are narratives consisting only of Function B (the response):

Example 12

- Function B: *Holy Hasidic Rabbi* is especially devoted in his prayer — [GOD]

Text of the Tale:

. . . And he [*Baal Shem Tov*] chanted by himself the hymns of praise before the Ark. And in the prayer of the eighteen blessings [which is said] aloud, *Baal Shem Tov* started to tremble a great trembling, and he continued to tremble as was always his manner in praying, and whoever saw him when he was praying, saw his trembling.

(Sacred legend; Polish Jews; translated from Horodetsky 1922: 63.)

Others consist only of Function C (compensation):

Example 13

- Function C: [GOD] provides for *Menahem Shukhr Khail's* son's poor family.

Text of the Tale:

The name of the son of the prophet Menahem Shukhr Khail was Shalom. The son went to spend a period of exile in the town of Ja'hran, which is three days' journey from the city of Aden, which lies on the shore of the Red Sea (!). The man, Shalom, was very poor, and his family was hungry for food. His father, Menahem Shukhr Khail, the prophet, used to reveal himself to his son in the likeness of an old man whose concern was to provide for the needs of his offspring.

(Sacred legend; Yemenite Jews; IFA 3812f.)

In both cases the deleted functions can easily be restored on the basis of the context of the respective society's overall culture and the composition rules of the respective genre.

Example 14

The reconstruction of the deleted Functions A and B in a move consisting only of Function C:

- Function A: [GOD: Follow my commandments! — *Man*]
- Function B: [*Hero* is extremely diligent in following GOD'S commandments]
- Function C: GOD grants miraculous powers to *Menahem Shukhr Khail* to provide for his son's family.

Note: Here, Menahem Shukhr Khail is a historical person, who lived in nineteenth-century Yemen. Tales are told in Yemenite Jewish society about Shukhr Khail's calling to be a prophet and his consequent fulfillment of the call, even under great pain. There is no need to retell these facts each time, and they are deleted.

(See full text of the tale in Example 13.)

The reconstruction of Functions A and C in a move consisting only of Function B:

- Function A: [GOD: Follow my commandments! — *Man*]
- Function B: *Hasidic Rabbi* is especially devoted in prayer—[GOD]
- Function C: [GOD grants the *Hero* special favors]

Note: In other tales the favors which God bestowed upon this rabbi will be enumerated. God performs miracles for his sake, or grants the rabbi power to perform miracles. This rabbi lived in eighteenth-century Poland.

(See full text of the tale in Example 12.)

Function A, the stimulation (posing of a test), could not be found to form a whole tale in itself in the material examined so far. It seems reasonable to assume that such a narrative does not exist: the posing of a test without the response does not form a narrative and the supposedly deleted Functions B and C cannot be unambiguously restored.

Example 15

In Example 8, a tale is given which has two moves. In the two moves, Functions A are identical:

- Function A: ELIJAH THE PROPHET asks the *Woman* whether she has got ready provisions for the Passover feast.

Yet, from here on, each move develops differently. One cannot predict from Function A alone how the story will go on, i.e. one cannot restore the deleted Functions B and C unambiguously.

An elliptical move, some functions of which are deleted, acts nevertheless as a move in the structure of the whole tale. Moreover, as was shown above (see Examples 12, 13), an elliptical move may by itself form a whole tale. As there must always be only three functions in a move, any additional function immediately demands the construction of a new move, even if this new move will be elliptical.

Example 16

See Move 20 in Example 26a: Only Function C appears in the actual text (KING enthrones *Brother*); Functions A and B had to be restored from the context; they really belong to Move 2, which frames the story.

2.7.2. AGREEMENT. In the confines of a move, certain agreements between the elements of the three functions have to prevail.

- a. The Hero tale role has to be realized in all three functions of a move by the same character (or his retinue, or a member of his class).
- b. The Donor tale role may be realized by the same character throughout the whole move, or it may split into two characters (filling in the Donor/tester and Donor/compensator tale roles).

Example 17

Same Hero, same Donor throughout the move:

Example 26a, Move 4: Hero — Mother; Donor — Servant.

Example 25, Move 1: Hero — God; Donor — Skeptic.

Same Hero, two Donors:

Example 26a, Move 17: Hero — King; Donor/tester — King's Daughter; Donor/compensator — Townsmen.

Example 26b, Move 3: Hero — Brother; Donor/tester — Sister; Donor/compensator — *vilas*.

- c. Functions B and C have to have the same value: either both have to be positive (B: success, C: reward), or both have to be negative (B: failure, C: punishment).

Example 18

See Example 8: Each woman responds differently and receives the corresponding reward.

2.7.3. EMBEDDING. Propp has already noted that the moves he constructed may be discontinuous (1968: Chapter 9). Move 1 may stop, Move 2 may be narrated, and then Move 1 may continue. Move 2 is in this case embedded. Such an embedding could be labeled MECHANICAL EMBEDDING. Moves, intertwining in this manner, can be taken apart and told separately.

Example 19

Function 1A: G prepares to deceive R

Space

connective: G goes to meet R

Function 1B/3A: R contacts G

Function 1C: [G deceives R]

Function 3B: G asks R about his merchandise

Function 3C/5A: R offers false leaves to G

Function 3B₁: G asks for the leaves — R

Function 5B: G proposes exchange of merchandise — R

Function 2A: R prepares to deceive G

Space

connective: R goes to meet G

Function 2B/4A: G contacts R

Function 2C: [R deceives G]

Function 4B: R asks for nuts — [G]

Function 4C/6A: G offers false nuts to R

Function 5C: R gives false leaves to G

Function 6B: R proposes exchange of merchandise—[G]

Function 6C: G gives false nuts to R

Text of the Tale:

Function 1A: GAMPOLAYA, having put worthless fruits in two bags, and having said they were valuable nuts, tied them as a load. Having been in his own country, he is going away to another country—[Raehimgaya]

Function 2A: RAEHIMGAYA tied up a load of worthless leaves. He, having said that the load of leaves was a load of valuable leaves, is also going away to another country—[Gampolaya].

Space

connective: At the time when he [R] was going along there was a travelers' shed; in that travelers' shed he lodged.

Space

connective: Gampolaya taking that load of fruits, came there [too].

Function 1B/3A: Well then, these two persons came in contact there. :Function 2B/4A

Function 1C: [G deceives R]

Function 2C: [R deceives G]

Function 3B: The nut trader [G] asked:

“What, friend, is your [R] load?”

Function 3C/5A: The leaf trader [R] says: “Leaves.”—[G]

Function 4B: [R]: “In our country, nuts are scarce to an inordinate extent.”—[G]

Function 4C/6A: [G] “Friend, I have brought nuts.”—[R]

Function 3B: [G] “It is the same in our country, there is difficulty over leaves,” Gampolaya said—[R]

Function 5B: Having said [to each other]: “If so, let us [ex]change our two loads.” :Function 6B

Function 5C₁: Gampolaya took the load of leaves—[R].

Function 6C₁: Raehimgaya took the load of nuts—[G].

Function 5C₂: Gampolaya took the load of leaves to his country. Having untied it, when he looked, it was a load of worthless leaves. [R]

Function 6C₂: Raehimgaya taking the load of nuts, went to his village. Having unfastened it, when he looked, they were worthless fruits. [G]

Note: This tale is somewhat exceptional in its neat symmetrical pattern, the sections of which divide so distinctly. Usually, folktales exhibit less regularity.

(Swindler novella; Ceylon; Parker 1910-1914: 90-91; another episode from this tale is analyzed in Example 6; for another analysis of the same tale see Jason 1971b.)

Another example of mechanically intertwined moves is shown in Example 8: Both Moves 1 and 2 are multiplied four times each. Each multiple can stand as a separate move and would suffice to bring out the point of the tale:

- Function 1A₂: "Is *your* house cleaned for the Passover feast?" [asked the OLD MAN.]
- Function 1B₂: "Yes!" answered the *Woman* [to the OLD MAN.]
- Function 1C₂: "So should it be!" the OLD MAN blessed [*her*.]

If however, the embedded move does not cut the framing move mechanically, but plays a role in the framing move, we have FUNCTIONAL EMBEDDING. The embedded move plays the role of a function in the framing move. Here, Propp's notion that the same piece of text may have a multiple functional value (1968: Chapter 4, page 69) is restated on a more abstract level as embedding.

Example 20

	<i>Framing Units</i>	<i>Embedded Units</i>
Example 25:	Move 1, Function A Move 1, Function C	Move 2 Move 3
Example 26a:	Move 3, Function C Move 4, Function C Move 6, Function B	Move 4 Move 5 Move 7, Functions B, C
Example 26b:	Move 3, Function C	Move 4

Note: In Example 26a, a neat example of a multileveled embedding is seen. The levels are: Move 3 including Move 4 which includes Move 5.

A connection may be a simple assertion:

Example 21

See texts in Examples 4 and 5.

It can, however, be a more complex piece of narration, in which a whole function or even a move may be embedded.

Example 22

Information connective to character in tale:

- Information connective 1: Function A: The POOR WOMAN slaughtered the lamb—*Rich Neighbor*
- Function B: *Rich Neighbor* asks where the POOR WOMAN got the lamb
- Function C: POOR WOMAN explains the origin of the wealth to *Rich Neighbor*

(See full text of the tale in Example 8; the information connects Moves 1 and 2.)

2.7.4. RECURSIVENESS. Any element of the proposed model can be recursive: a move can contain another move or connective, a function can contain another function, move, or connective, and a connective can contain another connective, move, or function. This recursiveness will fit into the “functional embedding” as outlined above. (Any example of functional embedding will do here).

3.1. The work with the texts soon showed that the concepts described in Section 2 do not suffice for the analysis. For instance, from where do the embedded moves and functions come? From where should one restore the deleted elements? How can one explain the double structural value of a single piece of text?

The concept of a surface structural layer and structural layers lying beneath this surface has been postulated in an attempt to solve these difficulties. The concept of embedding has already led to a layer other than that of the framing move. Let us recapitulate:

Example 23

- | | |
|--------------|--|
| Function 3C: | [VILAS wound <i>Brother</i>] |
| Function 4A: | [VILAS: “Don’t step into our dancing circle!” — <i>Man</i>] |
| Function 4B: | <i>Brother</i> steps by mistake into VILAS’ dancing circle |
| Function 4C: | VILAS wound <i>Brother</i> |

(See the full text in Example 25b.)

Here the length of the text bears no direct relation to the complexity of its structure. Even the shortest text may pose considerable problems and unfold into several layers, with deletions and embeddings:

Example 24

- | | |
|---------------|---|
| <i>Move 1</i> | |
| Function 1A: | [GOD commands the worship of Him alone — <i>Man</i>] |
| <i>Move 2</i> | |
| Function 2A: | [GOD forbids the worship of idols — <i>Man</i>] |
| Function 2B: | [The <i>Prophets of Baal</i> worship idols — GOD] |
| Function 1B: | [<i>Elijah the Prophet</i> is careful in fulfilling GOD’S commands] |
| Function 2C: | ELIJAH THE PROPHET kills the <i>Prophets of Baal</i> |
| Function 1C: | [GOD rewards <i>Elijah the Prophet</i>] |
| <i>Move 3</i> | |
| Function 3A: | GOD asks <i>Elijah</i> which reward he wishes |
| Function 3B: | <i>Elijah</i> asks to be able to be present at every circumcision of a Jewish child — GOD |
| Function 3C: | [GOD grants <i>Elijah</i> his wish] |

Text of the Tale:

- | | |
|--------------|--------------|
| Function 1A: | Text deleted |
| Function 2A: | Text deleted |
| Function 2B: | Text deleted |
| Function 1B: | Text deleted |

Function 2C:	When <i>Elijah the Prophet</i> took his revenge from the prophets of Baal and killed them before GOD,
Function 1C:	Text deleted
Function 3A:	GOD asked <i>Elijah the Prophet</i> what is his wish as a reward.
Function 3B:	<i>He</i> answered that he wants the merit of being present at every circumcision, and to circumcise Jewish children.
Function 3C:	Text deleted

Note: The tale was reconstructed on the basis of the Biblical text, 1 Kings 18:20-40. The Biblical text, which is well known both to the narrator and to his audience, forms the cultural context of our oral tale text. The oral tale connects the Biblical event with the popular belief that Elijah the Prophet did not die (2 Kings 2:9-12: Elijah enters Heaven while alive), and wanders on Earth as a poor old man; he is expected to be present at every circumcision.

(Sacred legend; Iraqi Jews; IFA 2375.)

Longer texts, on the contrary, may be relatively much simpler.

Example 25

Move 1

Function 1A: [SKEPTIC does not believe in God's omnipotence]

Move 2

Function 2A: PIOUS demands that the *Skeptic* believe in God's omnipotence

Function 2B: *Skeptic* refuses to believe in GOD

Function 1B/2C: God demonstrates his power to the *Skeptic*

Function 1C: SKEPTIC acknowledges God's power

Move 3

Function 3A₁: PIOUS asks *Skeptic* about the demonstration of God's omnipotence

Function 3B₁: *Skeptic* affirms the demonstration — PIOUS

Function 3A₂: PIOUS asks *Skeptic* about the demonstration of God's omnipotence

Function 3B₂: *Skeptic* affirms the demonstration — PIOUS

Function 3C: PIOUS believes *Skeptic*.

Text of the Tale:

Information connective 2: Two went for a walk. One is a righteous man and believes in God, the other, a skeptic. They walked and talked.

Move 1

Function 1A

Move 2

Function 2A: The PIOUS asked: "Do you believe that God can pass the whole world through the ear of a camel?"

Function 2B: "What?! Are you crazy?! How can that be? Of course, that is impossible!" [answered the *Skeptic*] — [GOD]. So they walked until they reached the mosque. There is a pool.

Space connective:

Function 1B/2C:

Information connective 2:

They went to immerse themselves and that one, the SKEPTIC, fell in and drowned. That means, he did not

drown, but *God* transferred him to a place far away, a year's walk away, and there he found himself in a well. To the same well came a man whose wife had died. He remained with his children, and he took care of them himself, and also went to draw water by himself. This time he lowered the rope, the skeptic felt it and caught on to the rope, and

State connective: the skeptic was already turned into a female. The man felt—it is heavy. He drew it up—and lo! a naked woman. He was frightened: "Are you of the ghosts or of the humans?" "I am of the humans. Give me something to cover myself with." "With pleasure." He gave her his dress and took her home. He said: "Here, my wife died, and God sent me another one, may He be blessed!" They married.

Time connective: So they lived for seven years. The woman bore two children. A son and a daughter. After seven years, she once went to the well and fell in—

Space connective: and came out in the pool by the mosque—
State connective: already turned into a man. He came out from the pool
—and that one, the pious, had not finished immersing himself.

Function 1C:

Move 3

Function 3A₁

HE waits for *him*: "Ya! Where have *you* been?" HE asked.

Function 3B₁

"Ay, ay, would YOU know where *I* have been! *I* turned into a female, seven years was *I* the wife of a man. And *I* bore two children."

Function 3A₂:

"What are you saying?! Gone crazy?! I have been waiting for *you* for an hour, and *you* are talking about seven years?!"

Function 3B₂:

"Don't YOU believe it? Come, let us go to that town, a year's walk from here, and see *my* house and *my* children and believe *me*." —[PIOUS]

Space connective: They went

Time connective: and after a year's time arrived. The skeptic took him to his house, showed him the children

Function 3C:

Information connective 1:

The Pious entered the house, asked the man: "Hallo! How are you living?" That one told him: "I have no luck. My first wife died, and I drew out of a well another woman. Seven years passed—she fell into the same well. Came from the well and gone to the well. May God be blessed! What can I do? I have no luck!" "Really, you are right!" said the PIOUS to the *Skeptic*.

Function 1C:

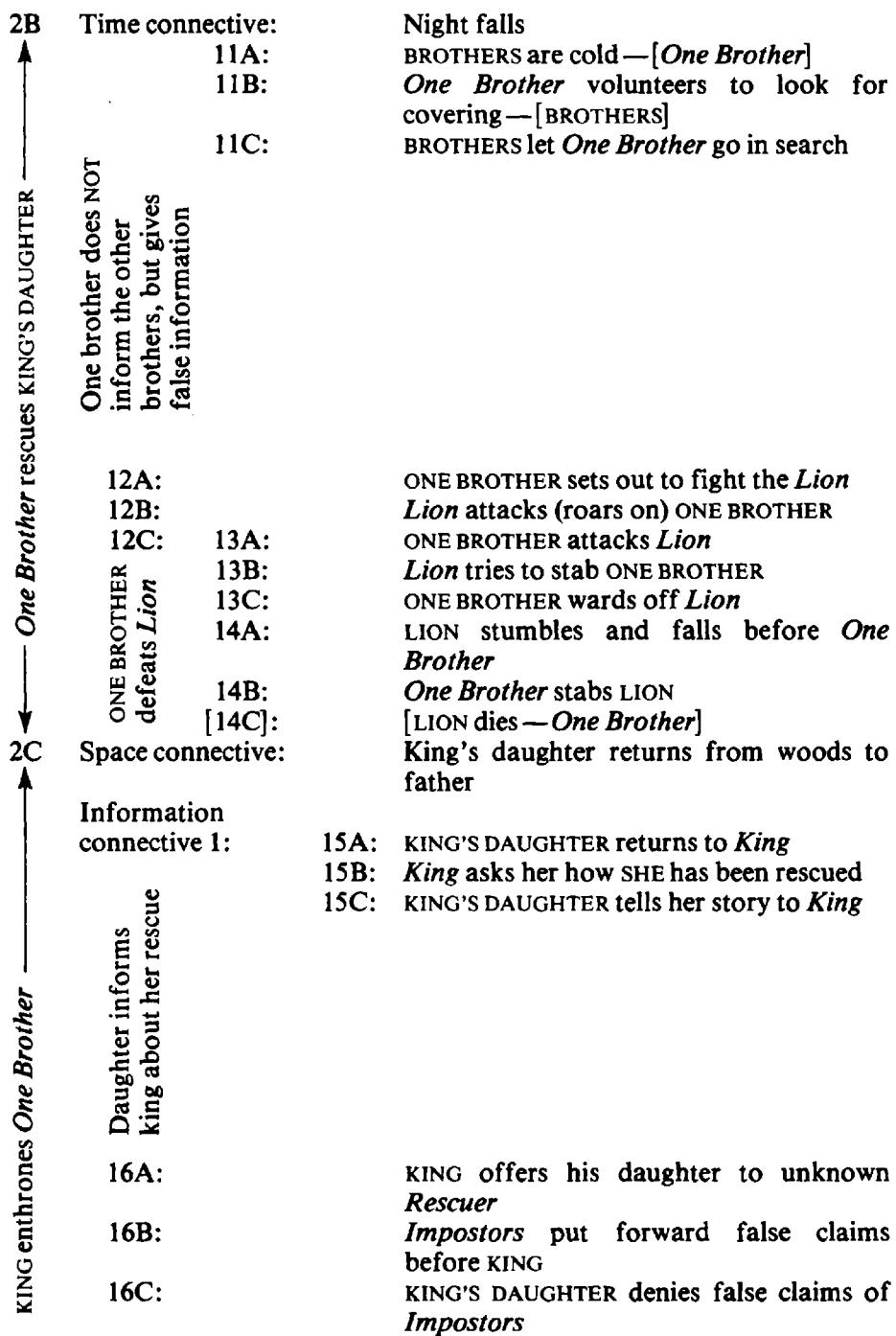
"Now I do believe that *God* can pass the whole world through the ear of a camel—indeed, even through the eye of a needle He can!" said the SKEPTIC.

(Sacred legend; AT 681 *A—Jason 1965; Yemenite Jews; a German translation of the tale is published in Noy 1963: Number 64.)

From these simple texts we will pass over to the most complex constructed works of oral literature, the fairy tale and the epic.

*Example 26**A. Analysis of a Fairy Tale*

A—B—C— MOVE			CONTENT OF FUNCTION
KING attacks <i>Mother</i>	1A	Information connective 2: 3A:	Once a king reigns
	1B	Information connective 1: 3B: 3C 4A: 4B:	WOMAN gives birth to triplets in the kingdom of the <i>King</i> King tells about his anger because of the triplets <i>King</i> orders SERVANT to kill triplets SERVANT informs Mother of triplets about the intended killing —[<i>King</i>] <i>Mother</i> persuades SERVANT to spare the triplets
Mother rescues the TRIPLETS	4C	5A:	SERVANT informs <i>King</i> that he killed triplets
	5B:	5C:	<i>King</i> believes the SERVANT'S words SERVANT buries the lamb's bodies —[<i>King</i>]
	[6A]	Information connective 1: [7A]:	Servant informs Mother about success of rescue [KING continues to threaten <i>Mother's</i> triplets]
Mother rescues 6C: triplets—KING	6B	7B:	<i>Mother</i> asks a CARPENTER to build a chest for the triplets' escape
	7C:		CARPENTER builds the chest for the <i>Mother</i>
	6C:		[x]—rescues <i>Mother's</i> triplets
Space connective:			Chest floats away on sea
Time connective:	2A	8A:	Three years passed [x]—the store of food runs out— <i>Triplets</i>
KING gives up daughter to lion— <i>One Brother</i>	8B:		<i>Triplets</i> break out of chest —[x]
	8C:		[x]—causes <i>Triplets</i> to land on the shore of fairyland
	9A:		[x]—does not supply food to Triplets
	9B:		<i>One Brother</i> goes in search of food —[x]
	9C:		[x]—lets <i>One Brother</i> find king's daughter
	10A:		<i>One Brother</i> finds KING'S DAUGHTER waiting for lion to devour her
	10B:		<i>One Brother</i> asks for information about the situation from KING'S DAUGHTER
	10C:		KING'S DAUGHTER supplies information about lion to [<i>One Brother</i>]



<i>and gives to him his daughter in marriage</i>	17A:	KING'S DAUGHTER does not find the rescuer—[King]
	17B:	King asks [THE TOWNSMEN] whether there are additional people in town
	17C:	[TOWNSMEN] inform King about the existence of the triplets
	[18A]:	[TOWNSMEN inform King about the existence of the triplets]
	18B 19A:	KING'S DAUGHTER asks King to bring triplets
	19B:	King orders triplets to be brought to [KING'S DAUGHTER]
	18C 19C:	KING'S DAUGHTER picks out the one brother—[King]
	[20A]:	[KING'S DAUGHTER was in danger—One Brother]
	[20B]:	[One Brother rescued KING'S DAUGHTER]
	20C:	KING enthrones One Brother [gives daughter in marriage]
		Many years passed
		Mother tells her story to triplets
		Triplets tell their story to mother
		TRIPLETS take good care of their Mother
Time connective:		
Information connective 1:		
Information connective 1:		
1C:		

The Text of the Tale:

A-B-C—MOVE

TALE TEXT

PROPP'S
FUNCTIONS

1A:	Information connective 2:	Once there was a rich king.
	3A:	One day the <i>king</i> heard that a WOMAN in his kingdom had given birth to triplets. 5
	Information connective 1:	He was very angry and cried out: "I do not wish to have triplets in this kingdom!" 6
	3B:	and <i>he</i> called one of his SERVANTS and said to him: "Take a sharp knife and kill the three children. Wrap the bodies in a sheet and put them in a grave. Wait there until I come to see them. Then you will bury them."
1B 3C 4A ₁ :		But the SERVANT went to the mother of the children and said to her: "Know that the <i>king</i> has commanded me to kill your children."

- 4B₁:** The *mother* pleaded with HIM:
“I will give you three lambs.
You will put them in white
sheets by the graveside. When
the king tells you to bury them,
you will do so in his presence.”
- 4A₂:** The SERVANT was very doubtful.
“But what shall I do if the king
should find out what I have
done? He will immediately order
to have my head cut off!”
- 4B₂:** But the *mother* succeeded in
persuading HIM,
- 4C₁:** and HE did as the *woman* asked.
- 4C₂** **5A:** When HE told the *king* that he
had carried out his command
- 5B:** the *latter* believed HIM and said:
“Go and bury them!”
- 5C:** The SERVANT buried the three
sheep
- Information connective 1: and joyfully informed the
mother that their plan had
proven successful.
- [6A] [7A]: Text deleted
- 6B 7B: The *mother* went to a CARPEN-
TER and asked him to make a
large chest for her. “Make it,”
she told him, “so that I can
store food in it for three years,
and in addition, put the chest on
the sea, and so it must be whole
and strong, that water may not
seep into it. I need this chest in a
great hurry. If you make it
quickly I will double the price.”
- 7C: The CARPENTER agreed to make a
chest in the manner described by
the *woman*, and in order to
complete it in due time he called
in some other carpenters to help
him.
- 6C: When it was ready, the *woman*
put her children and the food
into it and set it upon the sea.
- Space connective: After a few moments the chest
was floating calmly on the
water, and within the three
children were eating and grow-
ing.
- Time connective:
2A 8A: When three years had passed
and the *children* saw that the
store of food came to the end,

- 8B: *they* resolved to break out of the chest.
- 8C: Fortunately, *they* did so near the shore and so they went onto the dry land and warmed themselves in the sun.
- [9A]: Text deleted
- 9B: Then *one* of the *children* rose and said: "I will go and see if I can find anything to eat."
- 9C/10A: *He* went and found a GIRL sitting in a dark place. 9
- 10B₁: "Why are you sitting in this dark place?" *he* asked HER. "Go out into the light of the world."
- 10C₁: "I am sitting here because there is no one who wishes to take my place," SHE replied. 8
- 10B₂: "Every year my father, the king, must offer a young girl to a lion, otherwise the lion will devour the whole city. This year I have been chosen for the sacrifice."
- When the *child* heard this, he was astonished. "Why must you offer a human being to the lion every year?" *he* asked the GIRL.
- 12A₁: "I will try to do something about it. When will the *lion* come?" 10
- 10C₂: "At midnight," the GIRL told him. 3
- 2B Information connective 1: The child returned to his two brothers. On his way he found some figs and dates. He gave them to his brothers, but told them nothing of the girl and of what she had said to him. 10
- Time connective:
- 11A: The day passed and night fell.
- 11B: The CHILDREN had no blankets. How were they to cover themselves in the cold of the night? 11
- 11C: Then the *child* said to THEM: "I will go and seek something to cover ourselves with. And perhaps I will find some house where the three of us can live."
- "Go and try," the TWO BROTHERS said. "You may be successful, just as you have been successful in bringing us food."
- 12A₂: The CHILD went straight to the girl and said to her: "Tonight I 16

		wish to kill this <i>wild beast!</i> "	
12A ₃ :		Then HE cut his finger and put salt in the wound to ensure that he would not sleep that night.	
12A ₄ :		And all the while HE kept on promising the girl: "When the <i>lion</i> comes, with the help of God I shall kill it."	
12B:		At midnight the CHILD heard the lion roar. When the <i>wild beast</i> came near	
12C	13A:	the CHILD faced <i>it</i> : "Why do you want to devour this girl?" he asked.	
	13B:	When the <i>wild beast</i> heard the question, it wanted to draw its sword from its scabbard to stab the CHILD.	
	13C:	But the CHILD bent down	
	14A:	and the LION stumbled and fell.	
	14B:	Immediately the <i>child</i> grabbed the sword and stabbed the LION in the heart.	18
	[14C]:	Text deleted	
2C	Space connective:	The girl was very happy and returned to the house of her father.	19
Information connective 1:	15A:	When the <i>king</i> saw his DAUGHTER coming back to him safe and sound	
	15B ₁ :	he was astonished. "What miracle has been wrought for you, my daughter, that you have returned here?" he asked HER.	
	15C ₁ :	The GIRL told <i>him</i> all that had overtaken her.	
	15B ₂ :	"And where is the lad that has done this deed?" he asked.	23
	15C ₂ :	"I did not even have time to ask him where he lives," the GIRL replied.	
	16A:	So the KING proclaimed to all his subjects that <i>whoever</i> had done this brave deed and killed the wild beast would be given the hand of his daughter and would inherit the kingdom.	9
	16B:	<i>Many</i> came forward claiming that they had been the hero. But the KING made them walk in front of his daughter,	24
	16C:	WHO said again and again: "No! It is not this man! None of	28

- 17A: *these men killed the lion."*
 When all the inhabitants of the
 city had passed before the KING'S
 DAUGHTER,
 17B: *he asked: "Are there no other*
 inhabitants of our city?"
 17C/18A: *"No!" he was told, "only three*
 children who live on the sea-
 shore."
 18B 19A: *"Bring them here!" the GIRL*
 asked her father. "Perhaps it
 was one of them who killed the
 lion."
 The children were brought
 before the *king*.
 18C 19C: The girl immediately recognized
 the hero. She pointed to him and
 told her father: "That is he!"
 [20A]: Text deleted
 [20B]: Text deleted
 20C: The king gave the children food
 and drink. He appointed one of
 the children to be his Minister of
 the Treasury, the second he
 made a prince, and the child
 who had killed the lion he
 placed upon his own throne.
 Time connective:
 Information
 connective 1:
 Many years passed.
 One day the mother came to
 the king and told him: "I had
 three children and sent them
 upon the waters of the sea, for
 the king who reigned before you
 commanded his servants to kill
 all three of them. At that time
 I persuaded the servant who had
 been sent to kill them to have
 mercy and to kill three sheep
 instead of my children. Now my
 daughters do not want to work
 and their husbands have di-
 vorced them, and I have nothing
 to live on."
 Information
 connective 1:
 The children, of course, recog-
 nized their mother straight away,
 but they did not wish to show it
 immediately lest she be unable to
 contain her feelings of joy and
 die. The three of them spoke
 very kindly to the woman and
 promised her: "In three days'
 time we shall hold a trial of
 your daughters and their hus-
- 27
31
23
24

bands. In the meantime, eat and drink and stay here in the palace."

In their talks with the woman the three brothers continued to speak to her about her children and she revealed to them that each of them had had a distinctive birthmark—one on his forehead, the other on his chest, and the third on his neck. Then the brothers made themselves known to her and showed her the birthmarks.

The mother's joy knew no bounds, for not only had she found her children but they were now princes in the land and the royal throne belonged to them.

1C

The BROTHERS set aside a fine house next to the palace for their *mother* and their sisters, and they lived happily together until the day of their death.

(Heroic fairy tale; AT 300; Moroccan Jews; IFA 4002; author's revision of English translation published in Noy 1965: Number 15.)

B. Analysis of an Epic Story

A-B-C—MOVE

CONTENT OF FUNCTION

- | | |
|-------------------|---|
| 1A: | GOD sends epidemic which kills parents of <i>sister</i> and brother |
| 1B: | <i>Sister</i> tends small BROTHER |
| Time connective: | Brother grows up |
| State connective: | Brother becomes strong |
| 2A: | BROTHER wants to go hunting in woods—
<i>Sister</i> |
| 2B: | <i>Sister</i> holds BROTHER back |
| 3A: | SISTER holds <i>Brother</i> back |
| 3B: | <i>Brother</i> goes hunting—[VILAS] |
| Space connective: | Brother goes to woods |
| 3C: | VILAS wound <i>Brother</i> |
| [4A]: | [VILAS: "Don't step into our dancing circle, <i>Man!</i> "] |
| 4B: | <i>Brother</i> steps into VILAS' dancing circle |

BROTHER acknowledges Sister's care	1C:	4C: [5A]: 5B: 5C:	VILAS wound <i>Brother</i> [VILAS wound <i>Brother</i>] <i>Brother</i> repents — VILAS VILAS cure <i>Brother</i>
	2C:	6A: 6B: 6C:	BROTHER is wounded by <i>Vilas</i> <i>Vilas</i> cure BROTHER BROTHER thanks <i>Vilas</i> BROTHER returns to Sister Brother returns home
	Space connective: Information connective 1:		Sister informs brother of her joy.

Text of the Epic:

A-B-C — MOVE

		TALE TEXT
1A:		God sent to the earth an epidemic And it killed the old and the weak. Two orphans remained alone In Ivan's white yard Brother Milan and sister Milica. Milan was three years old And Milica seven years old. Tenderly did the sister care for the brother In pure silk did she wrap him, In her own bosom did she carry him, Took care of him as of a golden apple. When Milan reached the age of twelve years,
1B:		When Milan gathered strength, He took the deadly rifle weapon Milan went on a hunt to the mountain And the dear sister did hold him back “Don't go, my dear good one, In the mountain there are <i>vilas</i> Ravi- yoylas <i>Vilas</i> will want to catch thee Both thy legs to break Both legs from the white knees Both arms from the white elbows, Both eyes to take out.”
Time connective:		
State connective:		
2A:		
2B 3A:		
1C:	Space connective ₁ :	Milan went away he did not heed the sister
	3B:	
Space connective ₂ :		When he came to the green mountain
[4A]:		Text deleted
3C 4B:		He stepped into a <i>vilas'</i> dancing circle
4C/5A:		The white <i>vilas</i> shot at him Both eyes they took from him Both his arms they broke Both arms from the white elbows

		Both legs from the white knees.
	5B:	Bitterly cries the weak Milan And remembers his sister Milica: “I don’t have any relatives, Only my dear sister.”
	[6A]:	Text deleted
5C	6B:	The white <i>vilas</i> heard him <i>Vila Raviyoyla</i> takes pity on him And calls for her sisters in faith: “Go quickly over the green mountain, Pluck many-varied herbs, Heal the [boy] wounded hero.” Up jumped <i>vila Andzheliya</i> , She plucks many-varied herbs, And heals the wounded hero.
	6C:	When the hero jumped to his feet He spoke to the white <i>vilas</i> “Remain with God, my white <i>vilas</i> , And I am going to my white yard To cheer up my dear sister.”
2C	Space connective: Information connective 1:	Milan went across the green mountain The sister saw him from the yard Came towards her brother walking: “May you be healthy, my own brother, Didn’t I give you good advice Not to go hunting to the mountains.”

(Heroic epic; Croatian [Southern Dalmatia]; translated from Bošković-Stulli 1966: 25–26.)

The relations between the basic units now become much more complex. Over a ladder of deletions, embeddings, and intertwinings, characters climb from move to move by changing the tale roles in which they play, and appear on the very surface of the narration in the tale roles suitable for their genre. The Dragon is not a villain all the way through the fairy tale, and it is not always the sacred power which plays the Donor in the sacred legend.

Example 27

In Example 25, Move 1, the Skeptic plays the Donor, and God as the Hero has to answer the Skeptic’s challenge in order to receive his reward in function C (SKEPTIC acknowledges God’s power).

In Example 26b, Move 5: *vilas*, who just wounded Brother, play the Donor and cure him; in the next move (Move 6), the roles change and Brother plays Donor.

Somewhere “deep down” in principle every narrative starts as a single move, or as a juxtaposition of two moves with opposite values.

Example 28

In Example 26b, the basic framing move is Move 2; Move 1, itself a framing move, plays in it the role of a connective transition in space in which the hero is transferred from the human world into the fairyland. In Example 24, Moves 1 and 2 form the two halves of the tale and are symmetrically opposite. On other occasions, each of these two moves can be told by itself as a separate tale.

Along the way “upwards,” toward the surface, this single move unfolds into more moves. Each function of the basic, or framing, move may unfold into whole embedded moves.

Example 29

In Example 25:

Move 1, Function A unfolds into Move 2;
Move 1, Function C unfolds into Move 3.

3.2. From these rough basic relations between the units of action and tale role, a model can be devised. This model has to take care of phenomena such as embeddings, agreements, deletions, or recursiveness. The tale role and the mechanisms which govern it have not yet been explored.

The exact relations between the diverse layers, the nature of the layers and their qualities, are so far not clear. The same can be said about the ways in which the two tale roles of the basic move are transformed into the seven tale roles on the surface level of the fairy tale (Propp 1968: Chapter 6), or the three basic functions are transformed into Propp's thirty-one functions. As was said above, the structure of any tale starts “deep down” as one basic move, and ends up on the surface with the terminals which are the elements of the function (actions and tale roles). Here the features of the texture (with all the idiosyncracies of the individual performer's style) meet the narrative structure and determine the exact micropattern of the surface layer.

4. In the light of the preceding discussion, Propp's model seems to be on a very low level of abstraction and very near to the level of content, both in its actions and in its tale roles. Propp's invariant level allows for a rather limited number of variants, all of them within the limits of a single subgenre, the heroic fairy tale. Dundes' model (1964) is on a somewhat higher level of abstraction, and its invariants (such as Lack/Lack Liquidated) have a wider field of variants, and seem not to be restricted to a single genre, as is Propp's model. The narrative repertoire of Amerindian cultures has

not yet been thoroughly investigated in order to establish the generic composition of their oral literature repertoire, and it is therefore not yet known to what genres the texts that Dundes analyzes belong.

The model presently proposed is on a somewhat higher level of abstraction. Its invariants have a wide, possibly universal, field of application. Narratives from various genres in prose and in verse, from the most varied cultures, have been successfully analyzed by this model.

Example 30

Russian fairy tales: Volkov (1924), Propp (1968), Meletinskij et al. (1969). Russian epic songs: Skaftymov (1924), Jason (1971a), Examples 3, 4. South Slavic epic songs: in this article, Example 26b. Swindler novella: in this article, Examples 6 and 19 from Ceylon, and examples in Jason (1971b). Sacred legends: in this article, Examples 2, 8, 12, 13, 14, 24, 25, and Jason (1971a), Example 6. Dundes (1964) analyzed North American Indian tales, and Horner (1970) African tales. Still in manuscript are analyses of Chinese sacred legends (Jason 1968), more South Slavic epics, North American Indian, African, and native Australian tales.

5. We do not claim that the proposed model is the only one possible or that the model has objective existence in the material. The model is a logical construct with which it has proved possible to measure the material in a meaningful way. It is one of many possible ways to understand the phenomenon "oral literature." No doubt, other different models could be used. When other models are proposed, the comparison of their utility will be possible. So far, however, all the work which has been done specifically on narrative structure is being done in the way the Russian formalists have shown (recently, Bremond 1970, Colby 1973a, 1973b, Meletinskij et al. 1969, Todorov 1966).

APPENDIX: TECHNICAL INFORMATION

Function 1A	= Function A in Move 1.
[]	= elements added by the present author.
X	= Amorphous fabulous power which directs the events in the tale (it may be miraculous—sacred or satanic—or marvelous). Acts as a character in a tale role.

Hero is in italics.

DONOR is in small capitals.

Characters in tale roles are capitalized.

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COMMENT by C. Bremond*

The model proposed by Jason is divided into three stages which correspond to three of Propp's functions:

Function A: Donor puts Hero to test

Function B: Hero responds to Donor's test (positively or negatively)

Function C: Donor compensates Hero (positively: reward; or negatively: punishment)

* The editor acknowledges the help of Miss S. Rimon in translating this comment from French into English.

Thus formulated, Jason's ABC model resembles the matrix that we ourselves use in the analysis of the structure of fairy tales: the notions of merit and of demerit seem to correspond to the hero's positive and negative reaction to the test (Function B in Jason's model). Similarly, the notions of reward and punishment seem to correspond to the positive and negative compensation which the hero gets from the donor (Function C in Jason's model). Yet, Jason denies this similarity and refuses to attribute to the notions of reward and punishment the same structural pertinence she attributes the general notion of retribution: "... for the model itself it is irrelevant whether actions are failures and punishments or successes and rewards in the framework of some value system or other" (p. 110).

Why should the general notion of compensation be more pertinent for the articulation of the narrative than the specific notions of reward and punishment? We think, on the contrary, of the success of the test (and the resulting punishment) in just such a manner, so that the sequel of the narrative depends on this opposition. So does the "sens" of the narrative too, in a way which is completely independent of the actual manifestation which characterizes the rewards and punishments in this or that system of values. For example, if after accomplishing the donor's test, the hero receives marvelous weapons with whose help he shall execute his suitor's task, there is no doubt that he really will succeed in accomplishing the task, and receive the reward for this accomplishment. This success and this reward clearly belong to the formal structure of the narrative. If, on the contrary the hero does not receive anything after the test, or receives a weapon which does the opposite of what it is supposed to do, that hero fails in his enterprise and we are sure that he has also failed in the first test and that the donor punished him.

Surely, not all cases are as neat as the one discussed. But the question which now arises is not whether the compensation has the value of reward or punishment, or whether the hero acted in terms of merit or demerit, or whether the consequences can be called "compensation." This is especially questionable when no character in the narrative assumes the role of a voluntary tester and donor. Surely, when the prophet Elijah enriches the poor woman and impoverishes the rich woman, there can be no doubt: there was a test and a compensation, each to her merit. But why not add that the poor woman acted in a manner which deserved a reward while the rich woman acted in a manner deserving punishment? (See Figure 1.) Isn't this necessary for the structure of the story? And when Shabazi lets Ibn Alwan steal the magic staff, can we without abuse of language speak of Shabazi as a donor who rewards the merit of Ibn Alwan? Why not consider, in the same manner, Ibn Alwan to be the donor who punished the stupidity of Shabazi? When there is no character who consciously and deliberately assumes the role of the donor/compensator, all the interacting characters become donors to each other (positive or negative donors).

Having denied the pertinence of the double distinction between SUCCESS and FAILURE of the test on one hand, and between REWARD and PUNISHMENT, on the other, can Jason preserve in her model the significance of her three functions? Even with many allowances and concessions, we do not think so. On the level of generality on which her model is conceived, it seems doomed to be reduced to a simple causal schema: the Function A has as an effect the Function B, which in itself has as an effect the Function C. Thus Jason recognizes by herself: "Function C, compensation, is an element of form which is a causal result of Function B, response" (p. 110).

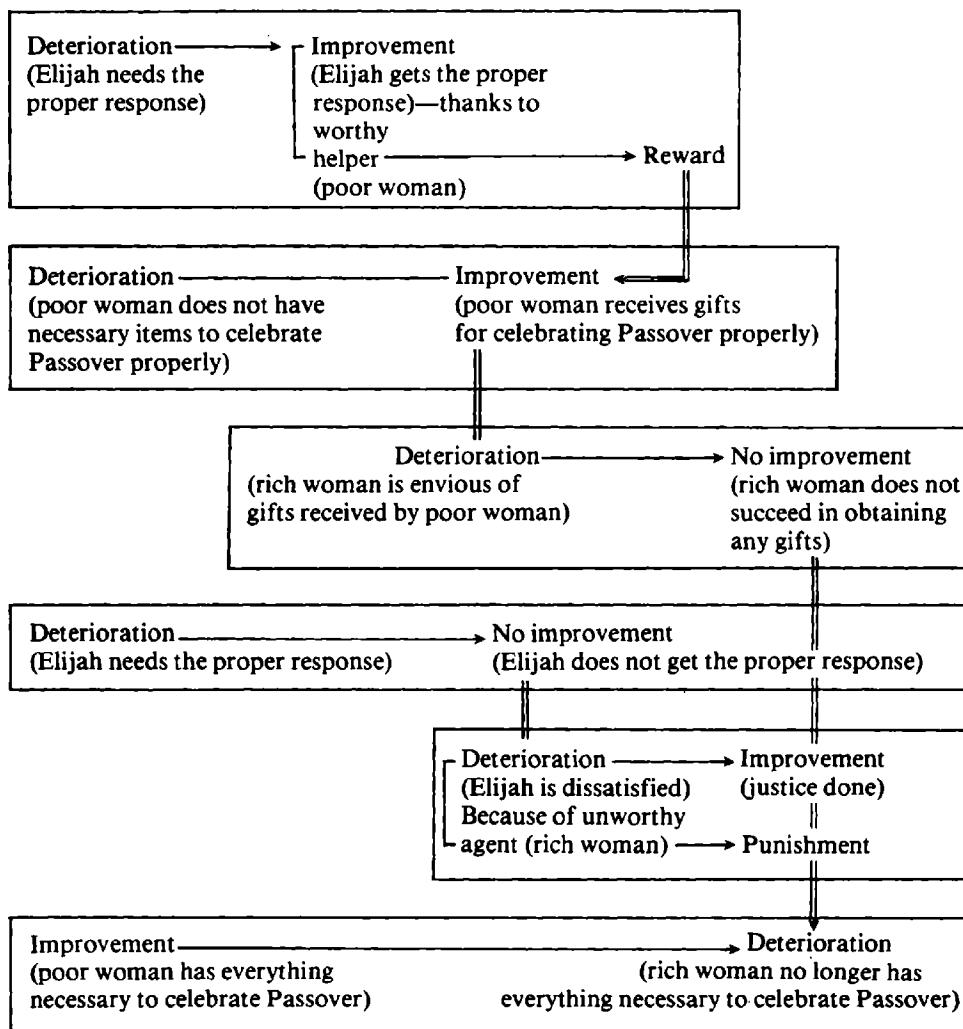


Figure 1. Comment on Example 8

At this point it seems that the tripartite organization of the model is fragile. Let there be a sequence of successive situations A, B, C, D, E, etc., such that B is the reaction to stimulus A, and C is a reaction to stimulus B, D the reaction to stimulus C, etc. We can select in the sequence any grouping of three consecutive terms: (ABC), or (BCD), or (CDE), etc. and formulate their connections:

- A: Situation which proposes a test
- B: Response to the test
- C: Compensation for the answer to the test
 - or
- B: Situation which proposes a test
- C: Response to the test
- D: Compensation for the answer to the test
 - or
- C: Situation which proposes a test

D: Response to the test

E: Compensation for the answer to the test
etc.

This argument in fact says that when situations in a sequence are linked to each other according to the principle of stimulus-reaction, the Functions A, B, C, become indistinguishable, each situation having at the same time the value of Function A in relation to the two that follow it, of Function B in relation to the two that surround it, and of Function C in relation to the two that precede it.

Such an objection may appear unnecessarily artificial and purely theoretical. Let us take, therefore, a passage analyzed by Jason according to the model ABC and let us see whether it is possible to avoid entirely, and at what loss, the difficulty that we noticed.

In the Jewish-Moroccan fairy tale (AT 300), Jason analyzed a scene in the following manner:

- 15 A: KING'S DAUGHTER returns to *King*
- 15 B: *King* asks her how SHE has been rescued
- 15 C: KING'S DAUGHTER tells her story to *King*
- 16 A: KING offers his daughter to unknown *Rescuer*
- 16 B: *Impostors* put forward false claims before KING
- 16 C: KING'S DAUGHTER denies false claims of *Impostors*

Instead of this analysis we propose another analysis which seems to us to be neither better nor worse than the one that we have just quoted (Figure 2):

- A (=15B): King asks his daughter how she has been rescued
- B (=15C): King's daughter tells her story to the king
- C (=16A): King offers his daughter to unknown rescuer
- A (=16D): King's daughter denies false claims of impostors
- C (not analyzed by Jason): The impostors are thrown out by the king.

We must confess that this example was carefully chosen from among all the analyzed moves as one that could illustrate our objection. Most often the application of the model ABC which Jason proposes for the analysis of her story is, if not the only possible, at least the best solution. But this does not mean that our criticism is not justified. In our folkloric texts the sequences Merit-Reward and Demerit-Punishment are numerous enough and salient enough to make us want an analysis which will be intuitively valuable, and so avoid the arbitrary element proposed by Jason's theory, but fortunately corrected in her practice.

REPLY by H. Jason

As we are both, Bremond and I, taking off in building our models from Propp's ideas, I found Bremond's analysis of my examples and his comment useful for a comparison of the ways we are going.

- a. In considering the problem of the ethical value in folktales of the hero's acts in Function B and the compensation which he gets in Function C, we are dealing with a deep layer of the narrative's structure. According to this deep layer model many ethnopoetic narrative genres in many cultures can be analyzed. Yet, in addition to this deep layer a surface layer can be postulated which is peculiar to every genre. The work of Propp represents one such surface layer, the organization of the heroic fairy tale (see Introduction, p. 4).

While on the deep level no cultural ethical values can exist (as the deep level is similarly built for all genres) they come into play in the surface layers of certain genres. Let us note that not all genres of a culture display the same ethical code. Thus the sacred legend in the European-Muslim-Indian cultural area punishes acts which are considered sin and crime in the narrative society; on the contrary, the swindler novella and the parodic heroic fairy tale of the same culture reward sin and crime. (For a detailed description of the genres, see Jason i.p.)

As to the two texts which Bremond discusses in his comment, the tale of the king and his daughter (AT 300) belongs to the genre of heroic fairy tale, and the story about the prophet Elijah and the two women is a sacred legend. One of the main qualities of the fairy tale is that it is NOT set in the religious and folk belief systems and the system of ethics of the narrating society. The fairy tale is set in a world closed in itself. The positive response of the hero to the test of the donor is not the morally good act, but the proper act according to the standards of the fairy tale world (this fairy tale code has not yet been described). The instances in which the hero obtains his marvelous implements by outright nonmoral acts (nonmoral by the society's ethical standards; see AT 518 and 569: by stealing, treachery) are well known. Yet the implements serve him as well as if he had gotten them by merit.

The sacred legend, on the contrary, is set in the framework of the official religious belief system and the ethical norms of the narrating society. Yet here too the things are not so simple. What do the women do? Both of them lie. Why does one get rewarded and the other punished for the same act of lying? The poor woman complied with the norm prohibiting one to reveal one's poverty, for poverty is shame. The rich woman violated two norms: she admitted to poverty and thus brought shame upon her family, and her motive was greed, a morally negative behavior.

All of these belong to the realm of meaning which has not been discussed in the paper. While the tale, of course, represents a whole, for analytical purposes we may try to disentangle the various elements of it, and thus deal separately with the formal qualities of the narrative.

The difference between the two genres and their relation to Bremond's model is demonstrated nicely in the two diagrams in which Bremond analyzes texts from my Examples 8 and 26a. Example 8, The Washerwoman, is a sacred legend in which the religio-ethical norms of virtue and vice tie in with Bremond's model and his analysis can go to some detail (although this analysis is still much coarser than the analysis in Example 8).

In the other story Bremond's model is a very rough sketch, which would belong in the deep layer, somewhere halfway between the first node and the surface layer. I would disagree that the whole story consists only of deteriorations and improvements. Thus, for instance, the mother's deterioration when her daughters abandon her is formally, on a certain level, a cause, a connective element, the function of which is to arrange the meeting between her and her triplets. Such directed meetings are common in fairy tales: by "chance" all the characters meet in the same place, separated spouses "by chance" meet each other again, etc.

b. The reassignment of the text to functions, proposed by Bremond, unfortunately does not work according to the rules of my theory. Bremond disregarded the distribution of the tale roles Hero and Donor in the functions in the framework of the move. In principle, a character is not bound to a certain tale role in the deep layer. Often the characters will change roles

from move to move (see Example 19 in the paper). Yet, INSIDE the move, the characters CANNOT change their tale role (see Table 1).

Table 1. Bremond's analysis

	<i>Subject</i>	<i>Action</i>	<i>Object</i>
<i>Move 1</i>	A (15B) (Donor) King	Asks how Daughter was rescued	(Hero) King's daughter
	B (15C) (Hero) King's daughter	relates her story to	(Donor) King
	C (16A) (Donor) King	offers daughter to	(Hero) Unknown rescuer
<i>Move 2</i>	A (16B) (Donor) Impostors	forward false claims	(Hero) King
	B (16C) (Hero) King's daughter	refutes	(Donor) impostors
	C (—) (Donor) King	drives away	(Hero) impostors

In Move 1 we have three characters: (1) The King, who apparently plays Donor, and (2) the King's daughter with the (3) Unknown Rescuer, both in the square assigned to Hero. Yet, according to the rules of my model, inside a move the tale role of hero should always be realized by the same character, or an equivalent character such as the retinue of the principal character, or a general class, of which the specific character is a member. Thus, in Move 16 in Example 26a we have the class of potential rescuers in Function 16A, and in Functions 16B and 16C potential members of the class "Rescuer"—namely, Impostors, i.e. characters who claim to belong to the class of rescuers.

In Bremond's proposal, however, in Functions A and B the King's daughter is the Hero, and in Function C the Unknown Rescuer plays the Hero. That is false, for neither of them is part of each other's retinue, nor does either of them form a class of which the other would be a member (see paragraph 2.7.2).

In the second move which Bremond proposes, a still greater disregard for the tale role prevails: both characters realize successively both tale roles in the same move. King and King's daughter play the Hero in Functions A and B, and the Donor in Function C; the impostors play the Donor in Functions A and B and the Hero in Function C. Such a distribution is not allowed according to the rules of my model.

As to the action, it is a little difficult to see how, in the first move, the King's offering the Daughter to the Rescuer (Function C) would represent either a reward or a punishment for the Daughter. Nowhere in the tale is it stated that the Daughter fell in love with the Rescuer and wanted to marry him (in which case it would be a reward), or the opposite, that she abhorred him (in which case it would be a punishment).

In addition, Bremond's proposal leaves out a piece of text, which has, however, to be accounted for somehow in the framework of the whole story, namely, Function 15A. As then only five functions remained, while six are needed for two moves, Bremond adds at the end a function which does not exist in the text: "The impostors are thrown out by the King." There is no reason to consider this piece as a deletion from the text. The King's

daughter rejected the impostors, and it is not said that the King took any action.

Thus the assignment of the text to functions is not as arbitrary as Bremond sees it. As a matter of fact, I conducted experiments in which several people independently analyzed the same texts. The resulting analyses were almost similar. Yet the proposed model is still a theoretical construct by which the phenomenon is measured and as such, of course, is arbitrary, and can be replaced by any other theoretical construct on the condition that it account for the text in its entirety and in detail.

c. The example of Shabazi and Ibn Alwan is in my paper only partly analyzed (Example 2) as it serves just to exemplify the move unit. (No text could be found which would be fully analyzable by one move only.) In the full analysis (published in Jason 1967) there is a deeper layer in which Ibn Alwan's behavior represents a punishment for Shabazi. By the way, in the framework of the narrating society, Shabazi was not simply stupid, but he committed a rather grave sin by giving to an unauthorized person (a gentile, i.e. a nonsacred person) the miraculous rod which is a sign of divine grace bestowed personally upon Shabazi.

JASON, HEDA

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Modeling Propp and Lévi-Strauss in a Metasymbolic Simulation System

SHELDON KLEIN, JOHN F. AESCHLIMANN, MATTHEW A. APPELBAUM,
DAVID F. BALSIGER, ELIZABETH J. CURTIS, MARK FOSTER, S. DAVID
KALISH, SCOTT J. KAMIN, YING-DA LEE, LYNNE A. PRICE, and DAVID
F. SALSIDER

1.0. INTRODUCTION

We present here the results of constructing and executing an automated model of Propp's *Morphology of the folktale*, for one-move Russian folktales. We include a complete listing of the encoded model, with references to the second edition of the English translation of this work (Propp 1968), together with the printed, computer output text of fifty different folktales generated by the automated model at an average speed of 128 words per second (including calculation of plot, generation of deep structure and surface structure), on a Univac 1110 computer.

We offer first, for introductory purposes, a simpler automated model for generating myths 1, 2, 12, 124 and 125 from Lévi-Strauss' *The raw and the cooked* (1969). This model, unlike the Propp model, yields just these stories and no others. Analysis of this program will make comprehension of the Propp a little easier. Both of these models are programmed in a special behavioral simulation language that is part of a system that we choose to call a "metasymbolic simulation system." This system is capable of modeling a variety of behavioral models in combination with a variety of semantic/grammatical models.

The models offered as data for this paper constitute a testing of but a portion of the capabilities and range of application of the

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metasymbolic simulation system. The concept is worth repetition: the models of Lévi-Strauss and Propp presented here constitute data bases for the testing of the system in which they are formulated. A model for generating murder mystery stories also served as a test model (Klein et al. 1973), and the intended range of applications of the metasymbolic simulation system includes sociocultural-demographic models of real world societies (Klein 1974).

The idea of using folklore models as test data was suggested to the first author (S. Klein) during his attendance at an interdisciplinary conference entitled, "The Role of Grammar in Non-automized and Automated Text Processing Systems," held at the Center for Interdisciplinary Research, University of Bielefeld, Germany, February 18-22, 1974. The conference was organized by Janós S. Petöfi and Teun A. van Dijk, who are among the leading representatives of the new text grammarian movement. Among the participants were a group of folklorists, including Heda Jason, Elli Köngäs Maranda, Dimitri Segal, Mihaly Hoppal, and Michel de Virville. Jason, Segal and Köngäs Maranda were especially successful in persuading us to begin work immediately on constructing automated folklore models. We owe a special debt of gratitude to Pierre Maranda and Elli Köngäs Maranda for their paper, "A sketch of the Okanagan myth automaton" (1974), which Köngäs Maranda presented at this conference, and to de Virville and Courtes for their paper on an automated Cinderella story model, "Cinderella goes to the ball" (1974). We are also aware that Pierre Maranda has work in progress on an automated Propp model.

We also acknowledge a debt to Ed Kahn who, in his Ph.D. dissertation (1973), reviewed the murder mystery model (Klein et al. 1973) in such a way as to confuse the test model with the system in which it was embedded. Kahn's remarks there, and in a published debate (Kahn and Klein 1974), also suggested that the system was incapable of handling the logical quantification complexities of folklore models. Our presentation of the Lévi-Strauss and Propp models here should settle the points. We also note that the net effect of this paper should be to render obsolete the critical review of the text grammarian movement presented in Dascal and Margalit (1974).

2.0. CREDITS AND HISTORY

Of the authorship of this paper, Curtis, Price, and Salsieder produced the outline of the Lévi-Strauss model and Aeschlimann wrote the code for it. Appelbaum and Kalish wrote the code for the Propp model and Kamin provided system support. Aeschlimann, Appel-

baum, Kamin, and Lee are responsible for major system programming additions to the metasymbolic simulation system that are used in the models described in this paper. Balsiger and Foster are responsible for the natural language generative component and the grammars associated with the models.

The work is an extension of the system described in Klein et al. (1973), Klein et al (1972), and its lineal ancestors include Klein and Simmons (1963), Klein (1965a, 1965b), Klein et al. (1968). A non-exhaustive list of related work by other researchers includes automated semantic networks: Quillian (1966), Schank (1969, 1972), Schank and Rieger (1973), Mel'chuk and Zholkovskij (1970); variants of the first order predicate calculus as part of the semantic base component in natural language generative models: McCawley (1968), Bach (1968), Lakoff (1969), Green and Raphael (1968), Coles (1968), and Petöfi (1973); natural language compiling into semantic representations, inference languages, or simulation languages: Kellogg (1968), Heidorn (1972), Simmons (n.d.), Green and Raphael (1968), and Coles (1968).

3.0. THE METASYMBOLIC SIMULATION SYSTEM

The metasymbolic simulation system can be viewed as consisting of three components: (1) a behavioral simulation, programming language that models, generates, and manipulates events in the domain of discourse in the notation of the second component; (2) a semantic network consisting of connected abstract objects and relations; and (3) a semantics-to-surface structure generation mechanism that can describe changes in the semantic network description of the universe of discourse in the syntax of any language for which a grammar is supplied. Here, we shall merely touch on the highlights of the system. A more detailed description of an earlier version is to be found in Klein et al. (1973).

3.1. *Simulation Language, Objects, and Relations*

A simulation language rule consists of two parts, an action list and a test condition list. The actions may include additions or deletions of information in the semantic network, as well as other complex actions that will be described later. The test conditions may be logical queries about the existence or nonexistence of structures in the semantic network. Implementation of the action list may be a probabilistic or deterministic function of the success of the condition list test. The

relation between actions and conditions may be likened to "presupposition." A time-control mechanism schedules groups of rules for evaluation. Rules in a group are all evaluated at the same time.

Objects and relations, and their combination into "semantic triples," are fundamental units in the system. Each semantic object and each relation is given a unique number. Semantic triples (which may consist of two or three objects and relations in connected, ordered arrangement) are also given unique numbers. Simulation language rules create and delete triples. Each triple is also associated with its time of creation and time of deletion. Repetitive occurrences of the same triple are associated with a list of creation and deletion times.

Objects and relations in the system are abstract semantic entities. Their meaning is defined by the supplied data base. A semantic object or relation is linked to several kinds of representational structures. One of these is a lexical pointer list, a set of list structure pointers to a lexical dictionary containing roots in the vocabulary of the chosen surface language. These dictionary entries may be roots of single word, lexical expressants of semantic objects, or relations. The lexical pointer lists of different objects and relations may include pointers to some of the same roots in the dictionary (homonymy).

A second representation structure that may be associated with an object or relation is a "lexical triple." This is an expression in the form of a semantic triple, but which is not a triple that is part of the semantic network (it is not assigned a triple identifying number). A lexical triple may serve many functions, including encoding of idioms for single unit semantic objects or relations, and representation of unitary semantic relations as multiword verb strings. The objects and relations in the lexical triples are already defined units of the model, and are themselves linked to lexical expression lists and the other representation structures. Recursive structuring is possible.

A semantic object may also be linked to a list of pointers to selected semantic triples in the network. In this case, the object is functioning as a "complex predicate" node. (Each semantic triple, it should be remembered, has a unique number. The pointers are a list of numbers that name particular triples.) One function of such a predicate node is to act as a discourse variable. For example, an abstract discourse object linked to the lexical expressant "that," might be associated with the set of semantic triples that explicate the concept of "what John knows" in a semantic triple that underlies the structure, "John knows that. . ." The structures may be self-referential at any depth, and recursive. That is, the triple list of a predicate node that is part of a semantic triple may contain the number name of the very triple of which it is a part, thereby permitting semantic representa-

tion of surface structure sentences as, "He knows that he knows that he knows. . . ."

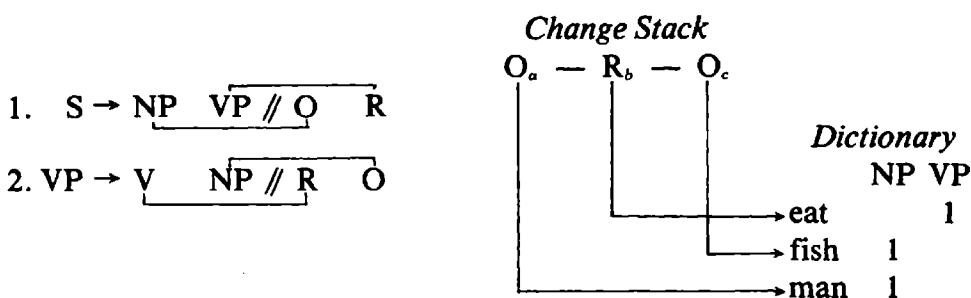
The system also has classes whose membership may be modified by actions of the rules. These are of two types: object classes and relation classes. Each class name may be associated with or function as a semantic object or relation. Subscripted classes may also be defined, where the subscripts must consist of the names of semantic objects or relations. This subscripted class device is of major importance for the logical quantification of text models.

3.2. Semantics//Surface Structure Generation

Each lexical entry in the dictionary is marked for compatibility with every terminal and nonterminal category in the phrase structure component of the grammar rules. For example, a root may be marked with the information that it can function in a noun form, a verb form, but not a preposition form. The notation is a binary vector of ones and zeros where a "one" means "yes" and a "zero" means "no." The lexical roots are also linked to the appropriate transformations to convert them to the grammatical forms required for the categories in which they may function. Variant forms of the same root are listed separately, and the choice is determined by the transformation on the grammatical category.

The generation/production system is driven by a list of semantic triples to be encoded in surface syntax. This list, called a "change stack," is created by the simulation program, and in the models described here, consists of the triples concurrently created by the most recent actions of the simulation rules.

A rule for encoding semantic triples into surface language consists of a phrase structure portion linked to a canonical form for the type of semantic triple (or triple fraction) that may be encoded through it. Each element in the canonical form of the triple type may be linked to some element in the right-hand portion of the phrase structure rule, for example:



First, the system searches for a rule with the appropriate left-hand node and a canonical form specification to match the entire triple on the top of the change stack. If one cannot be found, the process is repeated, using first the left and then the right overlapping doublets. In the above example, rule 1 applies to the left half of the triple in the stack. When a production rule is selected, a lexical item associated with the semantic object or relation in the triple is selected immediately. If its grammatical code is acceptable, it is committed at this time. This method differs from the usual generative models which wait until a whole tree is generated before selecting lexical items. Here lexical items are committed as soon as new nonterminal nodes appear. The references to the committed lexical items are transmitted to the descendants of the nonterminal node, and eventually appear on the ultimate terminal node. If there are several triples on the change stack, control information may direct the generation component to continue the process so as to encode several triples in the same surface sentence. The system divides the work of the usual transformations into two components, high level and low level. High-level transformations are applied during the generation of the tree. Their maximal environment is a nonterminal node and its immediate first-generation descendants. High-level transformations may insert, delete, permute, and mark nodes for application of low-level transformations. These markings are passed on to the appropriate descendant nodes, and a given terminal may be marked with low-level transformation indicators acquired from several points in the generation process. The system can be made equivalent to the more familiar models that only apply transformations after the tree generation by the phrase structure component. It is a major computational advantage to mark the transformations at the optimal times, when all the relevant portions of the tree are immediately determined. Computer models of the usual method require complex environment search that may make the programs operate hundreds or thousands of times slower than ours, for such environment search time may increase exponentially with size and complexity of the sentence in generation. In our system, the generation time increases only linearly with respect to sentence length and complexity.

3.3. *Complex Features*

Each rule group has a name. Any rule group may be called as a recursive subroutine. The name of a semantic object or a semantic relation may also be the name of a rule group. Accordingly, it is possibly to treat an object or relation as a semantic entity in some

contexts, and as an executable subroutine in others.

Rules may be formulated in terms of class names. Instead of a rule for "John Loves Mary" one may have a rule for PERSON AFFECTION PERSON. Thus, a single rule may serve for a very large class of events. A class may contain objects, all of which are rule group names. Accordingly, it is possible to use the ordered contents of a class of objects (or relations) as an ordered sequence of subroutine calls. This feature also makes it possible to equate objects with actions in the same class. This feature is of special importance in modeling higher-order semantic relationships, where an action sequence and a person or object may belong together as manifestations of the same higher-order semantic entity.

There are features available in the system that are of importance for our future work on Propp but which are not used in the current model. One of these is the ability to "look ahead" into the future and make decisions in the models in the "present" as a function of projected consequences. A rule utilizing this feature may take the form, "if event A is implemented now, will event B occur at time T in the future?" Another feature is the ability to represent the meaning of the rules of the simulation language itself in the same semantic network notation as that which represents natural languages. This means it is possible to inspect and test the nonverbal rules of behavior in the model as part of the data of the total system. This feature makes automated presuppositional analysis and automated structural analysis of folktales and myths a relatively easy task if one already has automated generative models.

4.0 MODEL FOR FIVE MYTHS FROM *The raw and the cooked*

The model presented here should serve as an introduction to the more complex Propp model. It generates just myths 1, 2, 12, 124, and 125 from Lévi-Strauss' *The raw and the cooked* (1969), and no more. In particular, the program for these myths illustrates two metasymbolic simulation system devices. The first is a quantification of functions through the use of subscripted classes, and the second is the use of functions or executable action scenarios as elements of a subscripted class.

We first list a description of the program in a stylized, easy-to-read form. Then we provide the actual program, together with the complete computer output of the generation process.

The myth numbers are treated as class subscripts. Elements determined by the same subscript value belong in the same myth. Thus

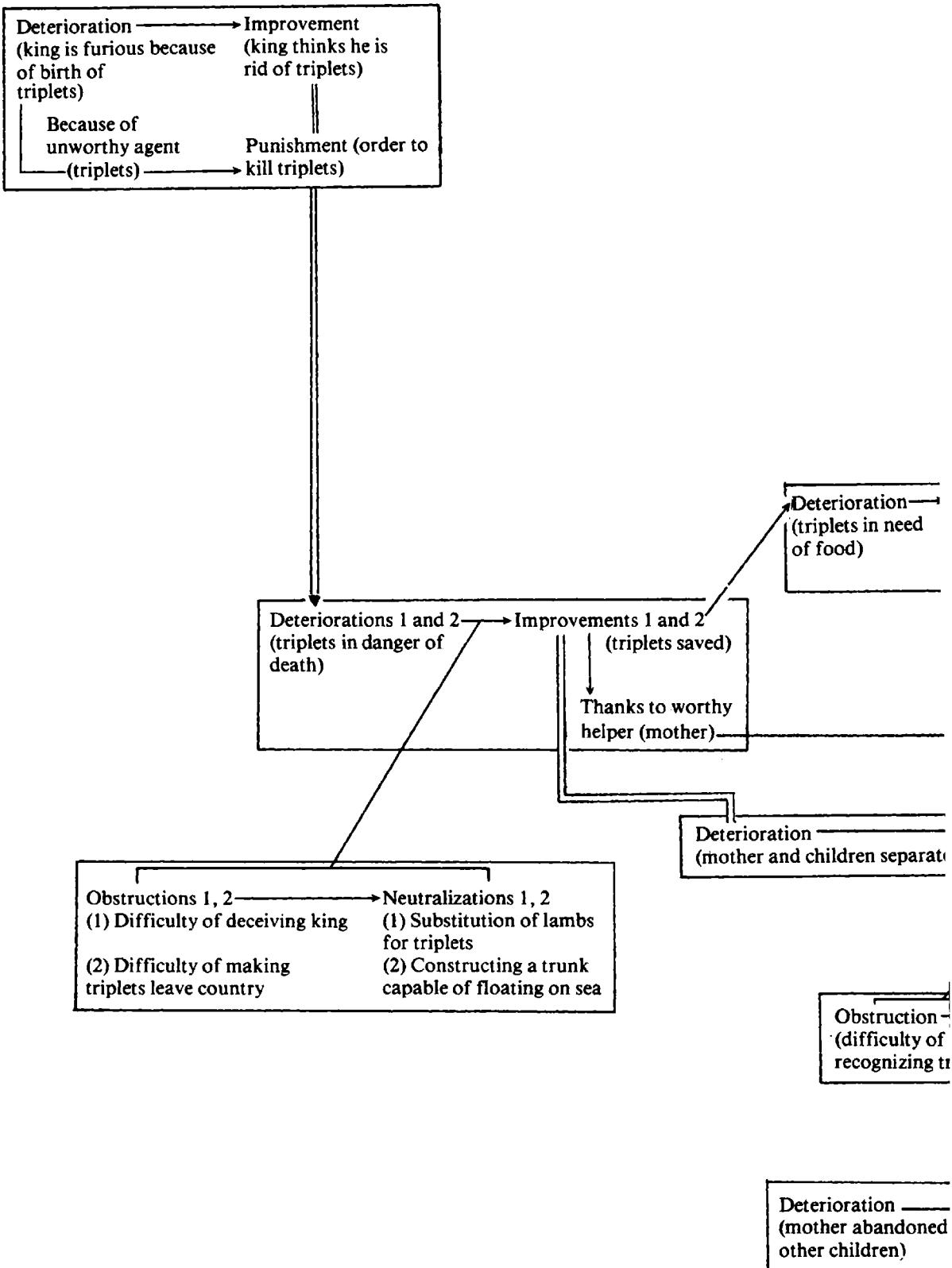
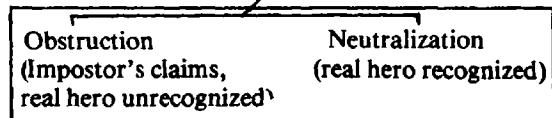
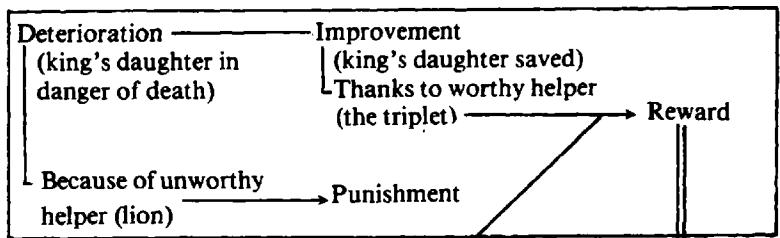


Figure 2. Comment on Example 26a



d)
rthy helper
plets)

Reward (hero
marries princess)

→ Improvement
(mother and children reunited)

Reward

Neutralization
erasing birth marks
triplets)

→ Improvement
(mother reunited
with triplets)

PROCURER(2), COLLECT(2) and EXPEDITION(2) indicate that WIFE OF BAITOGOGO, PICK and WILD FRUIT are elements in the same myth. In the following list of classes, classes REVENGE, VERTICAL, and CREATION contain elements which are themselves executable action sequences. The other classes contain semantic objects. The special rule, SOULNEST, has its own subscripted set of classes for addition of scenario sequences. The rule SOULNEST is only reached if class REVENGE(1) is first selected.

Table 1. Classes

<i>Myth</i>	PROCURER	COLLECT	EXPEDITION	RAPIST
1	WOMEN OF TRIBE	GATHER	PALMS	HERO
2	WIFE OF BAITOGOGO	PICK	WILD FRUIT	MAN FROM TAPIR CLAN
12	—	—	—	—
124	FATHER	HUNTING	GAME	BROTHERS
125	MEN OF TRIBE	HUNTING	TAPIR	—
<i>Myth</i>	VICTIM	OBSERVER	REVENGE	HERO
1	MOTHER OF HERO	—	SOULNEST	HERO
2	WIFE OF BAITOGOGO	SON	KILLSWIFE	BAITOGOGO
12	—	—	—	HERO
124	MOTHER OF HERO	ASARE	THRASH	ASARE
125	—	—	—	BEPKOROROTI
<i>Myth</i>	TAPIR	SPEED	DEPRIVED	DEPRIVATION
1	—	—	FATHER	MOTHER
2	MAN FROM TAPIR CLAN	SLOWLY	SON	MOTHER
12	—	—	HERO	WATER
124	—	—	ASARE	WATER
125	TAPIR	QUICKLY	SON	FOOD
<i>Myth</i>	VERTICAL	RELATION	LIE	ANIMAL
1	BIRDNESTING	FATHER	—	VULTURE
2	TREE	—	—	—
12	BIRDNESTING	BROTHER-IN-LAW	LIE	JAGUAR
124	FALCONS	—	—	—
125	MOUNTAIN	—	—	—
<i>Myth</i>	WANDERER	CREATION	<i>Classes for SOULNEST</i>	
1	HERO	RAIN	K OBJECT	HELPER
2	BAITOGOGO	LAKE	1 GREAT	HUMMING-
12	HERO AND JAGUAR	FIRE	DANCE	BIRD
			RATTLE	

<i>Myth</i>	WANDERER	CREATION	<i>Classes for SOULNEST</i>
124	ASARE AND BROTHERS	SEA	2 SMALL RATTLE
125	—	RAIN	3 BELLS DOVE GRASSHOPPER

A stylized description of the program follows. To trace the generation of a particular myth, select a value for M in advance. The normal flow of control will be: GATHER, RAPE, OBSERVE, DISCOVERY, REVENGE, CRIME, DEPRIVES, VERTICAL, HORIZONTAL, CREATION. However, either THRASH, KILLSWIFE, or SOULNEST may be selected for execution after REVENGE if the subscript value M is, respectively, 124, 2, or 1. For M values of 12 or 125, none are selected. After rule VERTICAL, depending on the M value, rule BIRDNESTING, TREE, FALCONS, or MOUNTAIN is executed. Note that BIRDNESTING is selected for M equal 1 or 124. After rule CREATION, depending on the subscript, rule RAIN, LAKE, FIRE, or SEA will be executed. Note that RAIN is selected for M equal 1 or 125.

Stylized Program

M is a variable used to select the desired myth

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RULE GATHER: PROCURER(M) COLLECT(M) EXPEDITION(M)
    IF PROCURER(M) IS NOT NULL
RULE RAPE: RAPIST(M) RAPES VICTIM(M)
    IF RAPIST(M) IS NOT NULL
RULE OBSERVE: OBSERVER(M) OBSERVES RAPE
    IF OBSERVER(M) NOT NULL
RULE DISCOVERY: OBSERVER(M) TELLS FATHER OF RAPE
    IF OBSERVER(M) IS NOT NULL
    FATHER DISCOVERS RAPE
    IF OBSERVER(M) IS NULL AND RAPIST(M) IS NOT NULL
RULE REVENGE: CALL REVENGE(M)
    IF REVENGE(M) NOT NULL
RULE THRASH: FATHER THRASHES BROTHERS
RULE KILLSWIFE: BAITOGOGO STRANGLES WIFE
RULE SOULNEST: FOR K = 1, 2, 3
    FATHER SENDS HERO TO NEST OF SOULS FOR OBJECT(K)
    HERO ASKS GRANDMOTHER TO HELP
    GRANDMOTHER ADVISES HIM TO ASK HELPER(K)
    HELPER(K) OBTAINS OBJECT(K) FOR HERO
RULE CRIME: HERO(M) KILLS TAPIR(M) SPEED(M)
    IF TAPIR(M) IS NOT NULL
RULE DEPRIVES: DEPRIVED(M) IS DEPRIVED OF DEPRIVATION(M)
RULE VERTICAL: CALL VERTICAL(M)
RULE TREE: SON BECOMES BIRD TO SEARCH FOR MOTHER
    BIRD DROPS EXCREMENT ON BAITOGOGO
    EXCREMENT BECOMES TREE
RULE FALCONS: BROTHERS SET FIRE TO HOUSE OF PARENTS
    PARENTS BECOME FALCONS TO ESCAPE

```

RULE MOUNTAIN: BERKOROROTI ASCENDS MOUNTAIN
 RULE BIRDNESTING: RELATION(M) MAKES HERO(M) CLIMB POLE TO CAPTURE MACAWS
 HERO(M) TELLS RELATION(M) THAT THERE ARE NO BIRDS IN NEST
 IF LIE(M) IS NOT NULL
 RELATION(M) REMOVES POLE LEAVING HERO(M) STRANDED
 ANIMAL(M) HELPS HERO(M) DOWN

RULE HORIZONTAL: WANDERER(M) WANDERS THROUGH COUNTRY
 IF WANDERER(M) IS NOT NULL

RULE CREATION: CALL CREATION(M)

RULE RAIN: FOR REVENGE, HERO(M) SENDS RAIN ON HIS TRIBE

RULE LAKE: WHEREVER BAITOGOGO STOPS, A LAKE APPEARS AND THE TREE
 ON HIS SHOULDER SHRINKS

RULE SEA: ASARE THIRSTY
 BROTHERS DIG WELL
 ASARE CANNOT DRINK ALL THE WATER
 WELL PRODUCES SEA

RULE FIRE: JAGUAR GIVES FIRE TO HERO

We refer the reader now to a listing of the actual program. First, the semantic nodes and relations are listed. To the right of each node, after the equal sign, the lexical expressant is provided. In this program, as well as in the Propp model, only one lexical expressant per node was provided. This was done for reasons of simplicity, and no limitation on the number of possible lexical expressants is implied. Occasionally compound names were inserted as expressants of unitary concepts. This device is unnecessary, and might have been handled by a lexical triple rather than by a dictionary entry (the Propp model uses lexical triples in such cases). Numbers associated with the node declarations contain semantic-grammatical information.

Next the classes are defined (as in the stylized program). An M is prefixed to the subscript numbers, and the reader will note that the subscripts M_1 , M_2 , M_{12} , M_{124} , and M_{125} were defined earlier as semantic objects with no lexical expressants.

The program listing follows. Two extra control groups of rules are added (rules are bundled into groups, and groups have names). The group MASTER determines the value of the subscript for each myth generation. This program generates five myths, as if they were produced at five different times. This is an artificial device to generate all five myths in one computer run. The group CONTROL controls the sequence of execution of the rule groups. Please note the special classes used for sequencing of myths and rule groups.

The grammar is listed next. Note the phrase structure rules followed by canonical forms for types of semantic triples. The numbers to the right indicate mapping relations between the canonical form symbols

of the semantics, and the associated phrase structure nodes. PTRANS indicates transformational rules that may be associated.

Next come the actual myths, together with the change stacks that are input to the surface structure generation mechanism. The simulation program creates the change stack (a list of triples to be encoded in the surface structure of some language, here English). The text of the myth, as generated from the triples on the change stack, appears on the right.

SLIMITS	START-DH-ENDOSH	NOTES	INDEXES	MYTH IDENTIFIER/NOTICES	NODES	PTRANS
1	5	THIS PROGRAM MAPS TIME AND MYTH SO THAT THE MYTHS WILL BE GENERATED IN DISTINCT TIME FRAMES I.E., MYTH 1 AT TIME 0, MYTH 2 AT TIME 2, ETC.	1	5	51 WATER 0= 'WATER' 52 FOOD 0= 'FOOD' 53 BAUTOGODO 0= 'BAUTOGODO' 54 BROTHERS 0= 'BROTHERS' 55 PALMS 0= 'PALMS' 56 WILDFRUIT 0= 'WILD FRUIT' 57 CAVE 0= 'CAVE' 58 TAPIR 0= 'TAPIR' 59 BEPRODOROI 0= 'BEPRODOROI' 60 BIRDNESTING 0= 'BIRDNESTING' 61 TREE 0= 'TREE' 62 FALCONS 0= 'FALCON' 63 MOUNTAIN 0= 'MOUNTAIN' 64 RAIN 2= 'RAIN' 65 LAKE 0= 'LAKE' 66 FIRE 0= 'FIRE' 67 SEA 0= 'SEA' 68 BROTHERINLAW 2= 'BROTHER IN LAW' 69 GREATDANCERATILE 2= 'GREAT DANCE MATTLETT' 70 SMALLRATTLE 2= 'SMALL RATTLE' 71 BELLS 3= 'BELLS' 72 HUMMINGBIRD 2= 'HUMMINGBIRD' 73 DOVE 2= 'DOVE' 74 GRASSHOPPER 2= 'GRASSHOPPER' 75 COUNTRY 2= 'COUNTRY' 76 HELPLP 0= 'HELP' 77 TRIBE 0= 'TRIBE' 78 SOULNED 0= 'SOULNED' 79 KILLSNAKE 0= 'KILLSNAKE' 80 THRESH 0= 'THRESH' 81 LIE 0= 'LIE' 82 BIRD 0= 'BIRD' 83 EXCHANG 0= 'EXCHANG' 84 PARENTS 3= 'PARENTS' 85 MOUSE 2= 'MOUSE' 86 POLE 0= 'POLE' 87 SHOULDR 2= 'SHOULDR' 88 NEIL 0= 'NEIL' 89 NESCAPE 0= 'NESCAPE' 90 ALL 0= 'ALL' 91 S 0= 'S'	51
2	5		1		52	
3	5		2		53	
4	5		3		54	
5	5		4		55	
6	5		5		56	
7	5		6		57	
8	5		7		58	
9	5		8		59	
10	5		9		60	
11	5		10		61	
12	5		11		62	
13	5		12		63	
14	5		13		64	
15	5		14		65	
16	5		15		66	
17	5		16		67	
18	5		17		68	
19	5		18		69	
20	5		19		70	
21	5		20		71	
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37	5		36		87	
38	5		37		88	
39	5		38		89	
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41	5		40		91	
42	5		41		92	
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46	5		45		96	
47	5		46		97	
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49	5		48		99	
50	5		49		100	
			50		101	
					102	
					103	
					104	
					105	

SLIMITS	START-DH-ENDOSH	NOTES	INDEXES	MYTH IDENTIFIER/NOTICES	NODES	PTRANS
1	5	THIS PROGRAM MAPS TIME AND MYTH SO THAT THE MYTHS WILL BE GENERATED IN DISTINCT TIME FRAMES I.E., MYTH 1 AT TIME 0, MYTH 2 AT TIME 2, ETC.	1	5	51 WATER 0= 'WATER' 52 FOOD 0= 'FOOD' 53 BAUTOGODO 0= 'BAUTOGODO' 54 BROTHERS 0= 'BROTHERS' 55 PALMS 0= 'PALMS' 56 WILDFRUIT 0= 'WILD FRUIT' 57 CAVE 0= 'CAVE' 58 TAPIR 0= 'TAPIR' 59 BEPRODOROI 0= 'BEPRODOROI' 60 BIRDNESTING 0= 'BIRDNESTING' 61 TREE 0= 'TREE' 62 FALCONS 0= 'FALCON' 63 MOUNTAIN 0= 'MOUNTAIN' 64 RAIN 2= 'RAIN' 65 LAKE 0= 'LAKE' 66 FIRE 0= 'FIRE' 67 SEA 0= 'SEA' 68 BROTHERINLAW 2= 'BROTHER IN LAW' 69 GREATDANCERATILE 2= 'GREAT DANCE MATTLETT' 70 SMALLRATTLE 2= 'SMALL RATTLE' 71 BELLS 3= 'BELLS' 72 HUMMINGBIRD 2= 'HUMMINGBIRD' 73 DOVE 2= 'DOVE' 74 GRASSHOPPER 2= 'GRASSHOPPER' 75 COUNTRY 2= 'COUNTRY' 76 HELPLP 0= 'HELP' 77 TRIBE 0= 'TRIBE' 78 SOULNED 0= 'SOULNED' 79 KILLSNAKE 0= 'KILLSNAKE' 80 THRESH 0= 'THRESH' 81 LIE 0= 'LIE' 82 BIRD 0= 'BIRD' 83 EXCHANG 0= 'EXCHANG' 84 PARENTS 3= 'PARENTS' 85 MOUSE 2= 'MOUSE' 86 POLE 0= 'POLE' 87 SHOULDR 2= 'SHOULDR' 88 NEIL 0= 'NEIL' 89 NESCAPE 0= 'NESCAPE' 90 ALL 0= 'ALL' 91 S 0= 'S'	51
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46	5		45		96	
47	5		46		97	
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49	5		48		99	
50	5		49		100	
			50		101	
					102	
					103	
					104	
					105	

<u>RELATIONS</u>			
106	S		
107	S		
108	SRELATIONST	165	S
109	SHRINKS A 3 0= "SHRINK"	166	S
110	THIRSTY A 2 0= "THIRSTY"	167	S
111	DIG 1 3 0= "DIG"	168	SCLASSES
112	DRINK 1 3 0= "DRINK"	169	PROCURE(H1) = WOMENOTTRIBEJ
113	PRODUCES 1 3 0= "PRODUCE"	170	PROCURE(H2) = XIFEOPBAITOGOJ
114	GIVES 1 3 0= "GIVE"	171	PROCURE(H12) = I
115	APPEARS A 3 0= "APPEAR"	172	PROCURE(H124) = FATHERI
116	STOP(S 1 3 1= "STOP")	173	PROCURE(H125) = WOMENOTTRIBEI
117	SELLS 1 3 0= "SEND"	174	OBSERVER(H1) = I
118	GATHERS 1 2 0= "GATHER"	175	OBSERVER(H2) = SONI
119	PICKING 1 2 0= "PICK"	176	OBSERVER(H12) = I
120	HUNTING 1 2 0= "HUNT"	177	OBSERVER(H124) = ASAREI
121	RAPIES 1 3 0= "RAPE"	178	OBSERVER(H125) = I
122	OBSERVES 1 3 0= "OBSERVE"	179	DEPRIVED(H1) = FATHERI
123	TELLS 1 3 0= "TELL"	180	DEPRIVED(H12) = SONI
124	DISCOVRS 1 3 0= "DISCOVER"	181	DEPRIVED(H124) = HEROI
125	THRASHES 1 3 0= "THRASH"	182	DEPRIVED(H125) = ASAREI
126	STRANGLES 1 3 0= "STRANGLE"	183	DEPRIVED(H125) = SONI
127	ASKS 1 3 0= "ASK"	184	ANIMAL(H1) = VULTUREI
128	ADVISES 1 3 0= "ADVISE"	185	ANIMAL(H2) = I
129	OBTAINS 1 3 0= "OBTAIN"	186	ANIMAL(H12) = JAGUARY
130	DEPRIVE 1 3 0= I	187	ANIMAL(H124) = I
131	BECOMES 1 3 0= "BECOME"	188	ANIMAL(H125) = I
132	IS 1 3 0= "BE"	189	3 COLLECT(H1) = GATHERS
133	DROPS 1 3 0= "DROP"	190	3 COLLECT(H2) = PICKING
134	ASCENDS 1 3 0= "ASCEND"	191	3 COLLECT(H12) = I
135	SET 1 3 0= "SET"	192	3 COLLECT(H124) = HUNTINGI
136	MAKES 1 3 0= "MAKE"	193	3 COLLECT(H125) = HUNTINGI
137	REMOVES 1 3 0= "REMOVE"	194	CREVENGE(H1) = SOULNESTI
138	HELPS 1 3 0= "HELP"	195	CREVENGE(H2) = KILLSIFIEI
139	WANDER A 3 0= "WANDER"	196	CREVENGE(H12) = I
140	TO 1 4 0= "TO"	197	CREVENGE(H124) = THRASHI
141	ESCAPE 1 3 0= "ESCAPE"	198	CREVENGE(H125) = I
142	CLIMB 1 3 0= "CLIMB"	199	DEPRIVATION(H1) = MOTHERI
143	DESCEND A 3 0= "DESCEND"	200	DEPRIVATION(H2) = MOTHERI
144	ON 1 4 0= "ON"	201	DEPRIVATION(H12) = ATCHI
145	WHERE 1 4 0= "WHERE"	202	DEPRIVATION(H124) = WATERI
146	CASHNOT A 3 2= "COULD NOT"	203	DEPRIVATION(H125) = FOODI
147	SLOWLY A 6 0= "SLOW"	204	WANDERER(H1) = HEROI
148	QUICKLY A 6 0= "QUICK"	205	WANDERER(H2) = BAITOGOGOJ
149	OF 1 4 0= "OF"	206	WANDERER(H12) = HERO JAGUARI
150	KILL 1 3 0= "KILL"	207	WANDERER(H124) = ASARE BROTHERB
151	FOR 1 4 0= "FOR"	208	WANDERER(H125) = I
152	CAPTURE 1 3 0= "CAPTURE"	209	EXPEDITION(H1) = PPLWSI
153	LEAVING 1 3 0= "LEAVE"	210	EXPEDITION(H2) = ALUDFRUITI
154	STRANDED A 2 0= "STRAND"	211	EXPEDITION(H12) = I
155	FORI A 4 0= "FOR"	212	EXPEDITION(H124) = GAMEI
156	WALKING A 3 0= "WALK"	213	EXPEDITION(H125) = TAPIRI
157	THROUGH 1 4 0= "THROUGH"	214	CHEROI(H1) = HEROI
158	SEARCH 1 3 0= "SEARCH"	215	CHEROI(H2) = BAITOGOGOJ
159	EMPTY A 2 0= "EMPTY"	216	CHEROI(H12) = HEROI
160	FROM 1 4 0= "FROM"	217	CHEROI(H124) = ASAREI
161	DEPRIVED A 2 0= "DEPRIVE"	218	CHEROI(H125) = BEPKOROROTI
162	ESCAPEN A 3 0= "ESCAPE"	219	VERTICAL(H1) = BIRDNESTINGI
163	HELPN A 3 0= "HELP"	220	VERTICAL(H2) = TREEI
164	SEARCHFOR 1 3 0= I	221	VERTICAL(H12) = BIRDNESTINGI
<u>CLASSES USED FOR SEQUENCING MYTHS AND CONTROL</u>			
222	CVERTICAL(M124) = FALCONSI	223	CVERTICAL(M125) = MOUNTAINI
224	CCREATION(M1) = RAINI	225	CCREATION(M2) = LAKEI
226	CCREATION(M12) = FIREI	227	CCREATION(M124) = SEA
228	CCREATION(M125) = RAINI	229	RAPIST(V1) = HEROI
230	RAPIST(V2) = MANFRONTAPIRCLANI	231	RAPIST(V4) = I
232	RAPIST(V12) = BROTHERS	233	RAPIST(V125) = I
234	CTAPIR(V1) = I	235	CTAPIR(V2) = MANFRONTAPIRCLANI
236	CTAPIR(V12) = I	237	CTAPIR(V124) = I
238	CTAPIR(V125) = TAPIRI	239	RELATION(H1) = FATHERI
240	RELATION(H2) = I	241	RELATION(H12) = BROTHERINLAWI
242	RELATI(OG)(H124) = I	243	RELATION(H125) = I
244	VICTIM(V1) = MOTHEROFHEROI	245	VICTIM(V2) = CIFEOPBAITOGOGOJ
246	VICTIM(V12) = I	247	VICTIM(V124) = MOTHEROFHEROI
248	VICTIM(V125) = I	249	2 SPEED(H1) = I
250	2 SPEED(H2) = SLOWLI	251	2 SPEED(H12) = I
252	2 SPEED(H24) = I	253	2 SPEED(H125) = QUICKLYI
254	CLIE(H1) = I	255	CLIE(H2) = I
256	CLIE(H12) = LIEI	257	CLIE(H124) = I
258	CLIE(H125) = I	259	INDEX = [1 12 13]
260	OBJECT(11) = GREATDANCERATTLEI	261	OBJECT(12) = SHALRLATTLEI
262	OBJECT(13) = BELLSI	263	HELPER(11) = HUMMINGBIRD
264	HELPER(12) = DOVEI	265	HELPER(13) = GRASSHOPPERI
266	CNTRL = I	267	
268	S CLASSES USED FOR SEQUENCING MYTHS AND CONTROL	269	
270	MYTHSEQ = M1 M2 M12 M124 M125	271	CONTROLSEQ = GATHER RAPE OBSERVE DISCOVERY REVENGE
272	CRIME = DEPRIVES VERTICAL HORIZONTAL CREATIONS	273	MYTH = I
274	NETWORK;	275	*LEXTRP(MIFE OF BAITOGOGOJ TO EIFEOPBAITOGOGOJ)
276	*LEXTRP(MOTHER OF HERO) TO MOTHEROFHEROI	277	*LEXTRP(MAN FROM TAPIRCLAN) TO MANFRONTAPIRCLANI
278	*LEXTRP(WOMEN OF TRIBE) TO WOMENOTTRIBEI	279	*LEXTRP(MEN OF TRIBE) TO WOMENOTTRIBEI
280	*LEXTRP(DEPRIVED OF) TO DEPRIVEI	281	*LEXTRP(SEARCH FOR) TO SEARCHFORI

Lévi-Strauss Program (comments are prefaced by |)

282	S	
283	S	BEGIN PROGRAM
284	S	
285	S	GROUP MASTER
286	S	THIS GROUP MAPS TIME ONTO MYTH SEQUENCE
287	S	
288	S	AND IS THE DRIVER OF THIS GENERATOR
289	S	
290	S	SGROUP MASTER: IN/ONI
291	S	
292	S	SLOOP: X,MYTHSEQ:
293	S	
294	S	SRULE: +END
295	S	10,-10 : NUM(MYTHSEQ) EQ 0
296	S	SRULE: [SENDGROUP] +REMOVE X FROM MYTHSEQ,
297	S	+MOVE X TO "MYTH", +CALL CONTROL
298	S	
299	S	SENDLOOP!
300	S	SENDGROUP!
301	S	
302	S	
303	S	GROUP CONTROL
304	S	THIS GROUP CONTROLS THE SEQUENCING OF THE EVENTS
305	S	IN EACH MYTH WHICH ARE GIVEN IN CONTROLSEQ
306	S	
307	S	SGROUP CONTROLS
308	S	10H/OFF!
309	S	
310	S	LOOP ON CONTROL SEQUENCE
311	S	
312	S	SLOOP I
313	S	Y,CONTROLSERT
314	S	SRULE: +MOVE Y TO CNTRL, +CALL CNTRL
315	S	SENDLOOP!
316	S	SRULE: +RETURN!
317	S	SENDGROUP!
318	S	
319	S	GROUP GATHER
320	S	
321	S	SGROUP GATHERS
322	S	10H/OFF!
323	S	SLOOP: M,MYTH!
324	S	
325	S	SRULE: I PROCURER(H) COLLECT(H) EXPEDITION(H)
326	S	10,-101 NUM(PROCURER(H)) GT 0!
327	S	SENDLOOP!
328	S	SRULE: +RETURN!
329	S	SENDGROUP!
330	S	
331	S	GROUP RAPE
332	S	
333	S	SGROUP RAPE: 10H/OFF!
334	S	
335	S	SLOOP: M,MYTH!
336	S	SRULE: RAPIST(H) RAPE VICTIM(H)
337	S	10,-101 NUM(RAPIST(H)) GT 0!
338	S	SENDLOOP!
339	S	SRULE: +RETURN!
340	S	SENDGROUP!
341	S	
342	S	GROUP OBSERVE
343	S	
344	S	SGROUP OBSERVE
345	S	10H/OFF!
346	S	SLOOP: M,MYTH!
347	S	SRULE: OBSERVER(H) OBSERVES RAPE!
348	S	10,-101 NUM(OBSERVER(H)) GT 0!
349	S	SENDLOOP!
350	S	SRULE: +RETURN!
351	S	SENDGROUP!
352	S	
353	S	GROUP DISCOVERY
354	S	
355	S	SGROUP DISCOVERY
356	S	10H/OFF!
357	S	SLOOP: M,MYTH!
358	S	
359	S	SRULE: I (ISNEXT H) +INSERT(OBSERVER(H) TELLS FATHER) ITELLS OF RAPE)
360	S	10,-101 NUM(OBSERVER(H)) GT 0!
361	S	SRULE: FATHER DISCOVERS RAPE!
362	S	10,-101 NUM(OBSERVER(H)) EQ 0 AND NUM(RAPIST(H)) GT 0!
363	S	SENDLOOP!
364	S	SRULE: +RETURN!
365	S	SENDGROUP!
366	S	
367	S	GROUP REVENGE
368	S	
369	S	SGROUP REVENGE
370	S	10H/OFF!
371	S	SLOOP: M,MYTH!
372	S	
373	S	SRULE: +CALL CREVENCE(H)
374	S	10,-101 NUM(CREVENCE(H)) GT 0!
375	S	SENDLOOP!
376	S	SRULE: +RETURN!
377	S	SENDGROUP!
378	S	
379	S	GROUP CRIME
380	S	
381	S	SGROUP CRIME
382	S	10H/OFF!
383	S	SLOOP: M,MYTH!
384	S	
385	S	SRULE: C1: (ISNEXT H) HERO(H) KILL CTAPIR(H)
386	S	10,-101 NUM(SPEED(H)) EQ 0 AND NUM(CTAPIR(H)) GT 0!
387	S	SRULE: +INSERT(HERO(H) KILL CTAPIR(H))(KILL SPEED(H))
388	S	10,-101 NUM(CTAPIR(H)) GT 0 AND NUM(SPEED(H)) GT 0!
389	S	SENDLOOP!
390	S	SENDGROUP!
391	S	
392	S	GROUP DEPRIVES

393	S			450	S		
394	SGROUP DEPRIVES:		IOM/OFF1	451	SGROUP KILLSWIFE:		IOM/OFF1
395	S			452	S		
396	SLOOP 1 H-MYTH1			453	SLOOP 1 H-MYTH1		
397	S			454	S		
398	SRULE: DEPRIVED(M) DEPRIVE DEPRIVATION(H)			455	SRULE: BAITOGOGO STRANGLES WIFE OF BAITOGOGO1		
399	SENDLOOP1			456	SENDLOOP1		
400	SRULE 1 *RETURN1			457	SRULE: *RETURN1		
401	SENDGROUP1			458	SENDGROUP1		
402	S			459	S		
403	S GROUP VERTICAL			460	S GROUP SOULNEST		
404	S			461	S		
405	SGROUP VERTICAL:		IOM/OFF1	462	SGROUP SOULNEST1		IOM/OFF1
406	S			463	S		
407	SLOOP 1 H-MYTH1			464	S		
408	S			465	SLOOP1 K:INDEX1		
409	SRULE: *CALL CVERTICAL(H)			466	S		
410	SENDLOOP1			467	SRULE: *INSERT(FATHER SENDS HERD)(SENDS FOR OBJECT(K))		
411	SRULE: *RETURN1			468	(SENDS TO NEST)(ACST OR SPULS),		
412	SENDGROUP1			469	*INSERT(HERO AS'S GRANDMOTHER)(ASKS HELPN),		
413	S			470	*INSERT(GRANDMOTHER ADVISES HERO)(ADVISES ASKS HELPER(K)),		
414	S GROUP HORIZONTAL			471	*INSERT(HELPER(K) OBTAINS OBJECT(K))(OBTAINS FOR HERO))		
415	S			472	SENDLOOP1		
416	SGROUP HORIZONTAL:		IOM/OFF1	473	SRULE: *RETURN1		
417	S			474	SENDGROUP1		
418	SLOOP 1 H-MYTH1			475	S		
419	S			476	*****VERTICAL SUBRINS*****		
420	SRULE: *INSERT(WANDERER(H) WANDER)(WANDER THROUGH COUNTRY))			477	S		
421	10-101 NUM(WANDERER(H)) GT 0;			478	S GROUP TREE		
422	SENDLOOP1			479	S		
423	SRULE: *RETURN1			480	SGROUP TREE1 IOM/OFF1		
424	SENDGROUP1			481	SRULE: SON BECOMES BIRD,		
425	S			482	BIRD SEARCHFOR MOTHER,		
426	S GROUP CREATION			483	*INSERT(BIRD DROPS EXCREMENT)(DROPS ON BAITOGOGO),		
427	S			484	EXCREMENT BECOMES TREE1		
428	SGROUP CREATION1		IOM/OFF1	485	SRULE: *RETURN1		
429	S			486	SENDGROUP1		
430	SLOOP1 H-MYTH1			487	S		
431	S			488	S GROUP FALCONS		
432	SRULE: *CALL CCREATION(H)			489	S		
433	SENDLOOP1			490	SGROUP FALCON1		IOM/OFF1
434	SRULE: *RETURN1			491	S		
435	SENDGROUP1			492	SRULE: *INSERT(BROTHERS SET FIRE)(SET TO HOUSE)(HOUSE OF PARENTS),		
436	S			493	*INSERT(PARENT'S BECOMES FALCON1)(BECOMES ESCAPEN))		
437	S THE FOLLOWING ARE SUBROUTINES CALLED BY THE			494	SRULE: *RETURN1		
438	CONTROL SUBROUTINES			495	SENDGROUP1		
439	S			496	S		
440	****REVENGE SUBROUTINES*****			497	S GROUP MOUNTAIN		
441	S			498	S		
442	SGROUP THRASH1 IOM/OFF1			499	SGROUP MOUNTAIN1		IOM/OFF1
443	S			500	S		
444	S			501	SRULE: BEPKORODTI ASCENDS MOUNTAINS		
445	SRULE: FATHER THRASHES BROTHERS1			502	SRULE: *RETURN1		
446	SRULE: *RETURN1			503	SENDGROUP1		
447	SENDGROUP1			504	S		
448	S			505	S GROUP BIRDNESTING		
449	S GROUP KILLSWIFE			506	S		

507	SGROUP BIRDNESTING1	10H/OFF1	564	SENDGROUP1
508	S		565	S
509	SLOOP 1	H,MYTH1	566	S
510	S		567	S
511	SRULE1 :+INSERT(RELATION(M) MAKES CHERO(M))(MAKES CAPTURE MACANS)		568	SEND1
512	(MAKES CLIMB POLE)			
513	SRULE1 :+INSERT(CHERO(M)) TELLS THAT(NEST EMPTY)			
514	(TELLS TO RELATION(M)) :			
515	10,-101 NUM(ICLIE(M)) GT 01			
516	SRULE1 : RELATION(N) REMOVES POLE,			
517	CHERO(M) STRANDED			
518	+INSERT(ANIMAL(H)) HELPS CHERO(M))(HELPS DESCEND1)			
519	SENDLOOP1			
520	SRULE1 :+RETURN1			
521	SENDGROUP1			
522	S			
523	S	*****CREATION SUBRHS*****		
524	S			
525	S			
526	S	GROUP RAIN		
527	S			
528	SGROUP RAIN1	10H/OFF1		
529	S			
530	SLOOP 1	H,MYTH1		
531	S			
532	SRULE1 :+INSERT(CHERO(M)) SENDS R(BIN)			
533	(SENDS FOR REVENGE)(SENDS ON TRIBE)			
534	SENDLOOP			
535	SRULE1 :+RETURN1			
536	SENDGROUP1			
537	S			
538	S	GROUP LAKE		
539	S			
540	SGROUP LAKE1	10H/OFF1		
541	S			
542	SRULE1 :+INSERT(BAITOGOGO STOPS)(STOPS WALKING),			
543	LAKE APPEARS,			
544	+INSERT(TREE SHRINKS)(TREE ON SHOULDER(SHOULDER OF BAITOGOGO))			
545	SRULE1 :+RETURN1			
546	SENDGROUP1			
547	S			
548	S	GROUP SEA		
549	S			
550	SGROUP SEA1	10H/OFF1		
551	S			
552	SRULE1 : ASARE THIRSTY,			
553	BROTHERS DIG WELL,			
554	+INSERT(ASARE CANNOT)(CANNOT DRINK ALL(ALL OF WATER))			
555	WELL PRODUCES SEA1			
556	SRULE1 :+RETURN1			
557	SENDGROUP1			
558	S			
559	S	GROUP FIRE		
560	SGROUP FIRE1	10H/OFF1		
561	S			
562	SRULE1 :+INSERT(JAGUAR GIVES FIRE)(GIVES TO HERO1)			
563	SRULE1 :+RETURN1			

<u>GRAMMAR</u>		<u>P1YPE</u>	<u>P1MAP</u>	<u>P1SUB</u>	<u>P1TRANS</u>
1 S	---> NP VP	O RV	1 2 0	0 0 0	2
2 S	---> NP AP	O R	1 2 0	0 0 0	2
3 NP	---> NAME2	O	1 0 0	0 0 0	1
4 NP	---> ART NPP	O	2 0 0	0 0 0	2
5 NAME2	---> NPP	O	1 0 0	0 0 0	1
6 NPP	---> NAME	O	1 0 0	0 0 0	1
7 NPP	---> N	O	1 0 0	0 0 0	1
8 NPP	---> NPP MOD	O RP	1 2 0	0 0 0	1
9 NPP	---> NPP MOD	O RV	1 2 0	0 0 0	1
10 NPP	---> NPP ADJ	O RA	1 2 0	0 0 0	2
11 NPP	---> ADJ NPP	O RA	2 1 0	0 0 0	1
12 VP	---> V	RV	1 0 0	0 0 0	1
13 VP	---> VP VP	RV RV	1 2 0	1 0 0	4
14 VP	---> VP VP	RV RV	1 2 0	2 0 0	3
15 VP	---> VP VP2	RV RV	1 2 0	0 0 0	1
16 VP	---> VP THAT2	RV O	1 2 0	0 1 0	1
17 VP	---> VP NP	RV O	1 2 0	0 0 0	1
18 VP	---> VP MOD	RV RA	1 2 0	0 0 0	1
19 VP	---> VP MOD	RV RP	1 2 0	0 0 0	1
20 VP	---> VP ADV	RV RADV	1 2 0	0 0 0	1
21 VP	---> ADV VP	RV RADV	2 1 0	0 1 0	1
22 MOD	---> VP	RV	1 0 0	0 0 0	4
23 MOD	---> ADJ	RA	1 0 0	0 0 0	1
24 MOD	---> PREP	RP	1 0 0	0 0 0	1
25 MOD	---> ADJ THAT2	RA O	1 2 0	0 1 0	1
26 MOD	---> MOD NP	RA O	1 2 0	0 0 0	1
27 MOD	---> ADV ADJ	RA RADV	2 1 0	0 0 0	1
28 MOD	---> PREP NP	RP O	1 2 0	0 0 0	1
29 MOD	---> ADJ VP2	RA RV	1 2 0	0 0 0	1
30 MOD	---> ADJ VP2	RA RF	1 2 0	0 0 0	1
31 AP	---> IS MOD	R	2 0 0	0 0 0	2
32 VP2	---> TO VP	RV	2 0 0	0 0 0	3
33 VP2	---> PREP	RP	1 0 0	0 0 0	1
34 VP2	---> PREP NP	RP O	1 2 0	0 0 0	1
35 VP2	---> VP2 NP	RV O	1 2 0	0 0 0	1
36 VP2	---> PREP MOD	RP RV	1 2 0	0 0 0	1
37 THAT2	---> THAT S	O	1 0 0	1 0 0	1

MYTH 1

CHANGE STACK FOR TIME ON

1:	(WOMEN OF A TRIBE WERE GATHERING PALMS)	SET AT 0M	
2:	(HERO RAPE MOTHEROF)	SET AT 0M	
3:	(FATHER DISCOVERS RAPE)	SET AT 0M	
4:	(FATHER SENDS HERO)	SET AT 0M	
5:	(SENDS FOR GREATDANI)	SET AT 0M	
6:	(SENDS TO NEST)	SET AT 0M	
7:	(NEST OF SOULS)	SET AT 0M	
8:	(HERO ASKS GRANDOTI)	SET AT 0M	
9:	(ASKS HELPN)	SET AT 0M	
10:	(GRANDMOT ADVISES HERO)	SET AT 0M	
11:	(ADVISES ASKS HUMMINGBIRD)	SET AT 0M	
12:	(HUMMINGBIRD OBTAINS GREATDANI)	SET AT 0M	
13:	(GREATDANI FOR HERO)	SET AT 0M	THE WOMEN OF A TRIBE WERE GATHERING PALMS.
14:	(FATHER SENDS HERO)	SET AT 0M	THE HERO RAPE THE MOTHER OF THE HERO.
15:	(SENDS FOR SMALLRATT)	SET AT 0M	THE FATHER DISCOVERED THE RAPE.
16:	(SENDS TO NEST)	SET AT 0M	THE FATHER SENT THE HERO TO THE NEST OF THE SOULS FOR THE GREAT DANCE RATTLE.
17:	(NEST OF SOULS)	SET AT 0M	THE HERO ASKED THE GRANDMOTHER TO HELP.
18:	(HERO ASKS GRANDOTI)	SET AT 0M	THE GRANDMOTHER ADVISED THE HERO TO ASK THE HUMMINGBIRD.
19:	(ASKS HELPN)	SET AT 0M	THE HUMMINGBIRD OBTAINED THE GREAT DANCE RATTLE FOR THE HERO.
20:	(GRANDMOT ADVISES HERO)	SET AT 0M	THE FATHER SENT THE HERO TO THE NEST OF THE SOULS FOR THE SMALL RATTLE.
21:	(ADVISSES ASKS DOVE)	SET AT 0M	THE HERO ASKED THE GRANDMOTHER TO HELP.
22:	(DOVE OBTAINS SMALLRATT)	SET AT 0M	THE GRANDMOTHER ADVISED THE HERO TO ASK THE DOVE.
23:	(GREATDANI FOR HERO)	SET AT 0M	THE DOVE OBTAINED THE SMALL RATTLE FOR THE HERO.
24:	(FATHER SENDS HERO)	SET AT 0M	THE FATHER SENT THE HERO TO THE NEST OF THE SOULS FOR THE BELLS.
25:	(SENDS FOR BELLS)	SET AT 0M	THE FATHER ASKED THE GRANDMOTHER TO HELP.
26:	(SENDS TO NEST)	SET AT 0M	THE GRANDMOTHER ADVISED THE HERO TO ASK THE GRASSHOPPER.
27:	(NEST OF SOULS)	SET AT 0M	THE GRASSHOPPER OBTAINED THE BELLS FOR THE HERO.
28:	(HERO ASKS GRANDOTI)	SET AT 0M	THE FATHER WAS DEPRIVED OF THE MOTHER.
29:	(ASKS HELPN)	SET AT 0M	THE FATHER MADE THE HERO TO CLIMB A POLE TO CAPTURE MACARS.
30:	(GRANDMOT ADVISES HERO)	SET AT 0M	THE FATHER REMOVED THE POLE.
31:	(ADVISES ASKS GRASSHOP)	SET AT 0M	THE HERO WAS STRANDED.
32:	(GRASSHOP OBTAINS BELLS)	SET AT 0M	A VULTURE HELPED THE HERO TO DESCEND.
33:	(GREATDANI FOR HERO)	SET AT 0M	THE HERO WANDERED THROUGH THE COUNTRY.
34:	(FATHER DEPRIVE MOTHER)	SET AT 0M	THE HERO SENT THE RAIN ON THE TRIBE FOR REVENGE.
35:	(FATHER MAKES HERO)	SET AT 0M	
36:	(MAKES CAPTURE MACARS)	SET AT 0M	
37:	(MAKES CLIMB POLE)	SET AT 0M	
38:	(FATHER REMOVES POLE)	SET AT 0M	
39:	(HERO STRANDED)	SET AT 0M	
40:	(VULTURE HELPS HERO)	SET AT 0M	
41:	(HELPS DESCEND)	SET AT 0M	
42:	(HERO WANDER)	SET AT 0M	
43:	(WANDER THROUGH COUNTRY)	SET AT 0M	
44:	(HERO SENDS RAIN)	SET AT 0M	
45:	(SENDS FOR REVENGE)	SET AT 0M	
46:	(SENDS ON TRIBE)	SET AT 0M	

MYTH 2

CHANGE STACK FOR TIME 1H

1: (WIFE OF BA
I) PICKING WILD FRUIT) SET AT 1H
 2: (MAN FROM THE TA
PIR CLAN RAPE
S WIFE OF BA
I) SET AT 1H
 3: (SON OBSERVES RAPE) SET AT 1H
 4: (SON TELLS FATHER) SET AT 1H
 5: (TELLS OF RAPE) SET AT 1H
 6: (BAITOGOGO STRANGLE WIFE OF BA
I) SET AT 1H
 7: (BAITOGOGO KILL MAN FROM THE TA
PIR CLAN SLOWLY) SEX AT 1H
 8: (KILL SLOWLY) SET AT 1H
 9: (SON DEPRIVE MOTHER) SET AT 1H
 10: (SON BECOMES BIRD) SET AT 1H
 11: (BIRD SEARCHES MOTHER) SET AT 1H
 12: (BIRD DROPS EXCREMENT) SET AT 1H
 13: (DROPS ON BAITOGOGO) SET AT 1H
 14: (EXCREMENT BECOMES TREE) SET AT 1H
 15: (BAITOGOGO WANDERS) SET AT 1H
 16: (WANDER THROUGH COUNTRY) SET AT 1H
 17: (BAITOGOGO STOPS) SET AT 1H
 18: (STOPS WALKING) SET AT 1H
 19: (LAKE APPEARS) SET AT 1H
 20: (TREE SHRINKS) SET AT 1H
 21: (TREE ON SHOULDER) SET AT 1H
 22: (SHOULDER OF BAITOGOGO) SET AT 1H

THE WIFE OF BAITOGOGO WAS PICKING WILD FRUIT.
 A MAN FROM THE TA
PIR CLAN RAPE
S THE WIFE OF BAITOGOGO.
 A SON OBSERVED THE RAPE.
 THE SON TOLD THE FATHER OF THE RAPE.
 BAITOGOGO STRANGLED THE WIFE OF BAITOGOGO.
 BAITOGOGO KILLED THE MAN FROM THE TA
PIR CLAN SLOWLY.
 THE SON WAS DEPRIVED OF THE MOTHER.
 THE SON BECAME A BIRD.
 THE BIRD SEARCHED FOR THE MOTHER.
 THE BIRD DROPPED EXCREMENT ON BAITOGOGO.
 THE EXCREMENT BECAME A TREE.
 BAITOGOGO WANDERED THROUGH THE COUNTRY.
 BAITOGOGO STOPPED WALKING.
 A LAKE APPEARED.
 THE TREE ON THE SHOULDER OF BAITOGOGO SHRUNK.

MYTH 12

CHANGE STACK FOR TIME 2H

1: (HERO DEPRIVE KATERI) SET AT 2H
 2: (BROTHER IN LAW MAKES HERO) SET AT 2H
 3: (MAKES CAPTURE MACARSI) SET AT 2H
 4: (MAKES CLIMB POLE) SET AT 2H
 5: (HERO TELLS THAT) SET AT 2H
 6: (NEST EMPTY) SET AT 2H
 7: (TELLS TO BROTHER) SET AT 2H
 8: (BROTHER REMOVES POLE) SET AT 2H
 9: (HERO STRANDED) SET AT 2H
 10: (JAGUAR HELPS HERO) SET AT 2H
 11: (HELPS DESCEND) SET AT 2H
 12: (HERO WANDER) SET AT 2H
 13: (WANDER THROUGH COUNTRY) SET AT 2H
 14: (JAGUAR WANDER) SET AT 2H
 15: (WANDER THROUGH COUNTRY) SET AT 2H
 16: (JAGUAR GIVES FIRE) SET AT 2H
 17: (GIVES TO HERO) SET AT 2H

THE HERO WAS DEPRIVED OF WATER.
 THE BROTHER IN LAW MADE THE HERO TO CLIMB THE POLE TO CAPTURE THE MACARSI.
 THE HERO TOLD THAT THE NEST WAS EMPTY.
 THE BROTHER IN LAW REMOVED THE POLE.
 THE HERO WAS STRANDED.
 A JAGUAR HELPED THE HERO TO DESCEND.
 THE HERO WANDERED THROUGH THE COUNTRY.
 THE JAGUAR WANDERED THROUGH THE COUNTRY.
 THE JAGUAR GAVE FIRE TO THE HERO.

MYTH 124

CHANGE STACK FOR TIME 3H

1:	(FATHER HUNTING GAME)	SET AT 3H
2:	(BROTHERS RAPES MOTHEROF)	SET AT 3H
3:	(ASARE OBSERVES RAPE)	SET AT 3H
4:	(ASARE TELLS FATHER)	SET AT 3H
5:	(TELLS OF RAPE)	SET AT 3H
6:	(FATHER THRASHES BROTHERS)	SET AT 3H
7:	(ASARE DEPRIVE WATER)	SET AT 3H
8:	(BROTHERS SET FIRE)	SET AT 3H
9:	(SET TO HOUSE)	SET AT 3H
10:	(HOUSE OF PARENTS)	SET AT 3H
11:	(PARENTS BECOMES FALCONS)	SET AT 3H
12:	(BECOMES ESCAPE)	SET AT 3H
13:	(ASARE WANDER)	SET AT 3H
14:	(WANDER THROUGH COUNTRY)	SET AT 3H
15:	(BROTHERS WANDER)	SET AT 3H
16:	(WANDER THROUGH COUNTRY)	SET AT 3H
17:	(ASARE THIRSTY)	SET AT 3H
18:	(BROTHERS DIG WELL)	SET AT 3H
19:	(ASARE CANNOT)	SET AT 3H
20:	(CANNOT DRINK ALL)	SET AT 3H
21:	(ALL OF WATER)	SET AT 3H
22:	(WELL PRODUCES SEA)	SET AT 3H

THE FATHER WAS HUNTING GAME.
 THE BROTHERS RAPED THE MOTHER OF THE HERD.
 ASARE OBSERVED THE RAPE.
 ASARE TOLD THE FATHER OF THE RAPE.
 THE FATHER THRASHED THE BROTHERS.
 ASARE WAS DEPRIVED OF THE WATER.
 THE BROTHERS SET FIRE TO THE HOUSE OF THE PARENTS.
 THE PARENTS BECAME FALCONS TO ESCAPE.
 ASARE WANDERED THROUGH THE COUNTRY.
 THE BROTHERS WANDERED THROUGH THE COUNTRY.
 ASARE WAS THIRSTY.
 THE BROTHERS DUG A WELL.
 ASARE COULD NOT DRINK ALL OF THE WATER.
 THE WELL PRODUCED A SEA.

MYTH 125

CHANGE STACK FOR TIME 4H

1:	(MENOFTRI HUNTING TAPIR)	SET AT 4H
2:	(BEPKOROD KILL TAPIR)	SET AT 4H
3:	(KILL QUICKLY)	SET AT 4H
4:	(SON DEPRIVE FOOD)	SET AT 4H
5:	(BEPKOROD ASCENDS MOUNTAIN)	SET AT 4H
6:	(BEPKOROD SENDS RAIN)	SET AT 4H
7:	(SENDS FOR REVENGE)	SET AT 4H
8:	(SENDS ON TRIBE)	SET AT 4H

MEN OF THE TRIBE WERE HUNTING A TAPIR.
 BEPKORODTI KILLED THE TAPIR QUICKLY.
 THE SON WAS DEPRIVED OF FOOD.
 BEPKORODTI ASCENDED A MOUNTAIN.
 BEPKORODTI SENT THE RAIN ON THE TRIBE FOR REVENGE.

5.0. PROPP

5.1. *Automating Propp's One-Move Tales*

A complete listing of the program and grammar is contained in the addenda. We present the complete text of fifty one-move tales actually generated by our automated model. Two of the tales are listed here with change stacks, comments on those change stacks that refer both to the program and Propp (1968), and the complete texts. The remaining forty-eight tales are in the addenda. Note that the program generates two change stacks for each tale; these are encoded in the two separate paragraphs of each tale.

The most complex problems in automating Propp and Lévi-Strauss concern logical quantification of function, that is, the coherent selection of compatible characters, objects, and functions. Propp suggests a greater freedom than is logically possible, although elsewhere (1968: 112) he discusses the need for the storyteller to pay attention to the actual logical restrictions on the seeming freedom of the patterns. This point is noted and discussed extensively by Königas Maranda in her seminal paper, "The individual and tradition" (1976). In our model of Propp, this restrictive logical quantification is a major concern. We have used both the class subscript device, as in our Lévi-Strauss example, as well as other kinds of logical selection. (Here, the subscript device associates sets of compatible characters, objects, and functions rather than single, fixed choices, in precisely the style of Propp [1968:47, Figure 1], and random picks are made from classes defined by subscripts.)

There are, then, two types of quantification: an internal quantification using subscripts, and an outside master control group quantification that takes place before execution of the folktale rule groups — the current version of our program does not always follow this ideal separation of quantification types. Class memberships may be modified during the course of execution of the program. We do not explain the code in detail. The comments, however, refer to actual pages in Propp (1968), and use the same symbols; they should give the reader an idea of the completeness of our model. We let Propp (1968) serve the same function for our program that the stylized Lévi-Strauss example served for its actual program.

```

.CHANGE STACK FOR TIME 1M
11  (BORISIEV_LIVEIN DISTANTPI) SET AT 1M
21  (NFATHER IS EMELYAI) SET AT 1M
31  (SON IS BORISI) SET AT 1M
41  (SON ONLYI) SET AT 1M
51  (MARTHA IS DAUGHTERI) SET AT 1M
61  (DAUGHTER ONLYI) SET AT 1M
71  (EMELYA HAVE SHEEP) SET AT 1M
81  (BORIS RAND SHEEP) SET AT 1M
91  (BORIS RAND MARTHA) SET AT 1M
101 (SHEEP IN WOODS) SET AT 1M
111 (BORIS SAY2 INTERDICI) SET AT 1M
121 (MARTHA NOLEAVE WOODS) SET AT 1M
131 (BORIS LEAVEI) SET AT 1M
141 (LEAVE GOBERRYG) SET AT 1M
151 (MARTHA LEAVEI WOODS) SET AT 1M
161 (WOLF APPEARIN DISTANTPI) SET AT 1M
171 (EMELYA ASK1 WOLF) SET AT 1M
181 (ASK1 WHEREIS YOURWISDI) SET AT 1M
191 (WOLF SAY2 THAT) SET AT 1M
201 (MYWISDOM IN MAGEGGI) SET AT 1M
211 (WOLF PLUNDER SHEEP) SET AT 1M
221 (EMELYA SEND MARTAI) SET AT 1M
231 (SEND SEARCHI) SET AT 1M
241 (SEARCH1 FOR WOLF) SET AT 1M
251 (MARTHA DECIDEI) SET AT 1M
261 (DECIDE SEARCHI) SET AT 1M
271 (SEARCH1 FOR WOLF) SET AT 1M
281 (MARTHA LEAVEI) SET AT 1M
291 (LEAVE ON SEARCH) SET AT 1M

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.
THE FATHER IS EMELYA.
THE ONLY SON IS BORIS.
MARTHA IS THE ONLY DAUGHTER.
EMELYA HAS THE SHEEP.
BORIS, MARTHA AND THE SHEEP ARE IN THE WOODS.
BORIS SAYS MARTHA, DO NOT LEAVE THE WOODS.
BORIS LEAVES TO GO BERRY GATHERING.
MARTHA LEAVES THE WOODS.
A WOLF APPEARS IN THE DISTANT PROVINCE.
EMELYA ASKS THE WOLF WHERE IS YOUR WISDOM.
THE WOLF SAYS THAT MY WISDOM IS IN A MAGIC EGG.
THE WOLF PLUNDERS THE SHEEP.
EMELYA SENDS MARTHA TO SEARCH FOR THE WOLF.
MARTHA DECIDES TO SEARCH FOR THE WOLF.
MARTHA LEAVES ON A SEARCH.

```

Commentary on Change Stack for 1M

- Before 1 GROUP ALPHA called, which sets up the classes:
 FAMNAME=BORISIEVICHES; STORYLOC=DISTANTPROVINCE; FATHER=EMELYA;
 SONI=BORIS; DAUGHTI=MARTHA; and FAMILY, OLDGEN, AND YOUNGEN
- 1-6 Master Group, following call on GROUP ALPHA
- Before 7 Form 5 of A picked, HERO(MARTHA) chosen from FAMILY. Form of A
 forces a VILLAIN(WOLF) from outside FAMILY, and a non-human
 (SHEEP) object of villainy (OBJECT).
 EMELYA chosen as OWNER and VICTIM
- Before 8 MARTHA made a SEEKER-HERO. WOODS picked as location of villainy
 (VLOC). Interdiction sequence chosen to occur. BORIS picked as
 ABSENTOR so form 3 of BETA will be used. Form 1 of GAMMA picked.
 Inverted form of interdiction constructed.
- 11-12 GROUP GAMMA. INTERDICT is a predicate node.
- 13-14 GROUP BETA
- 15 GROUP DELTA
- 16 GROUP VILLARIY
- Before 17 Reconnaissance sequence. Form 2 of EPSILON picked.
 QOBJECT is YOURWISDOM, QLOC is MAGEGG.
- 17-18 GROUP EPSILON
- 19-20 GROUP PSI
- 21 GROUP A
- Before 22 WOLF becomes sought after object (SUBJECT). EMELYA made DISPATCHER.
 Form 2 of B picked since OWNER and HERO both in FAMILY and there is
 a SEEKER-HERO.
- 22-24 GROUP B
- 25-27 GROUP C
- 28-29 GROUP DEPART

Tale 1

CHANGE STACK FOR TIME ID

```

1:  (ULST XX) SET AT ID
2:  (MARTHA LISTEN) SET AT ID
3:  (WITHOUT FALLASLE) SET AT ID
4:  (LISTEN TO GUSLA) SET AT ID
5:  (LISTEN WITHOUT) SET AT ID
6:  (MARTHA STAY) SET AT ID
7:  (LISTEN TO GUSLA) SET AT ID
8:  (WHILE LISTEN) SET AT ID
9:  (STAY AWAKE) SET AT ID
10: (STAY WHILE) SET AT ID
11: (LST XX) SET AT ID
12: (MARTHA MEET WITCH) SET AT ID
13: (MEET ALONG WAY) SET AT ID
14: (WITCH PROPOSE TASK) SET AT ID
15: (MARTHA LISTEN) SET AT ID
16: (LISTEN WITHOUT) SET AT ID
17: (LISTEN TO GUSLA) SET AT ID
18: (WITHOUT FALLASLE) SET AT ID
19: (MARTHA RESPOND TRESP) SET AT ID
20: (MARTHA STAY) SET AT ID
21: (STAY WHILE) SET AT ID
22: (STAY AWAKE) SET AT ID
23: (WHILE LISTEN) SET AT ID
24: (LISTEN TO GUSLA) SET AT ID
25: (MAGWAER CONSUMED MARTHA) SET AT ID
26: (MARTHA OBTAIN SUPSTREN) SET AT ID
27: (MARTHA TRAVEL) SET AT ID
28: (TRAVEL TO LOCATIO) SET AT ID
29: (LOCATIO OF WOLF) SET AT ID
30: (WOLF IN KINGDOM) SET AT ID
31: (KINGDOM OTHER) SET AT ID
32: (MARTHA DIRECTED HEDGEHOG) SET AT ID
33: (MARTHA FIND WOLF) SET AT ID
34: (THEY FIGHT) SET AT ID
35: (FIGHT IN FIELD) SET AT ID
36: (FIELD OPEN) SET AT ID
37: (MARTHA WOUNDED) SET AT ID
38: (MARTHA DEFEAT WOLF) SET AT ID
39: (DEFEAT WITH AID) SET AT ID
40: (AID OF SUPSTREN) SET AT ID
41: (WOLF CAUGHT) SET AT ID
42: (CAUGHT BY MARTHA) SET AT ID
43: (MARTHA START) SET AT ID
44: (START BACK HOME) SET AT ID
45: (MARTHA RETURN HOME) SET AT ID

```

MARTHA MEETS A WITCH ALONG THE WAY.
 THE WITCH PROPOSES THAT MARTHA LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.
 MARTHA RESPONDS BY STAYING AWAKE WHILE LISTENING TO THE GUSLA.
 A MAGIC WAFER IS CONSUMED BY MARTHA.
 MARTHA OBTAINS SUPER-HUMAN STRENGTH.
 MARTHA TRAVELS TO THE LOCATION OF THE WOLF IN AN OTHER KINGDOM.
 MARTHA IS DIRECTED BY A HEDGEHOG.
 MARTHA FINDS THE WOLF.
 THEY FIGHT IN AN OPEN FIELD.
 MARTHA IS WOUNDED.
 MARTHA DEFEATS THE WOLF WITH THE AID OF SUPER-HUMAN STRENGTH.
 THE WOLF IS CAUGHT BY MARTHA.
 MARTHA STARTS BACK HOME.
 MARTHA RETURNS HOME.

Commentary on Change Stack for ID

Before 1 Donor Sequence. SUPERSTRENGTH picked as the one magical agent to be acquired (MAGHELP). It must come from a food (MAGHELP=MAWAFF). Form 1 of D and form 7 of F must be used. Since form 1 of D is used, a DONCR(WITCH) is picked based on that form. Then GROUP WITCH is called to set up a task and a response.

1-11 GROUP WITCH. Two predicate nodes constructed.

12-18 GROUP D. TASK is a predicate node

Before 19 Trebling chosen not to occur.

19-24 GROUP E. TRESP is a predicate node.

25-26 GROUP F. Already set as Form 7. Basic rule and one additional rule executed.

Before 27 There is no magical agent. Form 4 picked for G and HEDGEHOG chosen as GHelper

27-32 GROUP G

33 Combat Sequence will be used

Before 34 There is a magical agent, and form 1 of H (and I) will be used.

34-35 GROUP H

37 GROUP J

38-40 GROUP I

Before 41 There is no magical agent, so form 7 of K picked, based on form of A.

41-42 GROUP K

43-44 GROUP RETURN

Before 45 Pursuit and Rescue are not chosen to occur.

45 GROUP EID

Tale 1 (cont.)

CHANGE STACK FOR TIME : 1M

```

1: |MOREVNAS LIVE|N DISTANTPROV| SET AT 1M
2: |INFATHER IS EREMA| SET AT 1M
3: |INMOTHER IS VASILISA| SET AT 1M
4: |SON IS BALDAK| SET AT 1M
5: |SON OLDEST| SET AT 1M
6: |SON IS MARCO| SET AT 1M
7: |SON YOUNGER| SET AT 1M
8: |SON IS BORIS| SET AT 1M
9: |SON YOUNGEST| SET AT 1M
10: |DAUGHTER IS MARIA| SET AT 1M
11: |DAUGHTER OLDEST| SET AT 1M
12: |DAUGHTER IS KATRINA| SET AT 1M
13: |DAUGHTER YOUNGER| SET AT 1M
14: |DAUGHTER IS MARTHA| SET AT 1M
15: |DAUGHTER YOUNGEST| SET AT 1M
16: |NICHOLAS LIVE|N LAND| SET AT 1M
17: |LIVING ALSO| SET AT 1M
18: |LAND SAME| SET AT 1M
19: |NICHOLAS OF BIRTH| SET AT 1M
20: |BIRTH MIRACULOUS| SET AT 1M
21: |BALDAK HAVE MAGSTEED| SET AT 1M
22: |BEAR APPEAR|N DISTANTPROV| SET AT 1M
23: |BEAR SEIZE MAGSTEED| SET AT 1M
24: |BALDAK CALLFOR HELP| SET AT 1M
25: |HELP FROM NICHOLAS| SET AT 1M
26: |NICHOLAS DECIDE| SET AT 1M
27: |DECIDE SEARCH| SET AT 1M
28: |SEARCH| FOR MAGSTEED| SET AT 1M
29: |NICHOLAS LEAVE| SET AT 1M
30: |LEAVE ON SEARCH| SET AT 1M

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THE MOREVNAS LIVE IN A DISTANT PROVINCE.
THE FATHER IS EREMA.
THE MOTHER IS VASILISA.
THE OLDEST SON IS BALDAK.
THE YOUNGER SON IS MARCO.
THE YOUNGEST SON IS BORIS.
THE OLDEST DAUGHTER IS MARIA.
THE YOUNGER DAUGHTER IS KATRINA.
THE YOUNGEST DAUGHTER IS MARTHA.
NICHOLAS ALSO LIVES IN THE SAME LAND.
NICHOLAS IS OF MIRACULOUS BIRTH.
BALDAK HAS A MAGIC STEED.
A BEAR APPEARS IN THE DISTANT PROVINCE.
THE BEAR SEIZES THE MAGIC STEED.
BALDAK CALLS FOR HELP FROM NICHOLAS.
NICHOLAS DECIDES TO SEARCH FOR THE MAGIC STEED.
NICHOLAS LEAVES ON A SEARCH.

```

Commentary on Change Stack for 1M

- Before 1 GROUP ALPHA called, which sets up the classes: FANNAM=MOREVNAS; STORY.OCW=DISTANTPROVINCE, FATHER=EREMA; MOTHER=VASILISA; and 3 sons, 3 daughters, FAMILY, OLDEGE and YUNGEN.
- .15 Master Group, following call on GROUP ALPHA.
- Before 16 Form 4 of A picked.
- 16-20 HERO (NICHOLAS) picked from outside family and introduced.
- Before 21 Form of A and HERO not in FAMILY forces a VILLAIN(BEAR) from outside FAMILY, and a non-human (MAGSTEED) object of villainy (OBJECT). BALDAK chosen as OWNER and VICTIM since HERO not in FAMILY.
- Before 22 NICHOLAS made a SEEKER-HERO.
No Interdiction because the HERO and VICTIM are not both in FAMILY.
- 22 GROUP VILLARIW
- Before 23 Reconnaissance not chosen. Trickery prevented because HERO not in FAMILY.
- .3 GROUP A
- Before 24 MAGSTEED becomes sought after object (SUBJECT). BALDAK made DISPATCHER. Form 1 of B picked since OWNER and HERO not both in FAMILY and there is a SEEKER-HERO.
- 24-25 GROUP B
- 26-28 GROUP C
- 29-30 GROUP DEPART

Tale 2

CHANGE STACK FOR TIME 10

11	(NICHOLAS MEET JUG) SET AT ID
21	(JUG ALONG WAY) SET AT ID
31	(JUG FIGHTING ELENA) SET AT ID
41	(FIGHTING OVER MAGBOW) SET AT ID
51	(JUG ASKS NICHOLAS) SET AT ID
61	(ASKI DIVIDE MAGBOW) SET AT ID
71	(NICHOLAS TRICKY DISPUTANT) SET AT ID
81	(TRICKY INTLEAV MAGBOW) SET AT ID
91	(MAGBOW UNPROTEC) SET AT ID
101	(MAGBOW RAND MAGBOX) SET AT ID
111	(MAGBOW RAND MAGCARPE) SET AT ID
121	(MAGBOX SEIZEDBY NICHOLAS) SET AT ID
131	(NICHOLAS TRAVEL) SET AT ID
141	(TRAVEL TO LOCATION) SET AT ID
151	(LOCATION OF MAGSTEED) SET AT ID
161	(MAGSTEED IN KINGDOM) SET AT ID
171	(KINGDM OTHER) SET AT ID
181	(NICHOLAS TRAVELBY MAGCARPE) SET AT ID
191	(NICHOLAS FIND BEAR) SET AT ID
201	(NICHOLAS SURPRISE BEAR) SET AT ID
211	(NICHOLAS KILLS BEAR) SET AT ID
221	(KILL WITH AID) SET AT ID
231	(AID OF MAGBOW) SET AT ID
241	(MAGSTEED APPEAR) SET AT ID
251	(APPEAR FROM MAGBOX) SET AT ID
261	(NICHOLAS START) SET AT ID
271	(START BACK HOME) SET AT ID
281	(BEARSFAT CHASE) SET AT ID
291	(CHASE AFTER NICHOLAS) SET AT ID
301	(NICHOLAS ESCAPE) SET AT ID
311	(ESCAPE BY) SET AT ID
321	(BY) FLY) SET AT ID
331	(FLY ON FALCON) SET AT ID
341	(NICHOLAS RETURN HOME) SET AT ID

NICHOLAS MEETS A JUG ALONG THE WAY.
 THE JUG IS FIGHTING WITH ELENA OVER A MAGIC BOW.
 THE JUG ASKS NICHOLAS TO DIVIDE THE MAGIC BOW.
 NICHOLAS TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC BOW UNPROTECTED.
 THE MAGIC BOW, A MAGIC CARPET AND A MAGIC BOX ARE SEIZED BY NICHOLAS.
 NICHOLAS TRAVELS TO THE LOCATION OF THE MAGIC STEED IN AN OTHER KINGDOM.
 NICHOLAS TRAVELS BY THE MAGIC CARPET.
 NICHOLAS FINDS THE BEAR.
 NICHOLAS SURPRISES THE BEAR.
 NICHOLAS KILLS THE BEAR WITH THE AID OF THE MAGIC BOW.
 THE MAGIC STEED APPEARS FROM THE MAGIC BOX.
 NICHOLAS STARTS BACK HOME.
 THE BEAR'S FATHER CHASES AFTER NICHOLAS.
 NICHOLAS ESCAPES BY FLYING ON A FALCON.
 NICHOLAS RETURNS HOME.

Commentary on Change Stack for 10

Before 1 Donor Sequence. Three magical agents chosen to be acquired: MAGHELP1=MAGBOW; MAGHELP2=MAGCARPE; MAGHELP3=MAGBOX.
 Form 6 of D and DONOR(JUG) picked.

1-6 GROUP D, a magical agent (MAGBOW) is made the object of the dispute (DISTYPE).

Before 7 Form of D doesn't allow trebling in E.

7-9 GROUP E. Because of magical DISTYPE, second rule of form 6 used. F must use form 8.

10-12 GROUP F

Before 13 SUBJECT not acquired yet, nor VICTIM-HERO, so will use G. There is a magical agent (GHE.PER=MAGCARPET) and form 1 must be used.

13-18 GROUP G

19 Combat Sequence will be used.

Before 20 There is a magical agent, and form 5 of I is picked.

20-23 GROUP I

Before 24 There is a magical agent (MAGHELPQ=MAGBOX) so form 5 of K is used.

24-25 GROUP K

26-27 GROUP RETURN

Before 28 Form 3 of PR chosen. Since BEAR is dead, PURSUER=BEARSFATHER.

28-29 GROUP PR

Before 29 There is no magical agent so form 1 of RS is picked based on PR.

30-33 GROUP RS

34 GROUP END

Tale 2 (cont.)

5.2. Modeling Multi-Move Tales

Our use of subscripted classes for quantification corresponds to a metaphorically derived, transformational quantifying device suggested by Lakoff for Propp in "Structural complexity in fairy tales" (1972). Lakoff's metaphor in suggesting transformations for quantifying multi-move tales is a little too vague for our taste. The required mechanisms of quantification are much more complicated than his unspecified solution, buried under the rubric "transformation," indicates. Propp's multi-move functions are themselves limited to much simpler tale-embedding than is logically possible. Quantification of a strongly connected, embedded tale is a very complicated task, but one we shall undertake. We seek an elegant, nonclumsy solution. The problem is similar to that of writing programs with parallel processing. An inelegant approach would be to tabulate main tales and their embedded companions in advance of any generation. A more elegant approach might be for the simulation model to call itself recursively, as a subroutine program, with appropriate quantification parameters, when an embedded tale is needed. The difficulty arises if events and developments in the embedded tale are needed to quantify functions in an outer tale.

Our metasymbolic simulation system offers two possibilities not currently exploited. The first is the device of calling the system for a look into the future. This peek into the future could provide the data for quantifying another call to the program to generate an embedded tale, or its peek into the future could be at the outcome of an embedded tale, to obtain information for quantification of the remainder of the outer tale. The second device is the use of natural language metacompiling. On the assumption that the rules of quantification for embedded tales are different or more restricted than for outer tales, the data from a peek into the future could be used to generate, compile, and execute a new restricted program for generating a set of embedded tales relevant to the current outer tale. This technique would permit nested embedding of tales with logical connection to the outer stories much stronger than that in actual Russian folktales.

6.0. AUTOMATIC ANALYSIS OF FOLKTALES

We are currently developing a generalized semantic parser for the system. One of the functions of such a device will be to determine if any of the rules in a simulation program model could have generated any portion of the semantic content of a text. Back indices

from lexical items would reference the semantic objects and relations they might represent. Because the rules themselves can and would be represented in the same semantic network, it would become possible to decode sentences in a text into triples, and then to locate the rules that might have generated them (even if the rules are stated in terms of classes of objects and classes of relations). For example, a triple such as "John loves Mary" could be determined to arise from some rule such as MEN LOVE WOMEN through determination that the semantic object encoded as "John" is an element of the class MEN, and that the semantic object encoded by "Mary" is an element of the class WOMEN. Where there is ambiguity arising from more than one rule being applicable, the system could test the conditions for the implementation of the rule to see which were currently satisfied. This process amounts to automatic presuppositional analysis. The rule may be viewed as the event and the test conditions as the first order presuppositions.

Thus, if the rules constitute a generative structural model for a genre of tale, a semantic parser would make automatic analysis of new tales which fit the model a simple task. Some innovation and learning is possible. Given a tale with some element in a role that does not quite fit the scheme, the system could be made to postulate class assignments that would make it fit. The automatic analysis could yield an output such as "this could have come from rule B if object X is added to class Q."

7.0. TOWARD THE AUTOMATIC CREATION OF DREAMS AND MYTHS

To a certain extent, dreams and myths may be viewed as problems in the quantification of already existing scenarios in other domains. From this point of view, one may think of a number of experiments using the metasymbolic simulation system. Köngäs Maranda's paper on Lau riddles of modernization (i.p.) provides an excellent starting point for explaining the technique. The author describes riddles about modern contact culture items, phrased in terms and usage patterns that are precontact. Consider how such riddles might be generated in our system. Assume a simulation model that includes rules for the use of traditional material culture items in a precontact environment. Assume that these rules are formulated in terms of classes. The problem of creating a riddle is essentially that of fitting the new culture item into the proper class from the precontact rules, and formulating the riddle by selecting not the name of the new class item nor the name of the class itself, but rather the name of another element in

the original class to create a metaphor. Both a program for generating such riddles and a program for answering such riddles would require simulation rules, with lists of classes, for both precontact and post-contact item usage. The logic of such programs would include comparisons of the semantic representations of the two types of rules and class membership fitting, and would resemble some of the techniques suggested by Köngäs Maranda in "The logic of riddles" (1971a) and in "Theory and practice of riddle analysis" (1971b).

Dream generation can also be treated as a scenario quantification task. Following the psychoanalytic assumption that dreams are attempts to resolve real world problems and conflicts, assume a simulation model with rules for the life-cycle behavior of an individual. The task of conflict resolution would be one of finding a success scenario in the person's rules, and then requantifying its classes, in a consistent fashion, with the elements from the troublesome situation. The requantified rules would then be executed with the output—a surrealistic dream. A more sophisticated approach might involve the compilation of an entire new scenario according to the dictates of metacompiler rules for dreams that operated as transformations on existing scenarios. This type of generation may be part of the processes involved in the ontogeny of myths and the process of deriving myths from myths.

8.0. TOWARD THE ULTIMATE MODELING OF LÉVI-STRAUSS

We repeat what we hinted in the beginning—that the domain of folklore offers the strongest of all possible tests for an automated semantic model, and especially the work of Lévi-Strauss. Essentially, the task is one involving a higher-order predicate calculus—for it is not just a task of quantifying rules, but of quantifying the rules that quantify rules, and quantifying the rules that quantify the rules that quantify the rules . . . We dare to hope that the direction of our research on metasymbolic simulation will make the task possible. We think we have a knowledge of the required fundamentals: the ability to perform logical quantification in terms of arbitrarily abstract semantic class properties, arbitrarily defined; the ability to model myth transformations through requantification of classes and through the technique of metacompiling new myth models; and also the possibility of inferring the class requantifications and the metacompiling rules themselves through automated text analysis, so that one might approach the possibility of modeling the analytic processes of Lévi-Strauss himself as well as modeling his analyses.

The work has not been accomplished. Yet, using the present and future system described here as a metaphor, the first author of this paper is able to perceive the work of Lévi-Strauss as a strictly logical, formal — hence automatable — system.

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10.0. ADDENDUM: AUTOMATED PROPP MODEL AND OUTPUT

Miscellaneous comments:

No limitation is implied by the fact that only one lexical item per node and relation is included in this model (10.1).

Comments for the simulation program, 10.3, are marked by |, and refer to Propp (1968).

The numerical codes associated with the rules in 10.4 mark links between semantic entities and phrase structure items, as well as indicating transformation types. We do not list the transformations, but they may be inferred from the generated texts. We also omit the lexical dictionary.

The stories listed in 10.5 are reproduced from actual computer printed output. A varying random number source yielded the variety of stories. We have paid little attention to pronoun usage, although proper use of them is not a major task, and we have manipulated pronouns in a complex fashion in other work (Klein 1965b). The output is relatively error-free, although we note that in stories concerning the death and burial of a cow, a triple about burial of bones appears on the change stack but is not encoded in the surface structure. We also note that in one sentence in one story, the article "a" incorrectly appears before "night."

The stories were generated at an average rate of 128 words per second, including the time for computation of the plot, quantification, and change stack generation, but not including compilation time. The system operates on a Univac 1110 computer, but the operating system computes its time in terms of operation on a Univac 1108 computer. The speed of this program is about 10 percent faster than that in the murder mystery program (Klein et. al. 1973).

10.1. Nodes and Relations

000044	DISPOF	0	DISPOSAL	0
000045	DISPOSAL	2	DISPOSAL	1
000046	DISPOSIF	0	DISPOSAL	1
000047	DISTAN PROLINE	0	DISPUTANT	1
000048	DISPUTAN	3	DISPUTANT	1
000049	DISPUTE	0	DISPUTE	1
000050	DRAGON	0	DISPUTE	1
000051	DRAGONWIFE	3	DISPUTE	1
000052	DUNIA	0	DINA	1
000053	EATEN	0	EATEN	1
000054	EGGOFDEATH	2	EGG OF DEATH	1
000055	EENA	0	EENAI	1
000056	EMELYA	0	EMELYA	1
000057	EREMA	0	EREMA	1
000058	EXCHANGE	0	EXCHANGE	1
000059	EYE	0	EYE	1
000060	F1	0	F1	1
000061	F2	0	F2	1
000062	F3	0	F3	1
000063	F4	0	F4	1
000064	F5	0	F5	1
000065	F6	0	F6	1
000066	F7	0	F7	1
000067	F8	0	F8	1
000068	F9	0	F9	1
000069	F10	0	F10	1
000070	F11	0	F11	1
000071	F12	0	F12	1
000072	F13	0	F13	1
000073	F14	0	F14	1
000074	F15	0	F15	1
000075	F16	0	F16	1
000076	F17	0	F17	1
000077	F18	0	F18	1
000078	F19	0	F19	1
000079	FALCON	0	FALCON	1
000080	FIELD	4	FIELD	1
000081	FIELDS	3	FIELD	1
000082	FIREBIRD	0	FIREBIRD	1
000083	FIGHT	2	FIGHT	1
000084	FIMA	0	FIMA	1
000085	FOREST	2	FOREST	1
000086	FORESTHUT	0	FOREST HUT	1
000087	FORESTK	0	FOREST KNIGHT	1
000088	FOX	0	FOX	1
000089	GARDIN	2	GARDEN	1
000090	GIANF	0	GIAVY	1
000091	GILD	0	GILD	1
000092	GILDUCK	0	GILDUCK	1
000093	GLOSE	0	GLOSE	1
000094	GRAVE	0	GRAVE	1
000095	GISLA	0	GISLA	1
000096	HEART	2	HARAY	1
000097	HEDGHHOG	0	HEDGHHOG	1
000098	HILP	0	HILP	1
000099	HIDING	0	HIDING	1
000100	HIMSELF	0	HIMSELF	1

000101	HERSELF	0 • 'HERSELF' 1	000154	MURDER	2 • 'MURDER' 1
000102	HOME	2 • 'HOME' 1	000155	OBJECT	0 • 'OBJECT' 1
000103	HORSE	0 • 'HORSE' 1	000156	OLDADY	4 • 'OLDADY' 1
000104	HOUSE	2 • 'HOUSE' 1	000161	OLDMAN	0 • 'OLD MAN' 1
000105	HUSBAND	4 • 'HISBAND' 1	000162	OTHERTREE	0 • '1' 1
000106	HUT	2 • 'HUT' 1	000163	PARENDS	3 • 'PARENDS' 1
000107	INSTRUCTIONS	3 • 'INSTRUCTIONS' 1	000164	PERMISSION	0 • 'PERMISSION' 1
000108	INTERDICT	0 • '1' 1	000165	PLACE	2 • 'PLACE' 1
000109	IT	0 • 'IT' 1	000166	POPOVICHES	3 • 'POPOVICH' 1
000110	IVAN	0 • 'IVAN' 1	000167	PRISONER	0 • 'PRISONER' 1
000111	JUS	0 • 'JUS' 1	000168	PROVINCE	0 • 'PROVINCE' 1
000112	KATRINA	0 • 'KATRINA' 1	000169	QUESTION	0 • 'QUESTION' 1
000113	KILLED	0 • 'KILLED' 1	000170	RATS	5 • 'RAT' 1
000114	KINGDOM	0 • 'KINGDOM' 1	000171	REPLACEMENT	0 • '1' 1
000115	LADY	4 • 'LADY' 1	000172	REVIVED	0 • 'REVIVED' 1
000116	LAKE	0 • 'LAKE' 1	000173	RIVVR	0 • 'RIVER' 1
000117	LAMENT	0 • 'LAMENT' 1	000174	ROCK	0 • 'ROCK' 1
000118	LAND	5 • 'LAND' 1	000175	SEA	2 • 'SEA' 1
000119	LEATHERSTRAPS	5 • 'LEATHER STRAP' 1	000176	SEARCH	0 • 'SEARCH' 1
000120	LEG	0 • 'LEG' 1	000177	SEED	0 • 'SEED' 1
000121	LOCATION	2 • 'LOCATIONS' 1	000178	SHEEP	3 • 'SHEEP' 1
000122	MAGBIRD	0 • 'MAGIC BIRD' 1	000179	SHIP	0 • 'SHIP' 1
000123	MAGBOW	0 • 'MAGIC BOW' 1	000180	SLEEPINGPOTION	0 • 'SLEEPING POTION' 1
000124	MAGBOX	0 • 'MAGIC BOX' 1	000181	SIN	2 • 'SONY' 1
000125	MAGCARPET	0 • 'MAGIC CARPET' 1	000182	SPE L	0 • 'SPELL' 1
000126	MAGCOW	0 • 'MAGIC COW' 1	000183	SPELLON	0 • '1' 1
000127	MAGEGG	0 • 'MAGIC EGG' 1	000184	STAIRWAY	0 • 'STAIRWAY' 1
000128	MAGFLINT	0 • 'MAGIC FLINT' 1	000185	STEAMBATH	4 • 'STEAMBATH' 1
000129	MAGHEN	0 • 'MAGIC HEN' 1	000186	STOVE	0 • 'STOVE' 1
000130	MAGICPIN	0 • 'MAGIC PIN' 1	000187	SUPERSPEED	0 • 'INCREDIBLE SPEED' 1
000131	HAGKEY	0 • 'MAGIC KEY' 1	000188	SUPSTREN	0 • 'SUPER-HUMAN STRENGTH' 1
000132	MAGPOTION	0 • 'MAGIC POTION' 1	000189	SWEETOLLADY	4 • '1' 1
000133	MASRING	0 • 'MAGIC RING' 1	000190	SKIN	4 • 'SWIM' 1
000134	MASRING2	0 • 'MAGIC RING' 1	000191	TASK	0 • '1' 1
000135	MAGSTEED	0 • 'MAGIC STEED' 1	000192	TEMPTATION	2 • 'TEMPTATION' 1
000136	MASSWORD	0 • 'MAGIC SWORD' 1	000193	THEY	5 • 'THEY' 1
000137	MAGWAFER	0 • 'MAGIC WAFER' 1	000194	THREAD	0 • 'THREAD' 1
000138	MASHORDS	0 • 'MAGIC WORD' 1	000195	TIME	2 • 'TIME' 1
000139	MEN	0 • 'MEN' 1	000196	TOWN	2 • 'TOWN' 1
000140	MARCO	0 • 'MARCO' 1	000197	TRACK	3 • 'TRACC' 1
000141	MARIA	0 • 'MARIA' 1	000198	TRANSFORMABILITY	0 • 'TRANSFORMABILITY' 1
000142	MARTHA	0 • 'MARTHA' 1	000199	TREE	0 • 'TREE' 1
000143	MEAL	0 • 'MEAL' 1	000200	TRESP	0 • '1' 1
000144	MEAT	0 • 'MEAT' 1	000201	TUNNEL	0 • 'TUNNEL' 1
000145	MERCY	0 • 'MERCY' 1	000202	VASILISK	0 • 'VASILISK' 1
000146	MOREVNAS	3 • 'MOREVNA' 1	000203	VLADIMIR	0 • 'VLADIMIR' 1
000147	MOUNTAIN	0 • 'MOUNTAIN' 1	000204	WIR	0 • 'WIR' 1
000148	MURDERDF	0 • '1' 1	000205	WIRON	0 • '1' 1
000149	MYDEATH	0 • '1' 1	000206	WAY	2 • 'WAY' 1
000150	MYWISDOM	0 • '1' 1	000207	WEALTH	0 • 'WEALTH' 1
000151	NFAMILY	2 • 'FAMILY' 1	000208	WELL	0 • 'WELL' 1
000152	NFATHER	2 • 'FATHER' 1	000209	WISDOM	0 • 'WISDOM' 1
000153	NIGHT	4 • 'FIGHT' 1	000210	WITCH	0 • 'WITCH' 1
000154	NICHOLAS	0 • 'NICHOLAS' 1	000200	WIVES	1 • 'WIFE' 1
000155	NIGHT	0 • 'FIGHT' 1	000212	WOLF	0 • 'WOLF' 1
000156	NIGHTS	5 • 'FIGHT' 1	000213	WOLFPACK	2 • 'WOLF PACK' 1
000157	NMOTHER	2 • 'MOTHER' 1	000214	WOODS	3 • 'WOOD' 1

000215	YEARS	5 = "YEAR" ;
000216	YOUNGMAN	4 = ;
000217	YOURDEATH	0 = ;
000218	YOURWISDOM	0 = ;
000219	RELATIONS!	
000220	X:	A 2 0 = ;
000221	ABDUCT	I 3 0 = "ABDUCT" ;
000222	AFTER	I 4 0 = "AFTER" ;
000223	AGAIN	A 6 1 = "AGAIN" ;
000224	AGREE	A 3 0 = "AGREE" ;
000225	ALLURING	A 2 0 = "ALLURING" ;
000226	ALONE	A 2 0 = "ALONE" ;
000227	ALONG	I 4 0 = "ALONG" ;
000228	ALSO	A 6 0 = "ALSO" ;
000229	ANNOUNCE	I 3 2 = "ANNOUNCE" ;
000230	ANSWER	I 3 0 = "ANSWER" ;
000231	APPEAR	A 3 0 = "APPEAR" ;
000232	APPEARIN	I 3 0 = ;
000233	APPEAR2	I 3 0 = "APPEAR" ;
000234	APPEARTO	I 3 0 = ;
000235	AS	I 4 0 = "AS" ;
000236	ASK	A 3 0 = "ASK" ;
000237	ASK1	I 3 0 = "ASK" ;
000238	ASKFOR	I 3 0 = ;
000239	ASLEEP	A 2 0 = "ASLEEP" ;
000240	AT	I 4 0 = "AT" ;
000241	ATTEMPT	A 3 0 = "ATTEMPT" ;
000242	AVOID	A 3 1 = "AVOID" ;
000243	AWAKE	A 6 1 = "AWAKE" ;
000244	AWAY	A 5 1 = "AWAY" ;
000245	AWAYFROM	I 3 0 = ;
000246	BACK	I 4 0 = "BACK" ;
000247	BADLY	A 6 0 = "BAD" ;
000248	BE	A 3 0 = "BE" ;
000249	BE1	A 3 0 = "BE" ;
000250	BEHEAD	A 3 0 = "BEHEAD" ;
000251	BEHIDDEN	2 0 = ;
000252	BEING	I 3 0 = "BE" ;
000253	BERRYGATHER	A 3 4 = "BERRY GATHER" ;
000254	BESIDE	I 4 0 = "BESIDE" ;
000255	BLOCK	A 3 0 = "BLOCK" ;
000256	BLOODY	A 2 0 = "BLOODY" ;
000257	BRAWL	A 3 0 = "BRAWL" ;
000258	BROKEN	A 2 0 = "BREAK" ;
000259	BURY	A 3 0 = "BURY" ;
000260	C:	I 4 0 = "BY" ;
000261	BY1	A 4 0 = "BY" ;
000262	CALL	I 3 0 = "CALL" ;
000263	CALLFOR	I 3 0 = ;
000264	CAST	I 3 0 = "CAST" ;
000265	CASTSPELLON	I 3 0 = ;
000266	CAUGHT	A 2 0 = "CATCH" ;
000267	CAUSE	I 3 0 = "CAUSE" ;
000268	CAUSEDISPOF	I 3 0 = ;
000269	CERTAIN	A 2 0 = "CERTAIN" ;
000270	CHANGE	I 3 0 = "CHANGE" ;
000271	CHANGE1	A 3 0 = "CHANGE" ;

000272	CHASE	A 3 0 = "CHASE" ;
000273	CHILDLESS	A 2 0 = "CHILDLESS" ;
000274	CLIMB	I 3 0 = "CLIMB" ;
000275	COME	A 3 0 = "COME" ;
000276	CONSUME	I 2 0 = "CONSUME" ;
000277	CONSUMEDBY	I 2 0 = ;
000278	CRAWL	I 3 0 = "CRAWL" ;
000279	CRAWLTHROUGH	I 3 0 = ;
000280	CUT	I 3 0 = "CUT" ;
000281	CUTOFF	I 3 0 = ;
000282	CUTOUT	I 3 0 = ;
000283	DECIDE	A 3 0 = "DECIDE" ;
000284	DECLARE	I 3 0 = "DECLARE" ;
000285	DECLARENARON	I 3 0 = ;
000286	DEFCAT	I 3 0 = "DEFECT" ;
000287	DEFEATED	A 2 0 = "DEFAT" ;
000288	DEMAND	I 3 0 = "DEMAND" ;
000289	DESCEND	I 3 0 = "DESCEND" ;
000290	DESCENDBYUSING	I 3 0 = ;
000291	DEVOUR	I 3 0 = "DEVOUR" ;
000292	DIE	A 3 0 = "DIE" ;
000293	DIRECT	I 2 0 = "DIRECT" ;
000294	DIRECTEDBY	I 2 0 = ;
000295	DISTANT	A 2 0 = "DISTANT" ;
000296	DIVIDE	A 2 0 = "DIVIDE" ;
000297	DIVIDE1	I 3 0 = "DIVIDE" ;
000298	DISGUISE	I 3 0 = "DISGUISE" ;
000299	DO NOT	A 3 3 = "DO NOT" ;
000300	DROWNING	A 3 0 = "DROWN" ;
000301	DYING	A 2 0 = "DIE" ;
000302	EAT	A 3 0 = "EAT" ;
000303	EAT1	I 3 0 = "EAT" ;
000304	ENGAGE	A 3 0 = "ENGAGE" ;
000305	ENTICED	A 2 0 = "ENTICE" ;
000306	ESCAPE	A 3 0 = "ESCAPE" ;
000307	EXPEL	I 3 0 = "EXPEL" ;
000308	FAIL	A 2 0 = "FAIL" ;
000309	FAIRLY	A 6 0 = "FAIR" ;
000310	FALL	A 3 0 = "FALL" ;
000311	FALLASLEEP	A 3 0 = ;
000312	FEED	A 3 0 = "FEED" ;
000313	FEEDINGTORATS	A 3 0 = ;
000314	FIGHT	A 3 0 = "FIGHT" ;
000315	FIGHTING	I 2 0 = "FIGHT" ;
000316	FIGHTINGWITH	I 2 0 = ;
000317	FIND	I 3 0 = "FIND" ;
000318	FISH	A 3 0 = "FISH" ;
000319	FLY	A 3 0 = "FLY" ;
000320	FLY2	I 3 0 = "FLY" ;
000321	FLYINTO	I 3 0 = ;
000322	FLYON	I 3 0 = ;
000323	FOLLOW	I 3 0 = "FOLLOW" ;
000324	FUR	I 4 0 = "FDR" ;
000325	FORGET	I 3 0 = "FORGET" ;
000326	FOUND	I 2 0 = "FIND" ;
000327	FOUNDBY	I 2 0 = ;
000328	FREE	I 3 0 = "FREE" ;

000329	FREEED	A 2 0 ■ "FREE" 1
000330	FROM	I 4 0 ■ "FROM" 1
000331	GATHER	I 3 0 ■ "GATHER" 1
000332	GIVEN	I 2 0 ■ "GIVE" 1
000333	GIVENTO	I 2 0 ■ "GIVEN" 1
000334	GNAW	A 3 0 ■ "GNAW" 1
000335	GOBERRYGATHER	A 3 0 ■ 1
000336	GOFISH	A 3 0 ■ 1
000337	GO	I 3 0 ■ "GO" 1
000338	GOTFOREST	A 3 0 ■ 1
000339	GOTWAR	A 3 0 ■ 1
000340	GOTRADE	A 3 0 ■ 1
000341	GODVISIT	A 3 0 ■ 1
000342	GOWALK	A 3 0 ■ 1
000343	GOWORK	A 3 0 ■ 1
000344	GREET	I 3 0 ■ "GREET" 1
000345	HAVE	I 3 0 ■ "HAVE" 1
000346	HAVEL	A 3 0 ■ "HAVE" 1
000347	HER	A 2 0 ■ "HER" 1
000348	HIDDEN	A 2 0 ■ "HIDE" 1
000349	HIDE	A 3 0 ■ "HIDE" 1
000350	HIS	A 2 0 ■ "HIS" 1
000351	HORRIBLY	A 6 0 ■ "HORRIBLY" 1
000352	IMPRISH	I 3 0 ■ "IMPRISON" 1
000353	IMPRISONED	A 2 0 ■ "IMPRISON" 1
000354	IN	I 4 0 ■ "IN" 1
000355	INJURE	I 3 0 ■ "INJURE" 1
000356	INTO	I 4 0 ■ "INTO" 1
000357	INTOLEAVING	I 4 0 ■ 1
000358	IS	I 3 0 ■ "BE" 1
000359	ISCHILD OF	I 3 0 ■ 1
000360	JUMP	A 3 0 ■ "JUMP" 1
000361	KILL	A 3 0 ■ "KILL" 1
000362	KILLI	I 3 0 ■ "KILL" 1
000363	LEAVE	A 3 0 ■ "LEAVE" 1
000364	LEAVEI	I 3 0 ■ "LEAVE" 1
000365	LED	I 2 0 ■ "LEAD" 1
000366	LEDY	I 2 0 ■ 1
000367	LISTEN	A 3 0 ■ "LISTEN" 1
000368	LIVE	I 3 0 ■ "LIVE" 1
000369	LIVEIN	I 3 0 ■ 1
000370	HARRY	A 3 0 ■ "HARRY" 1
000371	HEET	I 3 0 ■ "HEET" 1
000372	MIRACULOUS	A 2 0 ■ "MIRACULOUS" 1
000373	MURDOR	I 3 0 ■ "MURDER" 1
000374	MY	A 2 0 ■ "MY" 1
000375	NEED	I 3 0 ■ "NEED" 1
000376	NOGOTO	I 3 0 ■ 1
000377	NOLEAVE	I 3 0 ■ 1
000378	NOTI	A 6 1 ■ "NOT" 1
000379	ONTAIN	I 3 0 ■ "OBTAIN" 1
000380	OBTAINED	A 2 0 ■ "OBTAIN" 1
000381	OF	I 4 0 ■ "OF" 1
000382	OFF	A 4 0 ■ "OFF" 1
000383	O-FER	I 3 0 ■ "OFFER" 1
000384	OFFERED	I 2 0 ■ "OFFER" 1
000385	OFFEREDTO	I 2 0 ■ 1

000386	OLD	A 2 0 ■ "OLD" 1
000387	OLDEST	A 2 0 ■ "OLDEST" 1
000388	ON	I 4 0 ■ "ON" 1
000389	ONLY	A 2 0 ■ "ONLY" 1
200390	OPEN	A 2 0 ■ "OPEN" 1
000391	ORDER	I 3 0 ■ "ORDER" 1
000392	ORDERINTOSEA	I 3 0 ■ 1
000393	ORDERMURDEROF	I 3 0 ■ 1
000394	OTHER	A 2 0 ■ "OTHER" 1
000395	DUT	A 4 0 ■ "DUT" 1
000396	OVER	I 4 0 ■ "OVER" 1
000397	OWN	I 2 0 ■ "OWN" 1
200398	PARTAKE	A 3 0 ■ "PARTAKE" 1
000399	PERSUADE	A 3 0 ■ "PERSUADE" 1
000400	PESUADA2	I 3 0 ■ "PERSUADE" 1
000401	PILLAGE	I 3 0 ■ "PILLAGE" 1
000402	PLACED	I 2 0 ■ "PLACE" 1
000403	PLACEDATDISPOF	I 3 0 ■ 1
000404	PLAY	I 3 0 ■ "PLAY" 1
000405	PLUCK	I 3 0 ■ "PLUCK" 1
000406	PLUCKOUT	I 3 0 ■ 1
000407	PLUNDER	I 3 0 ■ "PLUNDER" 1
000408	POS	I 5 0 ■ 1
000409	PRETEND	A 2 0 ■ "PREPARE" 1
000410	PREPARE	I 2 0 ■ "PREPARE" 1
000411	PREPAREDFOR	I 2 0 ■ 1
000412	PRESPOND	I 3 0 ■ "PRESPOSE" 1
000413	PRODUCED	A 2 0 ■ "PRODUCE" 1
000414	PROPOSE	I 3 0 ■ "PROPOSE" 1
000415	PRSUADED	A 2 0 ■ "PERSUADE" 1
000416	PULL	I 3 0 ■ "PULL" 1
000417	PULLOF	I 3 0 ■ 1
000418	PURSUE	I 3 0 ■ "PURSUE" 1
000419	RAND	I 8 0 ■ 1
000420	RANDI	A 8 0 ■ "RAND" 1
000421	RECONCIL	I 2 0 ■ "RECONCILE" 1
000422	REFUSE	A 3 0 ■ "REFUSE" 1
000423	REPTEL	I 3 0 ■ "REPTEL" 1
000424	REPLACED	A 2 0 ■ "REPLACE" 1
000425	REPLACE	I 3 0 ■ "REPLACE" 1
000426	REQUEST	I 3 0 ■ "REQUEST" 1
000427	RESPOND	A 3 0 ■ "RESPOND" 1
000428	RETURN	I 3 0 ■ "RETURN" 1
000429	RNULL	I 7 0 ■ 1
000430	ROASTING	A 3 0 ■ "ROAST" 1
000431	RUDELY	A 6 1 ■ "RUDE" 1
000432	S'ME	A 2 0 ■ "SAME" 1
000433	SAY	A 3 0 ■ "SAY" 1
000434	SAYZ	I 3 5 ■ "SAY" 1
000435	SEARCH	A 3 0 ■ "SEARCH" 1
000436	SEARCHFOR	I 3 0 ■ 1
000437	SECRETLY	A 6 0 ■ "SECRET" 1
000438	SEIZED	A 2 0 ■ "SEIZE" 1
000439	SEIZEDBY	I 2 0 ■ 1
000440	SEIZE	I 3 0 ■ "SEIZE" 1
000441	SEND	I 3 0 ■ "SEND" 1
000442	SHOW	I 3 0 ■ "SHOW" 1

000443	SHOWN	I 2 0 • "SHOW" 1	000500	WITH	I 4 0 • "WITH"
000444	SHOWN THEREBY	I 3 0 •	000501	WITHOUT	I 4 0 • "WITHOUT"
000445	SHOWN TO	I 3 0 •	000502	WITHOUT 1	A 4 0 • "WITHOUT" 1
000446	SIT	A 3 0 • "SIT" 1	000503	WORK	A 3 0 • "WORK" 1
000447	SNEAK	I 3 0 • "SNEAK"	000504	WOUNDED	A 2 0 • "WOUND" 1
000448	SNEAK INTO	I 3 0 • 1	000505	YELL	A 3 0 • "YELL"
000449	SOLD	I 2 0 • "SELL" 1	000506	YOUNG	A 2 0 • "YOUNG" 1
000450	SOLD TO	I 3 0 •	000507	YOUNGER	A 2 0 • "YOUNGER" 1
000451	SPEND	I 3 1 • "SPEND" 1	000508	YOUNGEST	A 2 0 • "YOUNGEST" 1
000452	START	A 3 0 • "START"	000509	YOUR	A 2 0 • "YOUR" 1
000453	STAY	A 3 0 • "STAY" 1	000510	%	
000454	SUDDENLY	A 6 0 • "SUDDEN" 1			
000455	SUNG	A 2 0 • "SING" 1			
000456	SURPRISE	I 3 0 • "SURPRISE"			
000457	SWEET	A 6 0 • "SHEET" 1			
000458	SHEET TOLD	A 2 0 • 1			
000459	TAKEAWAY	I 3 0 •			
000460	TAKE	I 3 0 • "TAKE"			
000461	TEMPT	I 3 0 • "TEMPT"			
000462	THIRD	A 2 0 • "THIRD" 1			
000463	THREATEN AT	I 3 0 •			
000464	THREATEN	I 3 0 • "THREATEN"			
000465	THREATENED	A 2 0 • "THREATEN" 1			
000466	THREATEN MARRY	I 3 0 •			
000467	THREE	A 2 0 • "THREE" 1			
000468	THROUGH	I 4 0 • "THROUGH"			
000469	TO	I 4 2 • "TO"			
000470	TOI	A 4 2 • "TOI" 1			
000471	TOIL	A 3 0 • "TOIL" 1			
000472	TORMENT	I 3 0 • "TORMENT" 1			
000473	TOWARD	I 4 0 • "TOWARD"			
000474	TRADE	A 3 0 • "TRADE" 1			
000475	TRAVEL	A 3 0 • "TRAVEL"			
000476	TRAVEL I	I 3 0 • "TRAVEL" 1			
000477	TRAVEL BY	I 3 0 •			
000478	TRAVEL ON	I 3 0 •			
000479	TRAVEL TO	I 3 0 •			
000480	TRICKY	I 3 0 • "TRICK"			
000481	TROUNCED	A 2 0 • "TROUNCE" 1			
000482	TRY	A 3 0 • "TRY"			
000483	TWICE	A 6 0 • "TWICE"			
000484	UNPROTECTED	A 2 1 • "UNPROTECTED"			
000485	USE	I 3 0 • "USE"			
000486	USING	I 3 0 • "USE"			
000487	VISIT	A 3 4 • "VISIT" 1			
000488	WALK	A 3 4 • "WALK" 1			
000489	WALK SIN	I 3 0 • "WALK"			
000490	WALK INTO	I 3 0 • 1			
000491	WANDERING	A 2 0 • "WANDER" 1			
000492	WHERE	I 4 1 • "WHERE"			
000493	WHERE IS	I 4 1 • "			
000494	WHICH	I 4 0 • "WHICH" 1			
000495	WHITE	I 4 0 • "WHITE" 1			
000496	WHITE I	A 4 0 • "WHITE" 1			
000497	WHO	I 4 0 • "WHO" 1			
000498	WHO OWN	I 3 0 • "			
000499	WIN	A 3 0 • "WIN"			

10.2. Classes

000511	\$CLASSES1
000512	ABSENTOR = 1
000513	ADIFF = F6 F10 F12 F18 1
000514	AFORM = 1
000515	AFORMS = F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F14 F15 F16 F17 F18
000516	F19 1
000517	AOBFORMS = F2 F3 F4 F5 F1 1
000518	AOSJ(F10) = SEA;
000519	AOSJ(F18) = NIGHTI
000520	BETFORM = 1
000521	BETRAYER = 1
000522	EFORM = 1
000523	EDOPARTS = ARM LEG EYE HEART 1
000524	DAUGH1 = 1
000525	DAUGH2 = 1
000526	DAUGH3 = 1
000527	DEAD = 1
000528	DFOR1 = 1
000529	DFORMS = F1 F2 F3 F4 F5 F6 F8 F9 F10 1
000530	DISGUISES = BIRD YOUNGMAN SWEATHALLYDAY 1
000531	DISPATCHER = 1
000532	DISTYPE = 1
000533	DISTYPES = BONES MEAT SHEEP 1
000534	DAFORMS = F1 F2 F3 F9 1
000535	DONDH = 1
000536	DONORS = WITCH FORESTKN COW DEVIL JUG GIANT OLDMAN BULL 1
000537	DOBIFI(F1) = WITCH FORESTKN STOVE 1
000538	DCRJ (F2) = 1
000539	DCRJ(F3) = COW MAN 1
000540	DRESPS = FORESTKN STOVE COW MAN 1
000541	DTRYS = WITCH 1
000542	EPS-CRM = 1
000543	EPSFORMS = F1 F2 1
000544	FAHFORMS = F1 F2 F3 F4 F5 F8 F12 F18 F19 1
000545	FAMILY = 1
000546	FANNAH = 1
000547	FATHER = 1
000548	FEMALE = MARTHA KATRINA MARIA ELENA DUNIA VASILISA 1
000549	FEMALECS = FEMALE 1
000550	FFORM = 1
000551	FODD(F1) = F1 F2 F3 F4 F5 F6 F8 1
000552	FODD(F2) = F1 F2 F4 1
000553	FODD(F3) = F1 F5 F6 1
000554	FODD(F4) = F1 F2 F5 F8 1
000555	FODD(F5) = F1 F2 F5 F8 1
000556	FODD(F8) = F1 F4 F5 F8 1
000557	FODD(F9) = F1 F2 1
000558	FODD(F10) = F8 1
000559	GAMFORM = 1
000560	GAMFORMS = F1 F2 1
000561	GFORM = 1
000562	GHELPER = 1
000563	GHELPERSF(2) = HORSE WOLF SHIP 1
000564	GHELPERSF(3) = BALLOFTHREAD FOX 1
000565	GHELPERSF(4) = HEDGEHOG BEGGAR 1
000566	GHELPERSF(5) = STAIRWAY TUNNEL LEATHERSTRAPS 1
000567	GMFORMS(MAGSTEED) = F1 F2 1
000568	GMFORMS(MAGCARPET) = F1 1
000569	GMFORMS(MAGIRCD) = F1 1
000570	GMFORMS(FLIGHT) = F1 1
000571	GMFORMS(SUPERSPEED) = F2 1
000572	GNFORMS = F2 F3 F4 F5 1
000573	HERO = 1
000574	HFOR4 = 1
000575	HFOR4S = F1 F2 F3 1
000576	HTEMP = 1
000577	IFORM = 1
000578	KFFORM = 1
000579	KFFORMS = F1 F2 F3 F4 F5 F6 F8 F9 1
000580	KFOR4 = 1
000581	KFOR4S(F1) = F1 F4 F10 F11 1
000582	KFOR4S(F2) = F1 F4 F11 1
000583	KFOR4S(F3) = F7 F4 1
000584	KFOR4S(F4) = F4 F7 1
000585	KFOR4S(F5) = F4 F7 1
000586	KFOR4S(F6) = F1 F4 F11 1
000587	KFOR4S(F7) = F4 1
000588	KFOR4S(F8) = F1 F4 F10 F11 1
000589	KFORMS(F9) = F4 1
000590	KFORMS(F10) = F4 1
000591	KFORMS(F11) = F8 1
000592	KFORMS(F12) = F1 F4 F11 1
000593	KFORMS(F13) = F4 F7 1
000594	KFORMS(F14) = F9 1
000595	KFORMS(F15) = F1 F4 F5 F10 F11 1
000596	KFORMS(F16) = F4 1
000597	KFORMS(F17) = F4 1
000598	KFORMS(F18) = F4 1
000599	KFORMS(F19) = F4 1
000600	2 KILLMETH = 1
000601	2 KILL-METS = ROASTING BEHEADING_DROWNING_FEEDINGTORAIS 1
000602	2 KREL(F1) = SEIZED
000603	2 KREL(F3) = ENTICED
000604	2 KREL(F4) = OBTAINED
000605	2 KREL(F7) = CAUGHT
000606	2 KREL(F8) = BROKEN
000607	2 KREL(F9) = FREED
000608	KSFORMS(F1) = F3 F5 1
000609	KSFORMS(F3) = F5 1
000610	KSFORMS(F4) = F5 1
000611	KSFORMS(F5) = F6 1
000612	LASTNAME = BERENNIKOVS PARANDOVS POPOVICHES MOREVNAS BORISTEVICHES 1
000613	LOCATIONS = CERTAINKI(GOOD DISTANTPROVINCE 1

000614	HAGANIM = MAGCOW MAGHEN MAGSTEED MAGBIRD 1	000671	RSHELPER(F1) = GOOSE FA CONI
000615	MAGCHANGS = MAGFLINT MAGRING 1	000672	RSHILPER(F2) = MOUNTAIN LAKE FOREST 1
000616	MAGFOOD = MAGDILLION MAGWAFFER 1	000673	RSHILPER(F3) = ROCK WELL DIPPER 1
000617	MAGHELP1 = 1	000674	RSHILPER(F4) = RIVER STOVE ROCKI
000618	MAGHELP2 = 1	000675	RSHILPER(F5) = BLACKSMITHSI
000619	MAGHELP3 = 1	000676	RSHILPER(F6) = HORSE FALCON SEEDI
000620	MAGHELP4 = 1	000677	RSHE_PTR(F7) = TEMPTATIONI
000621	MAGKILLS = MAGSWORD MAGBOW 1	000678	RSHE_PTR(F8) = CATENI
000622	MAGL125 = MAGHEN MAGBOX 1	000679	RSHE_PTR(F9) = KILLEDI
000623	MAGOBJS = MAGEGO MAGBOX MAGWORDS MAGKEY 1	000680	RSHE_PTR(F10) = OTHERTREFI
000624	MAGQUAL = FLIGHT SUPERSPEED SUPSREN 1	000681	2 RSRELI(F1) = F_YI
000625	MAGQUALS = SUPSTREN SUPERSPEED FLIGHT TRANSFORMABILITY 1	000682	2 RSRELI(F2) = BLOCKI
000626	MAGTRANS = MAGSTEED MAGCARPET MAGBIRD 1	000683	2 RSRELI(F3) = CHANGEII
000627	MARESCS = MAGTRANS 1	000684	2 RSRELI(F4) = HIDEI
000628	MALE = IVAN BORIS ALIOSHA NICHOLAS MARCO POMA EREMA EMELYA VLADIMIR	000685	2 RSRELI(F5) = BEHODENI
000629	BALDAK 1	000686	2 RSRELI(F6) = CHANGEII
000630	MALECS = MALE 1	000687	2 RSRELI(F7) = AVOIDI
000631	MOTHER = 1	000688	2 RSRELI(F8) = AVOIDI
000632	Z MOTIVE(F1) = GOWORK GOTOFOREST GOTRADE GOTOWAR 1	000689	2 RSRELI(F9) = AVOIDI
000633	Z MOTIVE(F2) = HORRIBLY SUDDENLY 1	000690	2 RSRELI(F10) = JUMPI
000634	Z MOTIVE(F3) = GOVISIT GOFISH_GOWALK GOBERRYGATHER 1	000691	SAFORM = 1
000635	MOKILLS = MAGSWORD MAGBOW SUPSTREN 1	000692	SAFORMS = F1 F2 F3 F4 F5 1
000636	MORESCS = MAGTRANS TRANSFORMABILITY 1	000693	SADBJ(F1) = 1
000637	MOTRANS = MAGSTEED MAGCARPET FLIGHT MAGBIRD SUPERSPEED 1	000694	SADBJ(F2) = MAGHEN MAGCOW MAGBOX 1
000638	MOKALL = MZTRANS MOKILLS MORESCS MAGLIOS 1	000695	SADBJ(F3) = FIREBIRD GOLDJUCK 1
000639	MUDORM = 1	000696	SADBJ(F4) = EGGSDEATH 1
000640	MUDORMS = F1 F2 1	000697	SADBJ(F5) = WEALTH 1
000641	MVFORMS = F1 F15 F16 F17 F18 F19 1	000698	SEEKER = 1
000642	MVFORMS = F7 F9 F10 F11 F12 F13 F14 1	000699	SLDC = 1
000643	OLGEYI = 1	000700	SUBJECT = 1
000644	OWNER = 1	000701	SON1 = 1
000645	PEOPLE = MALE FEMALE 1	000702	SON2 = 1
000646	PFORM = 1	000703	SON3 = 1
000647	PFORMS = F1 F2 F3 F4 F5 F6 F7 1	000704	STORYLDI = 1
000648	PLACES = WOODS FIELDS HOUSE BARN TOWN HUT 1	000705	THELP = F3 F6 1
000649	PERPROH(BABAYAGI) = HERSELF1	000706	THETAFNS = F1 F2 1
000650	PERPRON(WOLF) = HIMSELF1	000707	THETAFORM = 1
000651	PERPRON(BEAR) = HIMSELF1	000708	TRICK = 1
000652	PERPRON(DRAGON) = HIMSELF1	000709	TRICKS(F1) = MAGRING STEAMRATH SWIM 1
000653	POSPURSU(DRAGON) = DRAGNWIFEI	000710	TRICKS(F2) = SLEEPINGPOTION MAGICPIN 1
000654	POSPURSU(BABAYAGI) = BABALUGH1	000711	VICTIM = 1
000655	POSPURSU(REAR) = BEARSFATHER 1	000712	VILLAIN = 1
000656	POSPURSU(WOLF) = WOLFPACT1	000713	VILPOSES = YOJRDEATH YOIRWISDOM 1
000657	PCSVILS = DRAGON BABAYAGA BEAR WOLF 1	000714	VILSA = F3 FS F16 F17 F18 F19 F13 1
000658	PURSUER = 1	000715	VOC = 1
000659	GANSI(YOJRDEATH) = MYDEATH 1	000716	SUBJECT = 1
000660	GANSI(YOJRDEATH) = MYWISDOM1	000717	VO3THP(F2) = MAGOBJS MAGANIM 1
000661	OBJECT = 1	000718	VO3THP(F3) = CROPS 1
000662	RHELP = 1	000719	VO3THP(FN) = DAYLIGHT 1
000663	RSFORMH = 1	000720	VO3THP(F5) = CATTLE ANIMALS SHEEP 1
000664	RSFORMS(F1) = F1 F2 F3 F4 F5 1	000721	VO3THP(F6) = HEART ARM LEG EYE 1
000665	RSFORMS(F2) = F1 F2 F3 F4 F5 1	000722	VPOSLOC5 = MAGEGG 1
000666	RSFORMS(F3) = F1 F2 F3 F4 F5 1	000723	VTEMP = 1
000667	RSFORMS(F4) = F7 1	000724	YOUNGEN = 1
000668	RSFORMS(F5) = F8 1	000725	3 AREL(F1) = ABOUCTI
000669	RSFORMS(F6) = F9 1	000726	3 AREL(F2) = SEIZEI
000670	RSFORMS(F7) = F10 1	000727	3 AREL(F3) = PILLAGEI

000728	3 AREL(F4) ■ SEIZEI	000785	3 PREL2(F2) ■ FORI
000729	3 AREL(F5) ■ PLUNDERI	000786	3 PREL2(F3) ■ AFTERI
000730	3 AREL(F6) ■ INJUREI	000787	3 PREL2(F5) ■ DEVO.RI
000731	3 AREL(F7) ■ CAUSEDISPOF I	000788	3 PREL2(F6) ■ KILLI
000732	3 AREL(F8) ■ DEMANDI	000789	3 RSREL2(F1) ■ OVI
000733	3 AREL(F9) ■ EXPELL	000790	3 RSREL2(F2) ■ WITHI
000734	3 AREL(F10) ■ ORSEP I	000791	3 RSREL2(F3) ■ INTOI
000735	3 AREL(F11) ■ CASTSPELLON I	000792	3 RSREL2(F4) ■ INI
000736	3 AREL(F12) ■ REPLACEI	000793	3 RSREL2(F5) ■ BYI
000737	3 AREL(F13) ■ ORDERHURDEROF I	000794	3 RSREL2(F6) ■ INFOI
000738	3 AREL(F14) ■ MURDERI	000795	3 RSREL2(F7) ■ RNJLLI
000739	3 AREL(F15) ■ IMPRISNI	000796	3 RSREL2(F8) ■ ISI
000740	3 AREL(F16) ■ THREATOMARRY I	000797	3 RSREL2(F9) ■ ISI
000741	3 AREL(F17) ■ THREATATEAT I	000798	3 RSREL2(F10) ■ TOI
000742	3 AREL(F18) ■ TORMENT I	000799	CHARACTERS ■ PEOPLE I
000743	3 ARCL(F1) ■ DECLAREWAMON I		
000744	3 ARCL(F10) ■ INTOI		
000745	3 ARCL2(F18) ■ ATI		
000746	3 ACRIVALS ■ FLYINGO APPEARIN SNEAKINTO WALKINTO I		
000747	2 BETAREL(F1) ■ LEAVE I		
000748	2 BETAREL(F2) ■ DIEI		
000749	2 BETAREL(F3) ■ LEAVE I		
000750	3 DELTAREL ■ I		
000751	3 DREL(F1) ■ PROPOSE I		
000752	3 DREL(F3) ■ ASKI I		
000753	3 FREL(F1) ■ GIVENTO I		
000754	3 FREL(F2) ■ SHOWNTO I		
000755	3 FREL(F3) ■ PREPAREDFOR I		
000756	3 FREL(F4) ■ SOLDTO I		
000757	3 FREL(F5) ■ FOUDAY I		
000758	3 FREL(F6) ■ APPERAUTO I		
000759	3 FREL(F7) ■ CONSUMEDBY I		
000760	3 FREL(F8) ■ SEIZEDBY I		
000761	3 GREL(F9) ■ PLACEDATDIFOF I		
000762	3 GAMGO(F1) ■ NOGOTO I		
000763	3 GAMGO(F2) ■ GOI		
000764	3 GAMLEV(F1) ■ NOLEAVE I		
000765	3 GAMLEV(F2) ■ LEAVEI I		
000766	3 GREL(F1) ■ TRAVELYI I		
000767	3 GREL(F2) ■ TRAVELON I		
000768	3 GREL(F3) ■ LEDBY I		
000769	3 GREL(F4) ■ DIRECTEDBY I		
000770	3 GREL(F5) ■ I		
000771	3 GREL(F6) ■ FOLLOWI		
000772	3 GREL2(TUNNEL) ■ CRAWLTHROUGHI		
000773	3 GREL2(STAIRWAY) ■ CLIMBI		
000774	3 GREL2(LEATHERSTRAPS) ■ DESCENDBYUSINGI		
000775	3 INJUR(ARM) ■ PULLOFF I		
000776	3 INJUR(EYE) ■ PLUCKOUT I		
000777	3 INJUR(HEART) ■ CUTOUT I		
000778	3 INJUR(LEG) ■ CUTOFF I		
000779	2 PRELI(F1) ■ FLYI		
000780	2 PRELI(F2) ■ YELLI		
000781	2 PRELI(F3) ■ CHASEI		
000782	2 PRELI(F5) ■ ATTEMPTI		
000783	2 PRELI(F6) ■ ATTEMPTI		
000784	3 PREL2(F1) ■ AFTERI		

10.3. Propp Model Simulation Program

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000800 E
000801 E
000802 SNETWORK 1
000803 *LEXTRP [TAKE AWAY] TO TAKEAWAYI
000804 *LEXTRP [FEED TO RATSI] TO FEEDINGTORATSI
000805 *LEXTRP [OFFERED TO] TO OFFEREDTOI
000806 *LEXTRP [INTO LEAVE] TO INTOLEAVEI
000807 *LEXTRP [GIVEN TO] TO GIVENTOI
000808 *LEXTRP [SHOWN TO] TO SHOWNTOI
000809 *LEXTRP [PREPARE FOR] TO PREPAREDFORI
000810 *LEXTRP [SOLD TO] TO SOLDTOI
000811 *LEXTRP [FOUND BY] TO FOUNDBYI
000812 *LEXTRP [CONSUME BY] TO CONSUMEDBYI
000813 *LEXTRP [SEIZED BY] TO SEIZEDBYI
000814 *LEXTRP [PLACED AT DISPOSOF] TO PLACEDATDISPOFI
000815 *LEXTRP [DISPOSAL OF] TO DISPOSOFI
000816 *LEXTRP [APPEARZ TO] TO APPEARTOI
000817 *LEXTRP [ABILITY] TO FLYI TO FLIGHTI
000818 *LEXTRP [TRAVELI BY] TO TRAVELBYI
000819 *LEXTRP [TRAVELI ONI] TO TRAVELONI
000820 *LEXTRP [LED BY] TO LEORYI
000821 *LEXTRP [DIRECT BY] TO DIRECTEDBYI
000822 *LEXTRP [CRAWL THROUGH] TO CRANLTHROUGHI
000823 *LEXTRP [DESCEND BY USING] TO DESCENDBYUSINGI
000824 *LEXTRP [IS HIDDEN] TO BEHIDDENI
000825 *LEXTRP [LADY OLD] TO OLDLADYS
000826 *LEXTRP [MAN YOUNG] TO YOUNGMANI
000827 *LEXTRP [DEATH NYI] TO MYDEATHI
000828 *LEXTRP [WISDOM NYI] TO MYWISODHI
000829 *LEXTRP [WISDOM_YOURI] TO YOURWISOMJ
000830 *LEXTRP [DEATH YOURI] TO YOUREDEATHI
000831 *LEXTRP [FALL ASLEEP] TO FALLASLEEPI
000832 *LEXTRP [CAUSE RNULL DISPOFI] TO CAUSEDISPOFI
000833 *LEXTRP [DISAPPEARANCE OF] TO DISPOFI
000834 *LEXTRP [CAST RNULL SPELLONI] TO CASTSPELLONI
000835 *LEXTRP [SPELL ONI] TO SPELLONI
000836 *LEXTRP [ORDER RNULL MURDEROFI] TO ORDERMURDEROFI
000837 *LEXTRP [INHURDER OF] TO MURDEROFI
000838 *LEXTRP [THREATEN MARRY] TO THREATHOMARRYI
000839 *LEXTRP [THREATEN EATI] TO THREATEATI
000840 *LEXTRP [DECLARE RNULL WARON] TO DECLAREWARONI
000841 *LEXTRP [WAR ONI] TO WARDONI
000842 *LEXTRP [FULL OFF] TO FULLOFFI
000843 *LEXTRP [PLUCK OUT] TO PLUCKOUTI
000844 *LEXTRP [CALL FOR] TO CALLFORI
000845 *LEXTRP [TRACE BLOODY] TO BLOODYTRACKS1
000846 *LEXTRP [GO VISIT] TO GOVISITI
000847 *LEXTRP [GO WALKI] TO GOWALKI
000848 *LEXTRP [GO FISHI] TO GOFISHI
000849 *LEXTRP [GO BERRYGATHERI] TO GOBERRYGATHERI
000850 *LEXTRP [DONOT GO TO] TO NOGOTOI
000851 *LEXTRP [DONOT LEAVEI] TO NOLEAVET
000852 *LEXTRP [WHERE IS] TO WHEREISI
000853 *LEXTRP [FLYZ INTO] TO FLYINTOI
000854 *LEXTRP [APPEARZ INI] TO APPARINI
000855 *LEXTRP [SNEAK INTO] TO SNEAKINTOI
000856 *LEXTRP [WALK INTO] TO WALKINTOI
000857 *LEXTRP [WHO OWN] TO WHOOWNI
000858 *LEXTRP [TREE OTHER] TO OTHERTREEI
000859 *LEXTRP [BALL OF THREAD] TO BALLOFTHREADI
000860 *LEXTRP [KINGDOM CERTAIN] TO CERTAINKINGDOMI
000861 *LEXTRP [PROVINCE DISTANT] TO DISTANTPROVINCEI
000862 *LEXTRP [WIVES POS DRAGON] TO DRAGONWIFEI
000863 *LEXTRP [DAUGHTER POS BABAYAGA] TO BABADAUGHI
000864 *LEXTRP [INFATHER POS BEAR] TO BEARSFATHERI
000865 *LEXTRP [LIVE IN] TO LIVEINI
000866 *LEXTRP [GO WORK] TO GOWORKI
000867 *LEXTRP [GO TRADE] TO GOTRADEI
000868 *LEXTRP [GO TO WARI] TO GOTOWARI
000869 *LEXTRP [GO TO FOREST] TO GOTOFORESTI
000870 *LEXTRP [LADY SWEETOLDI] TO SWEETTOLDADYL
000871 *LEXTRP [OLD SWEET] TO SWEETOLDI
000872 *LEXTRP [FIGHTING WITHI] TO FIGHTINGWITHI
000873 *LEXTRP [S] THE FOLK TALES GENERATED BY THIS PROGRAM FOLLOW THE STRUCTURE
000874 *LEXTRP [S] DESCRIBED BY VLADIMIR PROPP IN HIS MORPHOLOGY OF THE FOLKTALE.
000875 *LEXTRP [S] FORM NAMES AND PAGE NUMBERS REFER TO PROPP, SECOND EDITION.
000876 *LEXTRP [S] WRITTEN BY S. DAVID KALISH AND MATTHEW APPELBAUM, SEPT. 1974.
000877 *LEXTRP [S] GROUP BEGIN: 1H/ONI
000878 *LEXTRP [S] KRULE1: *DISABLE BEGIN;
000879 *LEXTRP [S] *ENABLE TAIL IN 1D1;
000880 *LEXTRP [S] *SET ABCDE = 0000;
000881 *LEXTRP [S] *START_ABCDE;
000882 *LEXTRP [S] *ENABLE MASTER IN 1K1
000883 *LEXTRP [S] SENDGROUP1;
000884 *LEXTRP [S] MASTER GROUP. THE DRAMATIS PERSONAE ARE PICKED; INITIALIZATION
000885 *LEXTRP [S] IS PERFORMED FOR EACH FUNCTION (THAT IS CHOSEN TO OCCUR) BEFORE
000886 *LEXTRP [S] IT IS ENTERED.
000887 *LEXTRP [S]
000888 *LEXTRP [S]
000889 *LEXTRP [S]
000890 *LEXTRP [S]
000891 *LEXTRP [S]
000892 *LEXTRP [S]
000893 *LEXTRP [S]
000894 *LEXTRP [S]
000895 *LEXTRP [S]
000896 *LEXTRP [S]
000897 *LEXTRP [S]
000898 *LEXTRP [S]

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000899	EGROUP MASTER : INVOFFI	030956	\$ FUNCTIONS) IS SKIPPED, AND THE FEW DRAMATIS PERSONAE NEEDED ARE
000900	ERULE : +DISABLE MASTER	000957	\$ PICKED DIRECTLY IN FUNCTION SHALL A+
000901	\$	000958	\$
000902	\$	000959	\$
000903	\$ THE INITIAL SITUATION -- FUNCTION ALPHA (P. 25-26).	000960	\$ RULE ISIT : FIMSAI
000904	\$ GROUP ALPHA IS CALLED TO CONSTRUCT THE FAMILY, WHICH IS THEN	000961	*MOVE PICK(AFORMS) TO AFORMI
000905	\$ DESCRIBED:	000962	: +8 I
000906	\$	000963	\$
000907	\$	000964	\$
000908	ERULE : +CALL ALPHA,	000965	\$ PICK THE HERO, VILLAIN, VICTIM, AND OWNER. THE HERO OR THE VICTIM,
000909	+REMOVE FAMILY FROM CHARACTERS)	000966	\$ OR BOTH, MUST BE IN THE FAMILY. THE VILLAIN MAY BE IN THE
000910	SRU_E FANNAH_LIVEIN_STORYLOC I	000967	\$ FAMILY IF THE VICTIM IS.
000911	-10,-10 I NUM(FAMILY) EQ 11	000968	\$
000912	ERULE : TISAI	000969	\$
000913	PLACE_IS STORYLOC	000970	\$
000914	FAMILY ALONE,	000971	\$ PICK HERO FROM CHARACTER POOL AND INTRODUCE HIM.
000915	+MOVE FI TO SAFORMI	000972	\$
000916	-10,-10 I NUM (FAMILY) EQ 11	000973	I RULE_I TIVPIC
000917	ERULE : FATHER IS FATHER	000974	*MOVE PICK(CHARACTERS) TO HERO,
000918	-10,-10 I NUM (FATHER) EQ 11	000975	*REMOVE HERO FROM CHARACTERS,
000919	ERULE : MOTHER IS MOTHER	000976	*INSERT (HERO-LIVEIN LAND) LIVEIN ALSO1 (LAND SAME),
000920	-10,-10 I NUM (MOTHER) EQ 11	000977	*INSERT (HERO OF BIRTH)(BIRTH MIRACULOUS)
000921	ERULE : TISITI	000978	: +5 I
000922	INFAMILY CHILDLESS	000979	\$
000923	-10,-10 I NUM (YOUNGEN) EQ 01	000980	\$ OR PICK THE HERO FROM THE FAMILY.
000924	ERULE : TISITI	000981	\$
000925	+INSERT (SON) IS CHILD;CHILD ONLY))	000982	SRULE_E : +MOVE PICK(FAMILY) TO HEROI
000926	(NUM (YOUNGEN) EQ 11 AND NUM (SON)) EQ 11	000983	\$
000927	SRULE_I TISITI	000984	\$ PICK A VILLAIN, WHO MAY ALSO BE FROM THE FAMILY, DEPENDING UPON
000928	+INSERT (DAUGHT) IS C((LO))CHILD ONLY))	000985	\$ THE HERO, THE FAMILY, AND THE FORM OF VILLAINY.
000929	-10,-10 I (NUM (YOUNGEN) EQ 11 AND NUM (DAUGH)) EQ 11	000986	\$
000930	SRULE_I TIDAUGH	000987	\$SWITCH VILPIC : TIVCARJ
000931	+INSERT (SON IS SON1)(SON ONLY))	000988	10,-7 1 (AFORM EGL FAMFORMS))
000932	-10,-10 I NUM(SON1) EQ 1 AND NUM(SON2) EQ 01	000989	0,10 I (HERO EGL FAMILY))
000933	SRULE_I TIDAUGH	000990	10,0 I NUM (FAMILY) LT 31
000934	+INSERT (SON IS SON1)(SON OLDEST))	000991	E(VILPIC)
000935	-10,-10 I NUM (SON1) EQ 11	000992	*REMOVE HERO FROM FAMILY,
000936	SRULE_I TIDAUGH	000993	*MOVE PICK(FAMILY) TO VILLAIN,
000937	+INSERT (SON IS SON2)(SON YOUNGER))	000994	*MOVE HERO TO FAMILY
000938	-10,-10 I NUM (SON2) EQ 11	000995	SRULE_VCAR_I +MOVE PICK(POS;LS1) TO VILLAIN
000939	SRULE : +INSERT (SON IS SON3)(SON YOUNGEST))	000996	\$
000940	-10,-10 I NUM (SON3) EQ 11	000997	\$ PICK THE OBJECT OF THE VILLAINY, IF THE OBJECT IS NOT A
000941	SRULE DAUGH : TISITI : +INSERT (DAUGH1 IS DAUGHTER)(DAUGHTER ONLY))	000998	\$ PERSON. THE SPECIFIC OBJECT DEPENDS ON THE FORM OF VILLAINY.
000942	-10,-10 I NUM(DAUGH1) EQ 1 AND NUM(DAUGH2) EQ 01	000999	\$
000943	SRULE_I FISITI	001000	SRULE_VICPIC : E(VCTPIC)
000944	+INSERT (DAUGHTER IS DAUGH1)(DAUGHTER OLDEST))	001001	*MOVE PICK(VOBTHPIAFORM)) TO VOBJECT
000945	-10,-10 I NUM (DAUGH1) EQ 11	001002	10,-10 I (AFORM EGL NOFORMS))
000946	SRULE_I FISITI	001003	\$
000947	+INSERT (DAUGHTER IS DAUGH2)(DAUGHTER YOUNGER))	001004	\$ PICK THE OWNER OF THE OBJECT, IF THE OBJECT IS NOT A PERSON,
000948	-10,-10 I NUM (DAUGH2) EQ 11	001005	\$ INTRODUCE HIM IF HE IS NOT IN THE FAMILY, AND MAKE HIM THE VICTIM
000949	SRULE_I +INSERT (DAUGHTER IS DAUGH3)(DAUGHTER YOUNGEST))	001016	\$
000950	-10,-10 I NUM (DAUGH3) EQ 11	001027	ELOOP_I X+FAMILY
000951	\$	001028	SRULE_I TIDOVVJ
000952	\$	001029	*MOVE X TO OWNER
000953	\$ PICK FORM OF SEED FUNCTIONS & (VILLAINY) OR SMALL A (LACK).	001030	5,1 I (HERO EGL FAMILY))
000954	\$ THIS FORM WILL DETERMINE MUCH OF THE REST OF THE TALE. IF THE	001031	-10,0 I (HERO EGL X))
000955	\$ TALE BEGINS WITH A LACK, THEN THE PREPARATORY PART (FIRST SEVEN	001032	XENDLOOPI

001013	RULE 1	*MOVE PICK(CHARACTERS) TO OWNER;	001070	\$ PICK THE LOCATION OF THE VILLAINY.
001014		*REMOVE OWNER FROM CHARACTERS	001071	\$
001015	RULE 1	T(DOWN)	001072	RULE 1 *MOVE PICK(PLACES) TO VLOC1
001016		*INSERT OWNER LIVEIN LAND)(LAND SAME)(LIVEIN ALSO)	001073	\$
001017		OWNER WHO OWN VOBJECT1	001074	\$
001018	-10,-10 1	{VOBJECT EQL BODPARTS1}	001075	\$ INTERDICTION SEQUENCE = FUNCTIONS BETA, GAMMA, AND DELTA
001019	RULE 1	T(DOWN)	001076	\$, , , P= 26-27 THIS SEQUENCE IS PERFORMED ONLY UNDER
001020		*INSERT OWNER [LIVEIN LAND](LAND SAME)(LIVEIN ALSO)	001077	\$ CERTAIN CONDITIONS.
001021	RULE OWN 1	OWNER HAVE VOBJECT1	001078	\$
001022	-10,-10 1	{VOBJECT EQL BODPARTS1}	001079	\$
001023	RULE OWN 1	{SEK1}	001080	SWITCH 1 FIVARIV1
001024		*MOVE OWNER TO VICTIM1	001081	0,-10 1 {HERO EQL FAMILY1} AND {VICTIM EQL FAMILY1}
001025	\$		001082	-1,-10 1 {HERO EQL SEEKER1} AND {INV4(FAMILY1) EQ 211}
001026	\$	PICK A VICTIM, IF THE OBJECT OF THE VILLAINY IS TO BE A PERSON.	001083	*8,-5 1 {HERO EQL VICTIM1}
001027	\$	THE VICTIM MAY BE FROM THE FAMILY, DEPENDING ON THE HERO, VILLAIN,	001084	\$ PICK INTERDICTION-ABSENTOR FROM THE FAMILY.
001028	\$	AND FORM OF VILLAINY. IT IS ASSUMED THAT VICTIM-HEROES ARE INVOLVED	001085	\$
001029	\$	ONLY IN VILLAINIES WHICH REMOVE THEM FROM HOME! THEY THEN ATTEMPT	001086	\$
001030	\$	TO GET BACK.	001087	SLOOP 1 X(FAMILY1)
001031	\$	THEN PICK ANOTHER FAMILY MEMBER TO SERVE AS "OWNER" OF THE VICTIM.	001088	RULE 1 T(BETPIC)
001032	\$		001089	*MOVE X TO ABSENTOR;
001033	RULE VCTPIC 1		001090	-10,-10 1 {X EQL HERO1} OR {X EQL VICTIM1}
001034		*MOVE VILLAIN FROM FAMILY;	001091	SENDLOOP1
001035		*MOVE VILLAIN TO VTEMP1	001092	\$
001036	10,-10 1	{VILLAIN EQL FAMILY1}	001093	\$ PICK FORM OF FUNCTION BETA DEPENDANT UPON COMPOSITION OF FAMILY.
001037	RULE 1	*REMOVE HERO FROM FAMILY;	001094	\$
001038		*MOVE HERO TO HTEMP1	001095	RULE BETPIC 1
001039	10,-10 1	{HERO EQL FAMILY1} AND {FORM EQL NVHFORM51}	001096	T(INFPIC)
001040	RULE 1	FIVICCHAR1	001097	*MOVE F1 TO BETAFORM1
001041		*MOVE PICK(FAMILY1) TO VICTIM1	001098	-7,-10 1 {ABSENTOR EQL OLDGEN1}
001042	10,-5 1	NUM(VTEMP1) EQ 11	001099	RULE 1 T(INTERPIC1)
001043	10,-5 1	NUM(FAMILY1) EQ 11	001100	*MOVE F2 TO BETAFORM2
001044	0,-10 1	NUM(VTEMP1) EQ 11	001101	*MOVE ABSENTOR TO DEAD1
001045	RULE 1	*MOVE VICTIM FROM FAMILY1	001102	10,-10 1 {ABSENTOR EQL OLDGEN1}
001046		{VOFILL1}	001103	RULE 1 FIRE-ON1
001047		*MOVE PICK(FAMILY1) TO OWNER,	001104	*MOVE F3 TO BETAFORM3
001048		*ADD VICTIM TO FAMILY1	001105	10,-10 1 NUM(ABSENTOR1) EQ 11
001049		*ADD VTEMP TO FAMILY1	001106	\$
001050	\$		001107	\$ RANDOMLY PICK FORM OF FUNCTION GAMMA, CONSTRUCT THE INTERDICTION,
001051	\$	OR THE VICTIM AND "OWNER" COME FROM OUTSIDE THE FAMILY AND ARE	001108	\$ AND ASSIGN IT TO A PREDICATE NODE; ASSUME AN APPROPRIATE FORM
001052	\$	INTRODUCED.	001109	\$ OF THE PAIRED ELEMENT, DELTA.
001053	\$		001110	\$
001054	RULE VICCHAN 1		001111	RULE INTERPIC 1
001055		*MOVE PICK(CHARACTERS) TO OWNER;	001112	*MOVE PICK(GAMFORMS1) TO GAMFORM1
001056		*REMOVE OWNER FROM CHARACTERS;	001113	RULE 1 T(GAMCALL1)
001057		*MOVE PICK(CHARACTERS) TO VICTIM;	001114	*DISCARD (HERO GAMGO(GAMFORM1) LOC) TO INTERDICTION
001058		*REMOVE VICTIM FROM CHARACTERS;	001115	10,-10 1 {MOVE GO TO DELTARFL1}
001059		*INSERT OWNER LIVEIN LAND)(LIVEIN ALSO)(LAND SAME),	001116	001117 RULE 1 *MOVE GO TO DELTARFL1
001060		*INSERT {VICTIM IS CHILD}(CHILD POS OWNER1)	001118	*MOVE LEAVE1 TO DELTAREL1
001061	RULE VOFILL 1		001119	*INSERT (ABSENTOR RAND VOBJECT1)ABSENTOR RAND HERO1
001062		*MOVE VICTIM TO VOBJECT,	001120	{VOBJECT IN VLOC1}
001063		*ADD HTEMP_TO FAMILY1	001121	\$
001064	\$		001122	\$ CALL ROUTINES FOR FUNCTIONS GAMMA, BETA, AND DELTA.
001065	\$	IF THE HERO IS NOT THE VICTIM, THEN HE IS A SEEKER-HERO.	001123	\$
001066	\$		001124	RULE GAMCALL 1
001067	RULE SEK 1	*MOVE HERO TO SEEKER1	001125	*CALL GAMMA,
001068	-10,-10 1	{HERO EQL VICTIM1}	001126	*CALL BETA,
001069	\$			

001127	*CALL DELTA1	001184	SRULE CONCOM :
001128	X	001185	TIDISPATCH
001129	S INTRODUCE THE VILLAIN, IF NECESSARY (P. 27).	001186	*MOVE F14 TO AFORM,
001130	S	001187	*MOVE OWNER TO VOBJECT,
001131	S RULE VARIVI *CALL VILLARIV 1	001188	*MOVE OWNER TO DEAD,
001132	-10,-10 1 (VILLAIN NEG FAMILY)	001189	*CALL A1
001133	S	001190	0,-10 1 (F1 EOL AFORM 1 OR (F2 EOL AFORM))
001134	S	001191	-10,-10 1 (OWNER EOL DEAD))
001135	S RECONNAISSANCE SEQUENCE -- FUNCTIONS EPSILON AND PSI (IV, V, VI, P. 28-29). THE FORM OF EPSILON IS RANDOMLY PICKED, NECESSARY	001192	SRULE 1 TIDISPATCH
001136	S ROLES ARE FILLED, AND GROUPS DESCRIBING EPSILON AND ITS	001193	*MOVE F12 TO AFORM,
001137	S PAIRED ELEMENT, PSI, ARE CALLED.	001194	*CALL A1
001138	S	001195	+3,-10 1 (F6 EQ. AF0THII)
001139	S	001196	SRULE 1 TIDISPATCH
001140	S	001197	*MOVE F9 TO AFORM,
001141	S	001198	*CALL A1
001142	F:73:ICKERY1	001199	+5,-10 1 (F111 EQ. AFORM)
001143	*MOVE PICK(EPSFORMS) TO EPSFORM	001200	SRULE 1 TIDISPATCH
001144	+5 1	001201	*MOVE F12 TO AFORM,
001145	S RULE 1 TIERSCALL	001202	*CALL A1
001146	*MOVE PICK(CHARACTERS) TO BETRAYER,	001203	*MOVE VILLAIN TO SUBJECT
001147	*REMOVE BETRAYER FROM CHARACTERS	001204	+5,-10 1 (F111 EQ. AFORM)
001148	-10,-10 1 (F1 EOL EPSFORM)	001205	S
001149	S RULE 1 *MOVE PICK(VILPOSES) TO SOBJECT	001205	X
001150	*MOVE PICK(VILPOSES) TO SLOC1	001207	S LACK -- FUNCTION SHALL A (VIII, P. 35-36).
001151	S RULE EPSCALL : (CA)	001208	X IF THERE IS NO VILLAINY, A LACK IS RANDOMLY CHOSEN, ALONG WITH A
001152	*CALL EPSILON,	001209	X SEEKER-HERO FROM THE FAMILY AND A SOUGHT AFTER OBJECT WHICH
001153	*CALL PSI1	001210	X DEPENDS ON THE TYPE OF LACK; GROUP S1 DESCRIBES THE LACK.
001154	S	001211	S
001155	S	001212	S
001156	S TRICKERY SEQUENCE -- FUNCTIONS NU AND THETA (VII, VIII, P. 29-30).	001213	SRULE MSA 1 *MOVE PICK(SIFIRMS) TO SAFORM
001157	S THE FORM OF NU IS RANDOMLY PICKED, AND GROUPS TO DESCRIBE IT AND	001214	SRULE PSA 1 *MOVE PICK(FIR LYS) TO HERO,
001158	S ITS PAIRED ELEMENT, THETA, ARE CALLED. A DISGUISE IS CHOSEN FOR	001215	*MOVE HERO TO SEEKERI
001159	S THE VILLAIN	001216	SWITCH 1 (NOTSAII)
001160	S	001217	-10,-10 1 (F1 EOL SAFORM)
001161	S	001218	SRULE 1 *MOVE BRIDE TO SAOBJ(F111)
001162	S RULE TRICKERY :	001219	-10,-10 1 (HERO EQL MALE)
001163	*MOVE PICK(NUFORMS) TO NUFORM,	001220	SRULE 1 *MOVE HUSBAND TO SAOBJ(F111)
001164	*MOVE NUFORM TO THETAFORM,	001221	-10,-10 1 (HERO EQL FEMALE)
001165	*CALL VILDISG,	001222	SRULE NOTSA 1
001166	*CALL NU,	001223	*MOVE PICK (SAOBJ(SAFORM)) TO SOBJECT
001167	*CALL THETA1	001224	SRULE 1 *CALL SAI
001168	+8,-10 1 (HERO EQL FAMILY)	001225	S
001169	S	001226	S
001170	S	001227	S DISPATCH -- FUNCTION B (IX, P. 36-38).
001171	S VILLAINY -- FUNCTION A (VIII, P. 30-35).	001228	S THE FORM OF B THAT IS CHOSEN DEPENDS ON WHETHER THE TALE HAS A
001172	S THE VILLAINY IS DESCRIBED BY CALLING GROUP A; CONCOMITANT FORMS OF	001229	S VICTIM-HERO OR A SEEKER-HERO. GROUP B IS CALLED TO DESCRIBE THE
001173	S VILLAINY MAY BE CONSTRUCTED BY AGAIN CALLING A, IN THE PROPER	001230	S FUNCTION.
001174	S CIRCUMSTANCES. THE SOUGHT AFTER OBJECT IS DETERMINED BY THE FORM	001231	S
001175	S OF VILLAINY (AND IN THE CASE BY THE RESPONSE TO THE VILLAINY) AND	001232	S
001176	S IS EITHER THE OBJECT OF THE VILLAINY OR THE VILLAIN.	001233	SWITCH DISPATCH 1 (FIVICTHII)
001177	S	001234	-10,-10 1 (HERO EQL SEEKERII)
001178	S	001235	SWITCH 1 TIGCI
001179	S RULE CA 1 *CALL A;	001236	-10,-10 1 NUM(FAMILY) ER II
001180	S RULE,C 1 TICONCOM	001237	S
001181	*MOVE VOBJECT TO SOBJECT	001238	S THERE IS A SEEKER-HERO, BASED ON THE HERO, OWNER, AND THE VILLAIN
001182	-10,-10 1 (AFORM EQL VILSA) OR (OWNER REFUSE)	001239	S OR LACK, A FORM OF B IS PICKED. IF NECESSARY, EITHER THE OWNER
001183	S RULE 1 *MOVE VILLAIN TO SOBJECT	001240	S IS THE DISPATCHER, OR A DISPATCHER IS PICKED FROM THE FAMILY.

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001241 $ SSWITCH I TIB2LL1
001242 $ 10,-10 1 *MOVE [SAFORB1] TO F11
001243 $ RULE I #MOVE OWNER TO DISPATCHERI
001244 $ SWITCH I TIB2L1:
001245 $ 10,-10 1 [(OWNER EQL FAMILY) AND (HERO EQL FAMILY)]
001246 $ RULE B1L1 TICALLB1
001247 $ 10,-10 1 #MOVE F1 TO BFORM1
001248 $ RULE B1L1 TICALLB1
001249 $ 1,-10 1
001250 $ RULE B4L1 TICALLD1
001251 $ FIGC1
001252 $ 10,-10 1 #MOVE F4 TO BFORM1
001253 $ (HERO EQL FAMILY)
001254 $ RULE B2L1 TICAL B1
001255 $ #MOVE F2 TO BFORM1
001256 $ -10,-7 1 (HERO EQL DISPATCHERI)
001257 $ RULE B3L1 TICAL B1 FIGC1
001258 $ #MOVE F3 TO BFORM1
001259 $ 1,-7 1
001260 $ THERE IS A SEEKER-HERO WITH A LACK
001261 $ | THERE IS A SEEKER-HERO WITH A LACK
001262 $ | THERE IS A SEEKER-HERO WITH A LACK
001263 $ RULE B2LL1 TIB3LL1
001264 $ #MOVE F2 TO BFORM1
001265 $ 1,-4 1
001266 $ SLOOP : X*FAMILY1
001267 $ RULE I TICALLB1
001268 $ #MOVE X TO DISPATCHERI
001269 $ -10,-10 1 [(X EQL HERO)]
001270 $ SENDLOOP
001271 $ RULE B3LL1 TICALLB1
001272 $ #MOVE F3 TO BFORM1
001273 $ 1,-8 1
001274 $ THERE IS A VICTIM-HERO+ THE FORM OF B DEPENDS UPON THE FORM OF A+
001275 $ | THERE IS A VICTIM-HERO+ THE FORM OF B DEPENDS UPON THE FORM OF A+
001276 $ | THERE IS A VICTIM-HERO+ THE FORM OF B DEPENDS UPON THE FORM OF A+
001277 $ RULE VICTM I T[SENDGROUP]
001278 $ #MOVE FS TO BFORM1
001279 $ *CALL B1
001280 $ 10,-10 1 [(AFORM EQL F8) OR (AFORM EQL F9) OR (AFORM EQL F10)]
001281 $ RULE I T[FORMAR]
001282 $ #MOVE F7 TO BFORM1
001283 $ *CALL B1
001284 $ 10,-10 1 [(AFORM EQL F11)]
001285 $ RULE I T[FORMAR]
001286 $ #MOVE F6 TO BFORM1
001287 $ *CALL B1
001288 $ 10,-10 1 [(AFORM EQL F13)]
001289 $ RULE CALLB I *CALL B1
001290 $ 
001291 $ BEGINNING COUNTERACTION == FUNCTION C [IX; P= 38];
001292 $ IF APPROPRIATE, ACCORDING TO THE FORM OF B, GROUP C IS CALLED.
001293 $ | BEGINNING COUNTERACTION == FUNCTION C [IX; P= 38];
001294 $ | IF APPROPRIATE, ACCORDING TO THE FORM OF B, GROUP C IS CALLED.
001295 $ | 
001296 $ RULE GC I *CALL C1
001297 $ 10,-10 1 (SEEKER EQL HERO)
001298 $ 
001299 $ 
001300 $ DEPARTURE == FUNCTION UP-ARROW (XII, P= 39)
001301 $ T[DEPARTURE] : *CALL DEPARTI
001302 $ 10,-8 1 [(VICTIM EQL HERO)]
001303 $ SENDGROUP_
001304 $ 
001305 $ | THE FIRST SECTION OF THE MASTER GROUP ENDS WITH THE DEPARTURE OF
001306 $ | THE HERO. THE REST OF THE TALE TAKES PLACE A DAY LATER.
001307 $ 
001308 $ 
001309 $ GROUP TAIL : LOH/DFF I
001310 $ RULE I *DISABLE TAIL I
001311 $ 
001312 $ 
001313 $ 
001314 $ DONOR SEQUENCE == FUNCTIONS D, E, AND F (XII, XIII, XIV, P= 39-50)
001315 $ THIS SEQUENCE IS RELATIVELY INDEPENDENT OF THE REST OF THE TALE.
001316 $ BASICALLY, ANY FORM OF FUNCTION D CAN OCCUR, FOLLOWED BY ITS
001317 $ PAIRED ELEMENT, FUNCTION E. FUNCTION F THEN DEPENDS UPON FUNCTION
001318 $ D ACCORDING TO THE CONNECTIONS SHOWN IN THE CHART ON P. 57. WE
001319 $ ASSUME, HOWEVER, THAT FOR THE SAKE OF CONTINUITY, THE MAGICAL
001320 $ AGENT(S) ACQUIRED BY THE HERO WILL BE USED, IF POSSIBLE. THEREFORE,
001321 $ WE GIVE THE HERO WHAT HE WILL OR MIGHT NEED, AND WE ALSO TRY TO
001322 $ FORCE THE HERO TO USE THE MAGICAL AGENT(S) HE HAS ACQUIRED.
001323 $ EXCEPT FOR A LACK, THE HERO RANDOMLY GETS EITHER ONE OR THREE
001324 $ MAGICAL AGENTS.
001325 $ 
001326 $ 
001327 $ SSWITCH I T[THREE]
001328 $ -10,-5 1 [(2 EQL SAFORM1]
001329 $ SSWITCH I T[SA1]
001330 $ 10,-10 1 NUM [SAFORM1] E2_1]
001331 $ 
001332 $ | THE HERO GETS ONLY ONE MAGICAL AGENT.
001333 $ | A VICTIM-HERO GETS A MAGICAL TRANSPORTATION AGENT.
001334 $ 
001335 $ RULE I T[SHQUAL]
001336 $ *MOVE PICK[HOTTRANS] TO MAGHELP1
001337 $ 10,-10 1 [(VICTIM EQL HERO)]
001338 $ 
001339 $ OTHERWISE, THE HERO CAN USUALLY GET ANY MAGICAL AGENT.
001340 $ 
001341 $ RULE LPICK1 I *MOVE PICK[HOTALL] TO MAGHELP1
001342 $ SSWITCH SHQUAL I T[SHQUAL]
001343 $ 10,-10 1 [(MAGHELP1 EQL MAGQUALS1]
001344 $ SSWITCH I T[LPICK1]
001345 $ 10,-10 1 [(VILLAIN EQL SUBJECT) OR (VICTIM EQL HERO)]
001346 $ AND (MAGHELP1 EQL MAGLIOS1]
001347 $ 
001348 $ | THE MAGICAL AGENT MAY COME FROM ANOTHER MAGICAL AGENT.
001349 $ 
001350 $ RULE I T[DPICK] FISETH01
001351 $ *MOVE PICK[MAGCHANGS] TO MAGHELP1
001352 $ 1,-4 1
001353 $ 
001354 $ | A MAGICAL QUALITY COMES FROM A FOOD WHICH IS CONSUMED.

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001355 * RULE LQUAL 1 (FOR(D)1
 001356 * #MOVE PICK(MAGFOOD) TO MAGHELP1
 001357 * #MOVE F1 TO DFORM;
 001358 * #MOVE F7 TO FFORMS;
 001359 *
 001360 * FOR A LACK, THE MAGICAL AGENT CAN EITHER LIQUIDATE THE LACK, OR
 001361 * BE THE ITEM SEARCHED FOR;
 001362 *
 001363 *
 001364 RULE LSA \$ T(SETM01
 001365 * #MOVE PICK(MAGL00S) TO MAGHELP1
 001366 -10,10 1 (SAFORM EQL F2)1
 001367 RULE 1 #MOVE SOBJECT TO MAGHELP1
 001368 RULE SETHQ 1 (DPICK1
 001369 * #MOVE MAGHELP1 TO MAGHELP01
 001370 *
 001371 * THE HERO WILL RECEIVE THREE MAGICAL AGENTS, OF TYPES KILLING AND
 001372 * TRANSPORTATION, AND EITHER LIQUIDATION OR RESCUE, DEPENDING ON
 001373 * POSSIBLE LATER USE;
 001374 *
 001375 RULE LTHREE 1 #MOVE PICK(MAGKILLS 1 TO MAGHELP1
 001376 * #MOVE PICK(MAGTRANS 1 TO MAGHELP2
 001377 * #REMOVE MAGHELP2 FROM MAGRESCS1
 001378 RULE 1 (DCNGL
 001379 * #MOVE PICK(MAGRESCS) TO MAGHELP1
 001380 10,0 1 (VILLAIN EQL SOBJECT) OR (VICTIM EQL MERO11
 001381 -10,0 1 NUM(15)EQ 11
 001382 1 +5 1 RULE 1 #MOVE PICK(MAGL00S) TO MAGHELP3
 001383 * ANOTHER AGENT MAY CHANGE INTO THE THREE TO BE ACQUIRED;
 001384 *
 001385 RULE DCNGE 1 #MOVE PICK(MAGCHANGS) TO MAGHELP1
 001386 1 +5 1
 001387 * THE FORM OF D IS RANDOMLY PICKED IN MOST CASES;
 001388 *
 001389 *
 001390 *
 001391 *
 001392 RULE DPICK 1 #REMOVE F10 FROM DFORMS1
 001393 0,10 1 (MAGHELP1 EQL MAGKILLS1)
 001394 -10,10 1 NUM(15)EQ 01
 001395 RULE 1 T(FORMD)
 001396 * #MOVE PICK(DFORMS) TO DFORM1
 001397 -10,10 1 (NUM(SAFORM) EQ 1) AND (NUM(MAGHELP2) NE 0) 1
 001398 -10,10 1 (HERO EQL VICTIM1)
 001399 RULE 1 #MOVE F7 TO DFORM1
 001400 *
 001401 * A DONOR IS RANDOMLY PICKED EXCEPT FOR TWO FORMS OF D;
 001402 *
 001403 RULE FORMD 1 T(CALLD)
 001404 * #MOVE PICK(DONORS) TO DONOR1
 001405 -10,10 1 (F1 EQL DFORM1 OR (F3 EQL DFORM))
 001406 *
 001407 * FOR FORMS 1 AND 3 OF D, THE DONOR IS PICKED ACCORDING TO THE FORM;
 001408 * THEN, A CALL IS MADE ON THE NAME OF THE DONOR, WHICH CONSTRUCTS
 001409 * AN APPROPRIATE TERM AND RESPONSE;
 001410 *
 001411 RULE 1 #MOVE PICK(DOBJ1DFORM1) TO DONOR1
 001412 *CALL DONOR1
 001413 001414 * GROUP D IS CALLED TO DESCRIBE FUNCTION D
 001415 *
 001416 RULE CALLO 1 *CALL D1
 001417 *
 001418 *
 001419 * REACTION -- FUNCTION E (XIII, P. 42-43);
 001420 * THIS IS A PAIRED ELEMENT WITH FUNCTION D, EXCEPT THAT, FOR SOME
 001421 * FORMS, TREBLING MAY OCCUR;
 001422 *
 001423 *
 001424 SWITCH 1 F(CALLE1)
 001425 +5,-10 1 (DFORM EQL DNFORMS1)
 001426 *
 001427 * THE FORM OF TREBLING DEPENDS UPON THE FORM OF D AND SOMETIMES
 001428 * THE TYPE OF DONOR;
 001429 *
 001430 RULE 1 T(CALLF)
 001431 HERO FAIL,
 001432 *INSERT (HERO TRY|TRY AGAIN),
 001433 *INSERT (HERO FAIL|FAIL AGAIN),
 001434 *INSERT (HERO TRY|TRY FOR TIME)(TIME THIR011
 001435 10,-10 1 (F1 EQL DFORM1 AND (DONOR EQL DTRYS))
 001436 RULE 1 T(CALLE1)
 001437 *INSERT (HERO DONOT)(DONOT RESPOND),
 001438 *INSERT (DONOR ASK)(ASK AGAIN),
 001439 *INSERT (HERO RESPOND)(RESPOND RUDELY),
 001440 *INSERT (DONOR ASK)(ASK FOR TIME)(TIME THIR011
 001441 10,-10 1 (F2 EQL DFORM1)
 001442 RULE 1 T(CALLF)
 001443 *INSERT (HERO DONOT)(DONOT RESPOND),
 001444 *INSERT (DONOR ASK)(ASK AGAIN),
 001445 HERO REFUSE,
 001446 *INSERT (DONOR ASK)(ASK FOR TIME)(TIME THIR011
 001447 10,-10 1 ((F1 EQL DFORM1 OR (F3 EQL DFORM))
 001448 AND (DONOR EQL DRESPS))
 001449 RULE 1 *INSERT (DONOR REPEL HERO)(REPEL TWICE),
 001450 *INSERT (THEY FIGHT)(FIGHT FOR TIME)(TIME THIR011
 001451 * GROUP E IS CALLED TO DESCRIBE FUNCTION E;
 001452 *
 001453 *
 001454 RULE CALLE 1 *CALL F1
 001455 *
 001456 *
 001457 RECEIPT -- FUNCTION F (XIV, P. 43-50).
 001458 * THE FORM OF F DEPENDS UPON THE FORM OF D, ACCORDING TO THE CHART
 001459 * IN PROG. P. 47 (UNLESS THE FORM OF F HAS BEEN FORCED DUE TO
 001460 * THE TYPE OF MAGICAL AGENT). GROUP F IS CALLED TO DESCRIBE
 001461 * FUNCTION F;
 001462 *
 001463 *
 001464 RULE 1 #MOVE PICK(FOFD1DFORM1) TO FFORM1
 001465 10,-10 1 NUM(IFORM1) EQ 01
 001466 RULE 1 *CALL F;
 001467 *
 001468 *

001469	S	TRANSFERENCE -- FUNCTION G (XV, P. 50-51).
001470	S	FUNCTION G IS SKIPPED IF NECESSARY.
001471	S	
001472	S	
001473	S	
001474	\$SWITCH :	TIFORMHETI
001475	10,-10 :	(HERO EGL VICTIM) OR (MAGHELP1 EGL SUBJECT) OR (MAGHELP2 EGL SUBJECT) OR (MAGHELP3 EGL SUBJECT)
001476		
001477	S	
001478	S	IF AN APPROPRIATE MAGICAL AGENT IS AVAILABLE, IT IS USED IN THE
001479	S	FORM OF G THEN DEPENDS UPON THE AGENT.
001480	S	
001481	SRULE I	TIGHAGI
001482		*MOVE YAGHELP2 TO GHELPERS
001483	10,-10 :	(MAGHELP2 EGL MOTRANSI)
001484	SRULE I	FIGNMAGI
001485		*MOVE MAGHELP1 TO GHELPERS
001486	10,-10 :	(MAGHELP1 EGL MOTRANSI)
001487	SRULE GMAG I	(CALLG)
001488		*MOVE PICK(GFORMS(GHELPERS)) TO GFORMI
001489	S	
001490	S	THERE IS NO APPROPRIATE MAGICAL AGENT, SO THE FORM OF G IS RANDOMLY
001491	S	PICKED, AND A HELPER IS RANDOMLY PICKED BASED UPON THE FORM OF
001492	S	G; THERE IS ONE SPECIAL CASE.
001493	S	
001494	SRULE GNHAG I	TIGFSI
001495		*MOVE PICK(GNHEORMS) TO GFORMI
001496		*MOVE PICK(GHELPERS(GFORMI)) TO GHELPERS
001497	,5,10 :	IIFORM EGL F9I
001498	SRULE I	(CALLG)
001499		*MOVE F6 TO GFORMI
001500		*MOVE BLOODYTRACKS TO GHELPERS
001501	S	
001502	S	GROUP G IS CALLED TO DESCRIBE FUNCTION G.
001503	SRULE GFS I	*MOVE GHELZIGHELPERS TO GRELIFSII
001504	10,-10 :	(GFORM EGL FSII)
001505	SRULE CALLG I	*CALL G
001506	S	
001507		
001508	S	COMBAT SEQUENCE -- FUNCTIONS H, J, AND I (XVI, XVIII, XVIII,
001509	S	P. 51-53). THIS SEQUENCE IS SKIPPED IF NECESSARY.
001510	S	
001511	\$SWITCH :	TIFORMCIT
001512	10,-10 :	(IIFORM EGL NYVFORMSII)
001513	SRULE I	FIFORMI
001514		HERO FIND VILLAIN I
001515	10,-10 :	NUM(VILLAINI EGL I)
001516	S	
001517	S	EXCEPT FOR THE CASE WHERE A MAGICAL AGENT IS TO BE USED, THE FORM
001518	S	OF FUNCTION H IS RANDOMLY PICKED AND A PAIRED FORM OF FUNCTION I
001519	S	IS USED. FUNCTION J IS ALLOWED ONLY FOR ONE TYPE OF H.
001520	S	ONE FORM OF FUNCTION I HAS NO CORRESPONDING FORM OF FUNCTION H.
001521	S	
001522	SRULE I	TICALLI
001523		*MOVE FS TO IIFORMI
001524	,5,+3 :	(MAGHELP1 EGL MKILLSII)
001525		
001526	SRULE I	TICALLHI
001527		*MOVE FI TO KFORMI
001528	10,-10 :	(MAGHELP1 EGL MKILLSII)
001529	SRULE I	*MOVE PICK(HFORMS) TO KFORMI
001530	S	
001531	S	GROUPS H, J, AND I ARE CALLED TO DESCRIBE THEIR RESPECTIVE FUNCTIONS.
001532	SRULE CALLH I	*CALL HI
001533		*MOVE KFORM TO IIFORMI
001534	SRULE I	*CALL JI
001535	10,-10 :	(IIFORM EGL FIII)
001536	SRULE CALLI I	*CALL II
001537	S	
001538	S	
001539	S	
001540	S	LIQUIDATION -- FUNCTION K (XIX, P. 53-54).
001541	S	IF AN APPROPRIATE MAGICAL AGENT EXISTS, IT IS USED.
001542	S	
001543	S	
001544	SRULE FORMK I	FEKNMAGI
001545		*MOVE MAGHELP1 TO MAGHELPQ
001546		*MOVE FS TO KFORMI
001547	10,-10 :	(MAGHELP1 EGL HLG, IGS) OR (MAGHELP3 EGL MAGLIGS)
001548		AND NHISAFORM EQ 01
001549	SRULE I	(CALLK)
001550		*MOVE MAGHELP3 TO MAGHELPQ
001551	10,-10 :	(MAGHELP3 EGL MAGLIGS)
001552	S	
001553	S	OTHERWISE, THE FORM OF K IS USUALLY RANDOMLY PICKED BASED UPON
001554	S	THE FORM OF VILLAINY OR LACK.
001555	SRULE I	(CALLK)
001556	SRULE KNHAG I	TIKH
001557		*MOVE PICK(KFORMS(KFORMI)) TO KFORMI
001558	10,-10 :	NJM(AFORM, NE, 01)
001559	SRULE I	(CALK)
001560		*MOVE PICK(KSFORMS(KAFORM)) TO KFORMI
001561	SRULE K4 I	TICALLK
001562		*MOVE FN TO KFORMI
001563	10,-10 :	(VILLAIN EQ. DEADI AND (KFORM EGL F7II)
001564	S	
001565	S	THE NETWORK IS TESTED TO SEE IF A SPELL NEEDS TO BE BROKEN.
001566	SRULE I	TICALLK
001567		*MOVE FB TO KFORMI
001568		*MOVE SPELL TO SUBJECT
001569		*MOVE SPELL TO SUBJECT
001570	10,-10 :	(VILLAIN CASTSPELLON VOBJECTII)
001571	S	
001572	S	IN ONE CASE, A FORM OF F MAY BE USED AS THE FORM OF K.
001573	SRULE I	
001574	SRULE I	*MOVE PICK(KFORMS) TO KFORMI
001575	10,-10 :	(KFORM EGL FIII)
001576	SRULE I	
001577	S	GROUP K IS CALLED TO DESCRIBE FUNCTION K.
001578	SRULE CALLK I	*CALL KI
001579	S	
001580	S	
001581	S	
001582	S	RETURN -- FUNCTION DOWN-ARROW (XIX, P. 55-56).

001583	GROUP RETURN IS CALLED TO DESCRIBE THE FUNCTION.	001640	SRULE CHNG I *MOVE PICK(THLP) TO RSFORM
001584		001641	I
001585		001642	GROUP RS IS CALLED TO DESCRIBE FUNCTION RS.
001586	SRULE +ORMRET I *CALL RETURN	001643	I
001587		001644	SRULE CALLRS I *CALL RS1
001588		001645	I
001589	PURSUIT -- FUNCTION PR (XXII), P. 56-57).	001646	GROUP END DESCRIBES THE TALE'S HAPPY ENDING.
001590	THE FUNCTIONS PURSUIT AND RESCUE ARE SKIPPED UNDER APPROPRIATE	001647	THIS COMPLETES THE MASTER GROUP.
001591	CIRCUMSTANCES.	001648	I
001592		001649	I
001593		001650	I
001594	SWITCH I TICALLDR	001651	I
001595	I0..5 NUMEVILLAIN EQ 0 I	001652	I
001596	*4,0 I IVICTIN EQL HEROIS	001653	I
001597	I	001654	THE SEPARATE GROUPS NOT FOLLOW EACH FUNCTION HAS A GROUP WHICH
001598	THE FORM OF PURSUIT IS RANDOMLY PICKED.	001655	DESCRIBES IT. THE GROUP NAMES ARE GENERALLY THE SAME AS THE
001599	I	001656	FUNCTION DESIGNATION. THERE ARE SEVERAL EXTRA GROUPS WHICH PERFORM
001600	SRULE I *MOVE PICK(PFOR,SI TO PFCRM)	001657	SOME NECESSARY INTERGROUP EXPLANATIONS. ALL GROUPS ARE CALLED
001601	I	001658	I
001602	THE PURSUER IS EITHER THE VILLAIN OR HIS FRIENDS, AS NECESSARY.	001659	FROM THE MASTER GROUP.
001603		001660	I
001604	SRULE I TICALLPR	001661	I
001605	*MOVE PICK(POPPURSUIVILLAINI TO PURSUER)	001662	I
001606	I0..10 I (VILLAIN EQL DEAD1)	001663	GROUP ALPHA -- THE INITIAL SITUATION.
001607	SRULE I *MOVE VILLAIN TO PURSUER	001664	A STORY LOCATION IS CHOSEN. THE FAMILY IS CONSTRUCTED BY PICKING
001608	I	001665	MALES AND FEMALES WHEN NEEDED. THE SIZE OF THE FAMILY IS RANDOMLY
001609	GROUP PR IS CALLED TO DESCRIBE FUNCTION PR.	001666	DETERMINED. THE FAMILY MEMBERS ARE KEPT IN APPROPRIATE CLASSES.
001610	I	001667	I
001611	SRULE CALLPR I *CALL PR1	001668	SRULE CALLEND I *CALL FND1
001612	I	001669	SENDGROUP1
001613	I	001670	GROUP 'ALPHA' I JDM/OFF1
001614	RESCUE -- FUNCTION RS (XXII), P.57-58).	001671	SRULE I *MOVE PICK(LLOCATION,SI TO STORYLOC,
001615	IF THERE IS AN APPROPRIATE MAGICAL AGENT AVAILABLE, ITS PROPER	001672	*MOVE PICK(LASTNAME,SI TO FANNAM1
001616	USE IS FORCED.	001673	SRULE I *MOVE PICK(MALECS,SI TO FATHER,
001617	I	001674	*REMOVE FATHER FROM MALECS,
001618	I	001675	*MOVE FATHER TO FAMILY,
001619	SRULE I TIHELP1	001676	*MOVE FATHER TO OLDGEN1
001620	*MOVE MAGHELP1 TO RHELP1	001677	; +B I
001621	(MAGHELP1 EQL MORESCS1)	001678	SRULE I *MOVE PICK(FEMALECS,SI TO MOTHER,
001622	SRULE I TIHELP1	001679	*REMOVE MOTHER FROM FEMALECS,
001623	*MOVE MAGHELP3 TO RHELP1	001680	*ADD MOTHER TO FAMILY,
001624	(MAGHELP3 EQL MORESCS1)	001681	*ADD MOTHER TO OLDGEN1
001625	I	001682	; +B I
001626	OTHERWISE, THE FORM OF RS DEPENDS UPON THE FORM OF PR.	001683	NUMIFATHER1 EQ 01,
001627	I	001684	*MOVE PICK (HALECS) TO SON1,
001628	SRULE I (CALLAST) *MOVE DIUGH1 PSEQRN1(DFORM1) TO RSFORM1	001685	*REMOVE SON1 FROM HALECS,
001629	I	001686	*ADD SON1 TO FAMILY,
001630	IF A MAGICAL AGENT IS TO BE USED, THE FORM OF RS DEPENDS UPON THE	001687	; +B I
001631	TYPE OF AGENT.	001688	NUMIDOLGEN1 EQ 01
001632	I	001689	*MOVE PICK(FEMALECS) TO DAUGHT1,
001633	SRULE HELP I FICHUG1	001690	*REMOVE DAUGHT1 FROM FEMALECS,
001634	*MOVE RHELP TO ASHELPERIFI1	001691	*ADD DAUGHT1 TO YOUNGENT
001635	*MOVE FI TO RSFORM1	001692	; +B I
001636	I0..10 I (RHELP EQL MOTRANS1)	001693	SRULE I *MOVE PICK(MALECS) TO SON2,
001637	SRULE I (CALLRS1)	001694	*REMOVE SON2 FROM HALECS,
001638	*MOVE USING TO RSREL2(F1))	001695	*ADD SON2 TO FAMILY,
001639	I0..10 I (RHELP EQL VAGQUAL1)	001696	*ADD SON2 TO YOUNGENT

001697	* ID,+7 I	NUM(SON1) EQ 01	001754	* THE TWO FORMS REQUIRE SEPARATE RULES*
001698	SRULE 1	*MOVE PICK(MALECS1 TO SON3,	001755	*
001699		*REMOVE SON3 FROM MALECS;	001756	*
001700		*ADD SON3 TO FAMILY;	001757	SGROUP EPSILON 1 IOH/OFF1
001701		*ADD SON3 TO YOUNGEN1	001758	SRULE 1 T(SENDCROUP)
001702	-ID,+5 I	NUM(SCN2) EQ 01	001759	*INSERT (VICTIM ASK1 BETRAYER)(ASK1 WHEREIS VOBJECT1)
001703	SRULE 1	*MOVE PICK(FEMALECS1 TO DAUGH2,	001760	10,-10 I (IFI EOL EPSTORM1
001704		*REMOVE DAUGH2 FROM FEMALECS;	001761	*INSERT (VICTIM ASK1 VILLAIN1)(ASK1 WHEREIS QOBJECT1)
001705		*ADD DAUGH2 TO FAMILY;	001762	SENDCROUP1
001706		*ADD DAUGH2 TO YOUNGEN1	001763	*
001707	-10,+7 I	NUM(DAUGH1) EQ 01,	001764	001765 S GROUP VILDISG == VILLAIN_DISGUISES_HIMSELF,
001708	SRULE 1	*MOVE PICK(FEMALECS1 TO DAUGH3,	001766	S THE DISGUISE IS RANDOMLY PICKED:
001709		*REMOVE DAUGH3 FROM FEMALECS;	001767	*
001710		*ADD DAUGH3 TO FAMILY;	001768	*
001711		*ADD DAUGH3 TO YOUNGEN1	001769	SGROUP VILDISG 1 IOH/OFF1
001712	-ID,+5 I	NUM(DAUGH2) EQ 01	001770	SRULE 1 *INSERT (VILLAIN DISGUIS PERPRON(VILLAIN1)
001713	SENDCROUP1		001771	DISGUISE_AS_PICK(DISG1'SE51)
001714	*		001772	SENDCROUP1
001715	*		001773	*
001716	*	GROUP BETA == ABSENTATION.	001774	001775 S GROUP PSI == DELIVERY:
001717	*	ONE GENERAL RULE IS USED FOR THE THREE POSSIBLE FORMS: A MOTIVE	001776	S THE TWO FORMS REQUIRE SEPARATE RULES,
001718	*	FOR LEAVING IS RANDOMLY PICKED.	001777	*
001719	*		001778	001779 S GROUP PSI 1 IOH/OFF1
001720	*		001780	SRULE 1 T(SENDCROUP)
001721	*	GROUP BETA 1 IOH/OFF1	001781	*INSERT (BETRAYER SAYZ THAT)(VOBJECT IN VLOC1)
001722	SRULE 1	*INSERT (ABSENTOR BETAREL(BETAFORM1)	001782	10,-10 I (IFI EOL EPSTORM1
001723		(BETAREL(BETAFORM1 PICK(MOTIVE1(BETAFORM1))1)	001783	*INSERT (VILLAIN SAYZ 'HATI(QANS(QOBJECT) IN SLOC1)
001724	SENDCROUP1		001784	SENDCROUP1
001725	*		001785	*
001726	*		001786	001787 S GROUP NU == TRICKERY.
001727	*	GROUP GAMMA == INTERDICTION.	001788	S A TRICK IS RANDOMLY PICKED. THE TWO FORMS REQUIRE SEPARATE RULES.
001728	*	THE INTERDICTION HAS BEEN PREVIOUSLY CONSTRUCTED IN THE MASTER GROUP,	001789	*
001729	*		001790	*
001730	*		001791	SGROUP NU 1 IOH/OFF1
001731	*	GROUP GAMMA 1 IOH/OFF1	001792	SRULE 1 *MOVE TICK(TRICKS)(NUFORM1) TO TRICK1
001732	SRULE 1	ABSENTOR SAYZ INTERDICT1	001793	SRULE 1 T(SENDCROUP)
001733	SENDCROUP1		001794	*INSERT (VILLAIN ATTEMPT1(ATTEMPT PERSUADE).
001734	*		001795	(PERSUADE TAKE TRICK1(PERSUADE RNULL HERD1)
001735	*		001796	10,-10 I (IFI EOL NUFORM1)
001736	*	GROUP DELTA == VIOLATION.	001797	SRULE 1 *INSERT (VILLAIN USE TRICK1(USE ON HERO1)
001737	*		001798	SENDCROUP1
001738	*		001799	*
001739	*	SGROUP DELTA 1 IOH/OFF1	001800	*
001740	SRULE 1	HERO DELTAREL VLOC1	001801	001802 S GROUP THETA == COMPLICITY.
001741	SENDCROUP1		001803	S THE TWO FORMS REQUIRE SEPARATE RULES.
001742	*		001804	*
001743	*		001805	SGROUP THETA 1 IOH/OFF1
001744	*	GROUP VILLAINIV == ARRIVAL OF THE VILLAIN.	001806	SRULE 1 *INSERT (HERO PERSUADE1(PERSUADED TAKE TRICK1)
001745	*	THE FORM OF ARRIVAL IS RANDOMLY PICKED.	001807	10,-10 I (IFI EOL THETAFORM1)
001746	*		001808	001809 SRULE 1 HERO FALLASLEEP1
001747	*		001810	*
001748	*	GROUP VILLAINIV 1 IOH/OFF1		
001749	SRULE 1	VILLAIN PICK(ARRIVALS) STORYLOC1		
001750	SENDCROUP1			
001751	*			
001752	*			
001753	*	GROUP EPSILON == RECOGNASSANCE.		

CO1811 S GROUP REPLICK-- DETERMINATION OF REPLACEMENT.
 CO1812 S RULE 1 T(ENDGROUP)
 CO1813 S
 CO1814 S
 CO1815 S GROUP REPLICK 1 I(OH/OFF)
 CO1816 S RULE 1 T(ENDGROUP)
 CO1817 S UST XXI
 CO1818 S *DISCARD (SON POS VILLAIN) TO REPLACEMENT,
 CO1819 S LST XXI
 CO1820 10,-10 1 (VICTIM EQL MALE)
 CO1821 S RULE 1 *DISCARD (DAUGHTER POS VILLAIN) TO REPLACEMENT,
 CO1822 S LST XXI
 CO1823 SENDGROUP
 CO1824 S
 CO1825 S
 CO1826 S GROUP A -- VILLAINY.
 CO1827 S MOST FORMS OF A ARE HANDLED IN A SINGLE RULE. THREE FORMS REQUIRE
 CO1828 S DIFFERENT RULES; AND ANOTHER FORM REQUIRES AN ADDITIONAL RULE
 CO1829 S (A RESPONSE)*
 CO1830 S
 CO1831 S
 CO1832 S GROUP A 1 I(OH/OFF)
 CO1833 S RULE 1 T(AONE)
 CO1834 S VILLAIN ARE(LAFORM1 VOBJECT)
 CO1835 +10,-10 1 (AFORM EQL ADIFF)
 CO1836 S RULE 1 T(ENDGROUP) *INSERT (VILLAIN ARE(LAFORM1 VOBJECT)
 CO1837 S JARE(LAFORM1 ARE_2LAFORM1 ADJ1(AFORM1))
 CO1838 10,-10 1 (AFORM EQ_ F101 OR (AFORM EQL F181))
 CO1839 S RULE 1 T(ENDGROUP).
 CO1840 *INSERT (VILLAIN INJUR(VOBJECT) VOBJECT)(VOBJECT POS
 CO1841 S VICTIM)
 CO1842 10,-10 1 (F6 EQ_ AFORM1)
 CO1843 S RULE AONE 1 T(ENDGROUP)
 CO1844 S VICTIM GIVENTO VILLAIN
 CO1845 +5,-10 1 (FB EQ_ AFORM1)
 CO1846 S RULE 1 T(ENDGROUP).
 CO1847 S OWNER REFUSC1
 CO1848 10,-10 1 (FB EQ_ AFORM1)
 CO1849 S RULE 1 *CALL REPLICK.
 CO1850 *INSERT (VICTIM REPLACED)(REPLACED WITH REPLACEMENT)
 CO1851 10,-10 1 (FI2 EQL AFORM1)
 CO1852 SENDGROUP
 CO1853 S
 CO1854 S
 CO1855 S GROUP SHALL A -- LACK.
 CO1856 S
 CO1857 S
 CO1858 S GROUP SA 1 I(OH/OFF)
 CO1859 S RULE 1 HERO NEED SUBJECT
 CO1860 SENDGROUP
 CO1861 S
 CO1862 S
 CO1863 S GROUP B -- DISPATCH.
 CO1864 S EACH FORM OF B REQUIRES A DIFFERENT RULE; IN ADDITION, ONE FORM
 CO1865 S MAY USE ONE OF THREE RULES DEPENDING ON THE FORM OF A.
 CO1866 S
 CO1867 S

001868 S GROUP B 1 I(OH/OFF)
 001869 S RULE 1 T(ENDGROUP)
 001870 S *INSERT (DISPATCHER CALLFOR_HELP)(HELP FROM SEEKER)
 001871 10,-10 1 (F1 EQL AFORM1)
 001872 S RULE 1 T(ENDGROUP)
 001873 *INSERT (DISPATCHER SEE(O SEEKER))(SEND SEARCH)
 001874 10,-10 1 (SEARCH1 FOR SUBJECT)
 001875 10,-10 1 (F2 EQL AFORM1)
 001876 S RULE 1 T(ENDGROUP)
 001877 *INSERT (SEEKER ASK PERMISSION)(PERMISSION TO)
 001878 10,-10 1 (TO1 LC:VEIT)
 001879 001880 S RULE 1 F(AF6)
 001881 DISPATCHER CALLFOR HERO1
 001882 10,-10 1 (F4 EQL BFORM1)
 001883 S
 001884 S FOR FORM 5, THE ANNOUNCEMENT REPEATS THE ORIGINAL STATEMENT OF THE
 001885 S VILLAINY AS IN GROUP A; BUT IS PUT INTO THE PAST TENSE.
 001886 S
 001887 S RULE 1 T(ENDGROUP)
 001888 *INSERT (DISPATCHER ANNOUNC THAT)
 001889 (VILLAIN ARE(LAFORM1 VOBJECT)
 001890 10,-10 1 (AFORM EQL ADIFF)
 001891 S RULE 1 T(ENDGROUP)
 001892 *INSERT (DISPATCHER ANNOUNC THAT)
 001893 (VILLAIN ARE_(AFORM1 VICTIM)
 001894 10,-10 1 (AFORM EQL F61_09 (AFORM EQL F12))
 001895 S RULE 1 T(ENDGROUP)
 001896 *INSERT (DISPATCHER ANNOUNC THAT)
 001897 (VILLAIN ARE(LAFORM1 VOBJECT)
 001898 (ARE(LAFORM1 ARE_2(AFORM1 ADJ1(AFORM1)))
 001899 S RULE AF6 1 T(ENDGROUP)
 001900 *INSERT (WHO FREED)(FREE SECRETLY)
 001901 10,-10 1 (F6 EQL AFORM1)
 001902 S RULE 1 *INSERT (LAMENT SONG)(SUNG FOR VICTIM)
 001903 10,-10 1 (F7 EQL AFORM1)
 001904 S RULE 1 *INSERT (OWNER TAKEAWAY VICTIM)(TAKEAWAY FROM HOME)
 001905 10,-10 1 (F5 EQL AFORM1)
 001906 SENDGROUP
 001907 S
 001908 S
 001909 S GROUP C -- BEGINNING COUNTERACTION.
 001910 S
 001911 S
 001912 S GROUP C 1 I(OH/OFF)
 001913 S RULE 1 *INSERT (SEEKER DECIDE)(DECIDE SEARCH)
 001914 (SEARCH1 FOR SUBJECT)
 001915 SENDGROUP
 001916 S
 001917 S
 001918 S GROUP DEPART -- DEPARTURE.
 001919 S A VICTIM-HERO IS ALWAYS ASSUMED TO ALREADY BE AWAY FROM HOME, AND
 001920 S WANDERING IN AN ATTEMPT TO RETURN.
 001921 S
 001922 S
 001923 GROUP DEPART 1 I(OH/OFF)
 001924 S RULE 1 T(ENDGROUP)

001925		*INSERT (HERO LEAVES)(LEAVE ON SEARCH)	001982	SRULE DJUMP 1	T(SENDCROUP)
001926	-10,-10 :	(HERO EQL VICTIM)	001983		*MOVE PICK(KILLMETS) TO KILLKETH,
001927	SRULE 1	HERO WANDERING	001984		*INSERT IDONOR ATTEMPT(ATEMPT_BY)
001928	SENDGROUP		001985		(ATTEMPT_KILLI HERO)(BYI KILLETH))
001929			001986	10,-10 :	IDFORM EGL F8
001930			001987	SRULE 1	T(SENDCROUP)
001931	X	GROUP D -- FIRST FUNCTION OF THE DONOR.	001988		*INSERT (DONOR BRAWL)(BRAWL WITH HERO)
001932	X	AFTER AN INTRODUCTION, EACH FORM OF D REQUIRES A DIFFERENT ISET OF I	001989		(BRAWL IN FORESTHUT))
001933	X	RULE(S). SOME FORMS NEED A DESCRIPTION OF THE DONOR.	001990	10,-10 :	IDFORM EGL F9
001934			001991	X	
001935	X		001992	X	EITHER ONE OR THREE AGENTS ARE OFFERED FOR EXCHANGE (AS
001936	X	EGROUP D :	001993	X	PREVIOUSLY DETERMINED)
001937	SRULE 1	IDM/OFFL	001994	X	
001938	SRULE 1	*INSERT (HERO MEET DONOR)(MEET ALONG WAY)	001995	SRULE 1	T(SENDCROUP)
001939	SRULE 1	DONOR DYING	001996		*INSERT (DONOR OFFER MAGHELP1)(OFFER TO HERO)
001940	10,-10 :	IDFORM EGL F3	001997		(OFFER FOR EXCHANGE))
001941	X	THESE TWO FORMS USE THE PREDICATE NODE, TASK, WHICH HAS BEEN	001998	10,-10 :	NUM(MAGHELP2) EQ 0
001942	X	PREVIOUSLY CONSTRUCTED BY A CALL ON THE NAME OF THE DONOR.	001999	SRULE 1	*INSERT (DONOR OFFER MAGHELP1)(MAGHELP1 RAND
001943			002000		MAGHELP2)(MAGHELP1 RAND MAGHELP3),
001944	SRULE 1	T(SENDCROUP)	002001		*INSERT (THEY OFFERED TO HERO)(OFFERED TO FOR EXCHANGE))
001945		DONOR DREL(DFORH1 TASK1)	002002	SENDGROUP	
001946	10,-10 :	IDFORM EGL F1 OR (IDFORM EGL F3)	002003	X	
001947	SRULE 1	T(SENDCROUP)	002004	X	
001948		DONOR GREET HERO.	002005		GROUP E -- REACTION,
001949			002006		EACH FORM, WHICH IS PAIRED WITH THE FORM OF D, REQUIRES A
001950	10,-10 :	*INSERT (DONOR ASK1 HERO)(ASK1 ANSWER QUESTION)	002007		DIFFERENT ISET OF I RULE(S). FORMS 1 AND 3 USE A PREDICATE
001951	SRULE 1	T(SENDCROUP)	002008		NODE, TRESP, WHICH HAS BEEN PREVIOUSLY CONSTRUCTED.
001952		DONOR IMPRISONED.	002009	X	
001953			002010	X	
001954	10,-10 :	*INSERT (DONOR ASK1(ASK BE1)BE FREED)	002011	SRULE 1	10M/OFF1
001955	SRULE 1	T(SENDCROUP)	002012	SRULE 1	T(SENDCROUP)
001956			002013		HERO PRESPOND TRESP1
001957		*INSERT (DONOR THREATENED)(THREATENED BY HERO)	002014	10,-10 :	IDFORM EGL F1
001958			002015	SRULE 1	T(SENDCROUP)
001959		*INSERT (DONOR REQUEST MERCY)(REQUEST FROM HERO)	002016		HERO ANSWER QUESTION1
001960	X	SWITCH 1	002017	10,-10 :	IDFORM EGL F2
001961	-10,-10 :	IDFORM EGL F4	002018	SRULE 1	T(SENDCROUP)
001962	X	FOR FORM 6, A DISPUTED OBJECT IS EITHER RANDOMLY CHOSEN (NON-	002019		HERO PRESPOND TRESP1
001963	X	MAGICAL) OR A MAGICAL AGENT WHICH IS GOING TO BE ACQUIRED BY THE	002020	10,-10 :	IDFORM EGL F3
001964	X	HERO (IT HAS BEEN PREVIOUSLY PICKED) IS MADE THE OBJECT OF THE	002021	SRULE 1	T(SENDCROUP)
001965	X	DISPUTE. THE TYPE OF OBJECT WILL DETERMINE WHICH SUBTYPE OF	002022		HERO FREE DONOR1
001966	X	FORM 6 IS USED.	002023	10,-10 :	IDFORM EGL F4
001967			002024	SRULE 1	T(SENDCROUP)
001968		TIDFA1	002025		*INSERT (HERO SHOW MERCY)(SHOW TOWARD DONOR)
001969		*MOVE PICK(DISTYPES) TO DISTYPE1	002026	10,-10 :	IDFORM EGL F5
001970	1 -5 :		002027	SWITCH 1	T(EJUMP1)
001971	SRULE 1	TIDF61	002028	-10,-10 :	IDFORM EGL F6
001972		*MOVE MAGHELP1 TO DISTYPE1	002029	X	
001973	10,-10 :	MUM(MAGHELP1) EQ 0	002030		THE SUBTYPE OF FORM 6 DEPENDS UPON THE TYPE OF THE OBJECT OF THE
001974	SRULE 1	*MOVE MAGHELP2 TO DISTYPE1	002031		DISPUTE (MAGICAL OR NON-MAGICAL). THIS SUBTYPE IN TURN FORCES
001975	SRULE DF6 1	T(SENDCROUP)	002032		A CERTAIN FORM FOR FUNCTION F.
001976		*INSERT (DONOR FIGHTINGWITH PICK(CHARACTERS))	002033	X	
001977		(FIGHTINGWITH OVER DISTYPE1)	002034	SRULE 1	T(SENDCROUP)
001978		*INSERT (DONOR ASK1 HERO)(ASK1 DIVIDE1 DISTYPE1)	002035		*MOVE FL TO FFORM.
001979	X		002036		
001980	X	A METHOD OF KILLING IS RANDOMLY CHOSEN AND SAVED FOR GROUP E.	002037		*INSERT (HERO RECONCILE DISPUTE)
001981			002038		(RECONCILE_BY1(BY1 DIVIDE1(DIVIDE FAIRLY))
					(DIVIDE_RNULL DISTYPE1))

002039	+10,+10 :	(DISTTYPE EQL MROLL OR (DISTTYPE EQL MAGCHANGS))	002096	10,+10 :	MAGHELPQ EQL MAGCHANGS))
002040	SRULE :	TSENDGROUP	002097	*	THREE MAGICAL AGENTS ACQUIRED.
002041	*	MOVE F8 TO FFORMA	002098	*	
002042	*	*INSERT (HERO TRICKY DISPUTANTS)	002100	SRULE THREE :	*INSERT (MAGHELP1 RAND MAGHELP3)
002043	*	(TRICKY INTLEAVING DISTTYPE)	002101		(*MAGHELP1 RAND MAGHELP2)(MAGHELP3 FREL(FORMA_MERO))
002044	*	(DISTTYPE UNPROTECTED))	002102	SRULE :	(SENDGROUP)
002045	SRULE EJUMP :	TSENDGROUP	002103		HERO TAKE THEY)
002046	*	*INSERT (HERO KILLI DONOR)(KILLI BYU)	002104	10,+10 :	(FFORM EQL F3))
002047	*	(BYU_KILLMETH))	002105	*	
002048	10,+10 :	(FFORM EQL F8))	002106	*	THREE AGENTS ACQUIRED BY THEIR COMING FROM ANOTHER AGENT.
002049	SRU_E :	TSENDGROUP	002107	*	
002050	*	HERO DEFEAT DONOR	002108	SRULE CHANG :	*INSERT (MAGHELP1 RAND MAGHELP3)(MAGHELP1 RAND MAGHELP2)
002051	10,+10 :	(FFORM EQL F9))	002109		(*MAGHELP3 COME)(COME FROM MAGHELP2))
002052	*		002110	SENDGROUP	
002053	*	THE MAGICAL AGENT USED TO KILL THE DONOR HAS ALREADY BEEN CHECKED	002111	*	
002054	*	FOR PROPER TYPE.	002112	*	
002055	*		002113	*	GROUP G -- TRANSFERENCE.
002056	SRULE :	*INSERT (HERO AGREED(AGREE_TO_EXCHANGE))	002114	*	ONE RULE HANDLES ALL FORMS OF G.
002057	*	*INSERT (HERO USE MAGHELP1)(USE KILLI DONOR))	002115	*	
002058	SENDGROUP		002116	*	
002059	*		002117	SGROUP G :	10M/OFF1
002060	*		002118	SRULE :	*INSERT (HERO TRAVEL (TRAVEL_TO LOCATION))
002061	*	GROUP F -- RECEIPT.	002119		(LOCATION_OF SUBJECT)(SUBJECT_IN KINGDOM).
002062	*	THERE IS ONE BASIC RULE, SUBSCRIBED ON THE FORM OF F.	002120		(KINGDOM_OTHER),
002063	*		002121		HERO GREL(FFORM1) GHELP1)
002064	*		002122	SENDGROUP	
002065	SGROUP F :	10M/OFF1	002123	*	
002066	*		002124	*	
002067	*	TEST FOR THREE AGENTS.	002125	*	GROUP H -- STRUGGLE.
002068	*		002126	*	EACH OF THE THREE FIGHTS REQUIRES A SEPARATE RULE.
002069	\$SWITCH :	T(THREF))	002127	*	
002070	10,+10 :	NUM(MAGHELP2) EQ 1 AND NUM(MAGHELP3) EQ 0))	002128	*	
002071	*		002129	SGROUP H :	10M/OFF1
002072	*		002130	SRULE :	TSENDGROUP
002073	*		002131	*	*INSERT (THEY FIGHT)(FIGHT_IN_FIELD)(FIELD_OPEN))
002074	SRULE :	MAGHELPQ FREL(FFORM1) HERO)	002132	10,+10 :	(FFORM EQL F1))
002075	*		002133	SRULE :	TSENDGROUP
002076	*	ADDITIONAL RULE FOR FORM 3.	002134	*	*INSERT (THEY ENGAGE)(ENGAGE_IN_COMPETITION))
002077	*		002135	10,+10 :	(FFORM EQL F2))
002078	SRULE :	HERO TAKE MAGHELP1	002136	SRULE :	THEY PLAY CARDS)
002079	10,+10 :	(FFORM EQL F3))	002137	SENDGROUP	
002080	*		002138	*	
002081	*	TEST FOR THREE AGENTS COMING FROM ANOTHER AGENT.	002139	*	
002082	*		002140	*	GROUP I -- VICTORY.
002083	\$SWITCH :	T(ICHANG3))	002141	*	EACH FORM REQUIRES A DIFFERENT (SET OF) RULE(S).
002084	10,+10 :	NUM(MAGHELP2) EQ 1))	002142	*	
002085	*		002143	*	
002086	*	ADDITIONAL RULE FOR FORM SEVEN.	002144	SGROUP I :	10M/OFF1
002087	*		002145	\$SWITCH :	T(ISCIP1))
002088	SRULE :	TSENDGROUP)	002146	+10,+10 :	(FFORM EQL F1))
002089	*	HERO OBTAIN MAGHELP1	002147	*	
002090	10,+10 :	IFF EQL FFORM1	002148	*	FOR FORM ONE, IF APPROPRIATE, A MAGICAL AGENT IS USED.
002091	*		002149	*	
002092	*	ADDITIONAL RULE FOR ONE AGENT COMING FROM ANOTHER AGENT.	002150	SRU_E :	TSENDGROUP)
002093	*		002151	*	*INSERT (VILLAIN DEFEATED)(DEFEATED_BADLY))
002094	SRULE :	(SENDGROUP)	002152	+10,+10 :	(*MAGHELP1 EQL MOKILL))
002095	*	*INSERT (MAGHELP1 COME)(COME FROM MAGHELP2))			

<pre> 002153 SRULE : T(BENDGROUP) 002154 *INSERT (HERO DEFEAT VILLAIN)(DEFEAT WITH AID)(AID OF 002155 MAGHELP))_ 002156 SRULE ISKIP1 : T(BENDGROUP) 002157 *INSERT (HERO WIN)(WIN WITH HELP)(HELP OF CLEVERNESS)) 002158 10,-10 : (IFORM EQL F2)) 002159 SRULE : T(BENDGROUP) 002160 *INSERT (VILLAIN TROUNCED)(TROUNCED AT CARD\$) 002161 10,-10 : (IFORM EQL F3)) 002162 002163 \$ FOR FORM S A MAGICAL AGENT MAY BE USED: 002164 002165 SRULE : HERO SURPRISE VILLAIN; 002166 *MOVE VILLAIN TO DEAD! 002167 T(BENDGROUP) 002168 *INSERT (HERO KILL VILLAIN)(KILL WITHOUT FIGHT) 002169 -10,10 : (MAGHELP EQL MOKILLS) 002170 SRULE : *INSERT (HERO KILL VILLAIN)(KILL WITH AID)(AID OF 002171 MAGHELP)) 002172 SENDGROUP1 002173 002174 002175 \$ GROUP J -- BRANDING; 002176 \$ ONLY ONE POSSIBLE FORM IS IMPLEMENTED: 002177 002178 002179 GROUP J : 10H/OFF1 002180 SRULE : HERO WOUNDED1 002181 SENDGROUP1 002182 002183 002184 \$ GROUP K -- LIQUIDATION; 002185 \$ THERE IS ONE BASIC RULE FOR FUNCTION K: 002186 002187 002188 GROUP K : 10H/OFF1 002189 002190 \$ TEST FOR FUNCTION K ACTING LIKE FUNCTION F: 002191 002192 \$SWITCH : T(IFORM F1) 002193 10,-10 : (IFORM EQL F1)) 002194 002195 \$ TEST FOR FORM K USING A MAGICAL AGENT. 002196 002197 \$SWITCH : T(IFORMkMAG1) 002198 10,-10 : (IFORM EQL F5) OR (IFORM EQL F6)) 002199 002200 \$ BASIC RULE FOR FUNCTION K: IF THE PREVIOUS ACTION (KILLING THE 002201 VILLAIN) HAS ALREADY LIQUIDATED THE MISFORTUNE (THE VILLAIN) THEN 002202 \$ NOTHING IS DONE IN FUNCTION K. 002203 002204 SRULE : T(BENDGROUP) 002205 *INSERT (SOBJECT KREL(IFORM))(KREL(IFORM) BY HERO)) 002206 -10,10 : (IFORM EQL F4) AND (SOBJECT EQL VILLAIN)) 002207 002208 \$ FUNCTION K ACTS LIKE FUNCTION F, AND THE FORMS OF F ARE USED AGAIN. 002209 </pre>	<pre> 002210 SRULE FORMKF : T(BENDGROUP) 002211 SOBJECT FRELIK(IFORM) HERO1 002212 002213 \$ FUNCTION K USES A MAGICAL AGENT. 002214 002215 SRULE FORMkMAG : T(BENDGROUP) 002216 *INSERT (SOBJECT APPEAR)(APPEAR FROM MAGHELPQ)) 002217 10,-10 : (IFORM EQL F5)) 002218 SRULE : *INSERT (SOBJECT PRODUCED)(PRODUCED BY MAGHELP)) 002219 SENDGROUP1 002220 002221 \$ GROUP RETURN: 002222 002223 002224 002225 \$GROUP RETURN : 10H/OFF1 002226 SRULE : *INSERT (HERO START)(START BACK HOME) 002227 SENDGROUP1 002228 002229 002230 002231 \$ GROUP PR -- PURSUIT. 002232 002233 002234 \$GROUP PR : 10H/OFF1 002235 SRULE : T(BENDGROUP) 002236 *INSERT (PURSUER TEMPT HERO) 002237 (TEMPT BY)(BY CHANGE) 002238 (CHANGE INTO OBJECT)(OBJECT ALLURING)) 002239 10,-10 : (IFORM EQL F4)) 002240 SRULE : T(BENDGROUP) 002241 PURSUER PURSUE HERO, 002242 *INSERT (HERO HIDE)(HIDE IN TREE) 002243 002244 *INSERT (PURSUER ATTEMPT)(ATTEMPT GNASH)(GNASH THROUGH 002245 TREE)) 002246 10,-10 : (IFORM EQL F7)) 002247 002248 \$ BASIC RULE, SUBSCRIPTED ON THE FORM OF P+ 002249 002250 002251 SRULE : *INSERT (PURSUER PREL(IFORM))(PREL(IFORM) 002252 PREL(IFORM) HERO)) 002253 SENDGROUP1 002254 002255 \$ GROUP RS -- RESCUE. 002256 \$ THERE IS ONE SPECIAL CASE, ALL OTHERS BEING HANDLED IN ONE GENERAL 002257 \$ RULE: A RANDOM HELPER IS PICKED, EXCEPT THAT THE HELPER MAY HAVE 002258 \$ ALREADY BEEN CHOSEN BY THE MASTER GROUP (IN THE CASE OF A MAGICAL 002259 \$ HELPER). 002260 GROUP RS : 10H/OFF1 002261 SRULE : T(BENDGROUP) 002262 *INSERT (HERO ESCAPE) 002263 (ESCAPE BY)(BY RSREL(IFORM)) 002264 (RSREL(IFORM))(RSREL(IFORM)) 002265 10,-10 : (RSFORM EQL F2)) 002266 SRULE : *INSERT (HERO ESCAPE) </pre>
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002267	IFSCAPE_BY1((BY1_RSHELL(RSFORM))	002324	SRULE 1	ULST XX,
002268	(RSREL1)RSFORM1 RSREL2(RSFORM)	002325	*INSERT (HERO LISTEN)(WITHOUT FALLASLEEP)	
002269	.PICK1RSHELPER1RSFORM11	002326	(LISTEN TO GUSLA)(LISTEN WITHOUT)	
002270	(RSREL1)RSFORM1 RNULL PURSUER1	002327	*INSERT (HERO STAY)(LISTEN TO GUSLA)(WHILE1 LISTEN)	
002271	SENDGROUP1	002328	(STAY AND1STAY WHILE1),	
002272		002329	*DISCADO (HERO LISTEN) TO TASK,	
002273		002330	*DISCADO (HERO STAY) TO TRESP,	
002274	* GROUP END,	002331	LST XX1	
002275	* A HAPPY ENDING IS ASSURED,	002332	SENDGROUP1	
002276		002333	SGROUP FORESTKN : 10M/0FF1	
002277	SGROUP END 1 10M/0FF1	002334	SRULE 1	ULST XX,
002278	SRULE : HERO RETURN HOME1	002335	*INSERT (HERO WORK)(WORK IN FOREST)	
002279	SENDGROUP1	002336	(YEARS THREE)(WORK FOR YEARS),	
002280		002337	*INSERT (HERO SPEND YEARS)(TOIL FOR FORESTKN)	
002281		002338	(SPEND TOIL)	
002282		002339	(SPEND IN FOREST)(YEARS THREE),	
002283	* THE LAST FIVE GROUPS CORRESPOND TO THE FIVE DONORS WHO ARE CALLED	002340	*DISCADO (HERO WORK) TO TASK,	
002284	* AS GROUPS, EACH GROUP SETS UP TWO PREDICATE NODES, ONE FOR THE	002341	*DISCADO (HERO SPEND YEARS) TO TRESP,	
002285	TASK TO BE GIVEN BY THE DONOR TO THE HERO, THE OTHER FOR THE FINAL	002342	LST XX1	
002286	(POSITIVE) RESPONSE OF THE HERO. THIS ALLOWS FOR SIMPLE,	002343	SENDGROUP1	
002287	GENERAL RULES IN GROUPS D AND E FOR FORMS 1 AND 3,	002344	SEND	
002288				
002289				
002290	SGROUP COW 1 10M/0FF1			
002291	SRULE :			
002292	ULST XX,			
002293	*INSERT (HERO EATS (MEAT HER))(EAT NOT)(EAT OF MEAT),			
002294	*INSERT (HERO BURY BONES IN GARDEN)(RAND1 BURY)			
002295	(GATHER RAND1)BE GATHER BONES1,			
002296	*INSERT (HERO BE1)(FORGET NOT1)(BEL FORGET COW1)			
002297	*INSERT (HERO FOLLOW INSTRUCTIONS1)			
002298	(INSTRUCTIONS OF COW1),			
002299	*DISCADO (HERO EAT1) TO TASK,			
002300	*DISCADO (HERO BE1) TO TASK,			
002301	*DISCADO (HERO RE1) TO TASK,			
002302	*DISCADO (HERO FOLLOW INSTRUCTIONS1) TO TRESP,			
002303	LST XX1			
002304	SENDGROUP1			
002305	SGROUP MAN 1 10M/0FF1			
002306	SRULE 1	ULST XX,		
002307	*INSERT (HERO SPEND NIGHTS1)(GRAVE HIS1)			
002308	(SPEND BESIDE GRAVE1)(NIGHTS THREE),			
002309	*INSERT (HERO SJ1)(GRAVE HIS1)(NIGHTS THREE)			
002310	(SIT FOR NIGHTS1)(SIT BY GRAVE1),			
002311	*DISCADO (HERO SPEND NIGHTS1) TO TASK,			
002312	*DISCADO (HERO SJ1) TO TRESP,			
002313	LST XX1			
002314	SENDGROUP1			
002315	SGROUP STOVE 1 10M/0FF1			
002316	SRULE :	ULST XX,		
002317	*INSERT (HERO EAT1 MEAL)(HAVE1 PREPARD)			
002318	(IT HAVE1)(CAL WHICH IT1)			
002319	*INSERT (HERO PARTAKE1)(PARTAKE OF MEAL),			
002320	*DISCADO (HERO EAT1 MEAL) TO TASK,			
002321	*DISCADO (HERO PARTAKE1) TO TRESP,			
002322	LST XX1			
002323	SENDGROUP1			
	SGROUP WITCH 1 10M/0FF1			

10.4. Surface Structure//Semantics Rules

GRAMMAR		PTYPE	PHAF	PSUB	PTRANS/PNFLAG
1	S	====> NP VP	O RV	1 2 0	2 0
2	S	====> NP AP	O R	1 2 0	2 0
3	S	====> NPP CONJ	O RAND O	1 2 0	1 3 0
4	S1	====> NP VP	O RV	1 2 0	2 0
5	AP	====> IS MOD	R	2 0 0	2 0
6	THATZ	====> THAT S	D	1 0 0	2 0
7	NP	====> NARC2	D	1 0 0	1 0
8	NP	====> ART NPP	D	2 0 0	1 0
9	NP	====> PNP NPP	O RP05 O	2 0 0 1 2 0	1 0
10	NP	====> NPP CONJ	O RAND O	1 0 0	1 0
11	NAREZ	====> NPP	D	1 0 0	1 0
12	NPP	====> NARC	D	1 0 0	1 0
13	NPP	====> N	D	1 0 0	1 0
14	NPP	====> NPP MOD	O RP	1 2 0	2 0
15	NPP	====> NPP VP	O RV	1 2 0	2 0
16	NPP	====> NPP ADJ	O RA	1 0 0	1 0
17	HOD	====> HOD NPP	O RA	2 1 0	1 0
18	NPC	====> NP AND!	D	1 0 0	1 0
19	NPR	====> NP	D	1 0 0	1 0
20	NPR	====> NP VP	D RV	1 2 0	6 0
21	NPR	====> NP AP	D R	1 2 0	6 0
22	NPR	====> NPP CONJ!	D RAND O	1 0 0	1 0
23	PNP	====> NP POS	D	1 0 0	1 0
24	V	====> V	D RV	1 0 0	1 0
25	VP	====> VP VP	D RV RV	1 2 0 2 0	4 0
26	VP	====> VP VP	D RV RV	1 2 0	3 0
27	VP	====> VP VP	D RV RV	1 2 0	4 0
28	VP	====> VP VP2	D RV RV	1 2 0	1 0
29	VP	====> VP PR1	D RV	1 2 0	1 1
30	VP	====> VP PR3	D RV	1 2 0	1 1
31	VP	====> VP PR2	D RV	1 2 0	1 1
32	VP	====> VP THATZ	D RV	1 2 0	5 0
33	VP	====> VP THATZ	D RV	1 2 0	6 0
34	VP	====> VP NP	D RV	1 2 0	1 0
35	VP	====> VP MOD	D RA	1 2 0	1 0
36	VP	====> VP HOD	D RV	1 2 0	1 0
37	VP	====> VP ADV	D RADV	1 2 0	1 0
38	VP	====> VP VP	D RADV R	2 1 0	1 1
39	VP	====> VP CONJ	D RAND	1 2 0	2 0
40	VP	====> VP NP	D RNUL O	1 2 0	1 0
41	VP2	====> PREP	D RP	1 2 0	1 0
42	VP2	====> TO VP	D RV	1 2 0	1 0
43	VP2	====> PREP NP	D RP O	1 2 0	1 0
44	VP2	====> PREP NP	D RP O	1 2 0	1 0
45	VP2	====> PREP HOD	D RV RV	1 2 0	1 0
46	CONJ	====> AND NPP	D	1 2 0	1 0
47	CONJ	====> AND VP	D RAND RV	1 2 0	2 0
48	CONJ!	====> AND! NP	D	1 2 0	1 0
49	PRI	====> BY VP	D RV	1 2 0	4 0
50	PRI	====> THAT S;	D	2 0 0	1 0
51	PR3	====> NPC /P	D RV	1 2 0	3 0
52	HOD	====> PREP	D RP	1 2 0	1 0
53	HOD	====> ADJ	D R	1 2 0	1 0
54	HOD	====> VP	D RV	1 2 0	1 0
55	HOD	====> HOD VP	D RP RV	1 2 0	3 0
56	HOD	====> HOD VP	D RP RV	1 2 0	1 0
57	HOD	====> HOD VP	D RP RV	1 2 0	4 0
58	HOD	====> HOD NP	D RP O	1 2 0	1 0
59	HOD	====> ADJ THATZ	D RA O	1 2 0	1 0
60	HOD	====> HOD NP	D RA O	1 2 0	1 0
61	HOD	====> ADV ADJ	D RADV R	2 1 0	1 0
62	HOD	====> HOD VP2	D RA RV	1 2 0	1 0
63	HOD	====> HOD VP2	D RP	1 2 0	1 0

10.5. Forty-eight Computer Generated Russian Folktales

2

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.
THE FATHER IS BALDAK.

THE OLDEST SON IS BORIS.
THE YOUNGER SON IS NICHOLAS.

THE YOUNGEST SON IS EME-YA.
THE OLDEST DAUGHTER IS VASILESA.

THE YOUNGER DAUGHTER IS MARTHA.
THE YOUNGEST DAUGHTER IS DUNIA.

VLADIMIR ALSO LIVES IN THE SAME LAND.
VLADIMIR IS OF MIRACULOUS BIRTH.

A WOLF FLIES INTO THE CERTAIN KINGDOM.
THE WOLF EXPELS BALDAK.

NICHOLAS CALLS FOR VLADIMIR.
NICHOLAS ANNOUNCES THAT THE WOLF EXPELLED BALDAK.

VLADIMIR DECIDES TO SEARCH FOR BALDAK.

VLADIMIR LEAVES ON A SEARCH.

VLADIMIR MEETS AN OLD MAN ALONG THE WAY.
THE OLD MAN GREETED VLADIMIR.

THE OLD MAN ASKS VLADIMIR TO ANSWER A QUESTION.
VLADIMIR ANSWERS THE QUESTION.

A MAGIC RING IS SHOWN TO VLADIMIR.
A MAGIC SWORD, A MAGIC STEED AND A MAGIC BOX COME FROM THE MAGIC RING.

VLADIMIR TRAVELS TO THE LOCATION OF BALDAK IN THE OTHER KINGDOM.

VLADIMIR TRAVELS BY THE MAGIC STEED.

BALDAK APPEARS FROM THE MAGIC BOX.

VLADIMIR STARTS BACK HOME.

THE WOLF PURSUDES VLADIMIR.

VLADIMIR HIDES IN A TREE.

THE WOLF ATTEMPTS TO GNAW THROUGH THE TREE.

VLADIMIR ESCAPES BY JUMPING TO THE OTHER TREE.

VLADIMIR RETURNS HOME.

1

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS EREHA.

THE MOTHER IS MARTINA.

THE OLDEST SON IS BALDAK.

THE YOUNGER SON IS MARCO.

THE OLDEST DAUGHTER IS VASILISA.

THE YOUNGER DAUGHTER IS MARIA.

ALIOSHA ALSO LIVES IN THE SAME LAND.

ALIOSHA IS OF MIRACULOUS BIRTH.

A BEAR FLIES INTO THE CERTAIN KINGDOM.

BALDAK ASKS THE BEAR WHERE IS YOUR WISDOM.

THE BEAR SAYS THAT MY WISDOM IS IN A MAGIC EGG.

THE BEAR CUTS OFF BALDAK'S LEG.

BALDAK CALLS FOR HELP FROM ALIOSHA.

ALIOSHA DECIDES TO SEARCH FOR THE LEG.

ALIOSHA LEAVES ON A SEARCH.

ALIOSHA MEETS A WITCH ALONG THE WAY.

THE WITCH ATTEMPTS TO KILL ALIOSHA BY DROWNING.

ALIOSHA KILLS THE WITCH BY DROWNING.

A MAGIC BOW, A MAGIC CARPET AND A MAGIC BIRD ARE GIVEN TO ALIOSHA.

ALIOSHA TRAVELS TO THE LOCATION OF THE LEG IN THE OTHER KINGDOM.

ALIOSHA TRAVELS BY THE MAGIC CARPET.

ALIOSHA FINDS THE BEAR.

THEY FIGHT IN AN OPEN FIELD.

ALIOSHA IS WOUNDED.

ALIOSHA DEFEATS THE BEAR WITH THE AID OF THE MAGIC BOW.

THE LEG IS OBTAINED BY ALIOSHA.

ALIOSHA STARTS BACK HOME.

THE BEAR ATTEMPTS TO KILL ALIOSHA.

ALIOSHA ESCAPES BY FLYING ON THE MAGIC BIRD.

ALIOSHA RETURNS HOME.

3

THE MOREVNAS LIVE IN A DISTANT PROVINCE.
THE FATHER IS BALDAK.
THE MOTHER IS VASILISA.
FOMA IS THE ONLY CHILD.
VASILISA, BALDAK AND FOMA ARE IN THE FIELDS.
VASILISA SAYS BALDAK, DO NOT LEAVE THE FIELDS.
VASILISA LEAVES TO GO TO TRADE.
BALDAK LEAVES THE FIELDS.
A BEAR SNEAKS INTO THE DISTANT PROVINCE.
THE BEAR DISGUISES HIMSELF AS A BIRD.
THE BEAR USES A MAGIC PIN ON BALDAK.
BALDAK FALLS ASLEEP.
THE BEAR ABDUCTS FOMA.
THE BEAR MURDERS VASILISA.
BALDAK ASKS PERMISSION TO LEAVE.
BALDAK DECIDES TO SEARCH FOR FOMA.
BALDAK LEAVES ON A SEARCH.

BALDAK MEETS A COW ALONG THE WAY.
THE COW IS IMPRISONED.
THE COW ASKS TO BE FREED.
BALDAK FREES THE COW.
A MAGIC RING IS SEIZED BY BALDAK.
A MAGIC BIRD COMES FROM THE MAGIC RING.
BALDAK TRAVELS TO THE LOCATION OF FOMA IN AN OTHER KINGDOM.
BALDAK TRAVELS BY THE MAGIC BIRD.
FOMA IS FREED BY BALDAK.
BALDAK STARTS BACK HOME.
BALDAK RETURNS HOME.

4

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.
THE FATHER IS ALIOSHA.
THE ONLY SON IS FOMA.
THE OLDEST DAUGHTER IS DUNIA.
THE YOUNGER DAUGHTER IS VASILISA.
ALIOSHA HAS A MAGIC KEY.
A WOLF FLIES INTO THE CERTAIN KINGDOM.
THE WOLF ASKS BORIS WHERE IS THE MAGIC KEY.
BORIS SAYS THAT THE MAGIC KEY IS IN THE HOUSE.
THE WOLF SEIZES THE MAGIC KEY.
THE WOLF MURDERS ALIOSHA.
DUNIA ASKS PERMISSION TO LEAVE.
DUNIA LEAVES ON A SEARCH.

DUNIA MEETS AN OLD MAN ALONG THE WAY.
THE OLD MAN IS IMPRISONED.
THE OLD MAN ASKS TO BE FREED.
DUNIA FREES THE OLD MAN.
A MAGIC HEN IS FOUND BY DUNIA.
DUNIA TRAVELS TO THE LOCATION OF THE MAGIC KEY IN THE OTHER KINGDOM.
DUNIA TRAVELS ON A HORSE.
THE MAGIC KEY APPEARS FROM THE MAGIC HEN.
DUNIA STARTS BACK HOME.
DUNIA RETURNS HOME.

5

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.
 THE FATHER IS PONIA.
 THE MOTHER IS MARIA.
 THE OLDEST DAUGHTER IS MARTHA.
 THE YOUNGER DAUGHTER IS ELENA.
 THE YOUNGEST DAUGHTER IS VASILISA.
 DUNIA ALSO LIVES IN THE SAME LAND.
 DUNIA IS OF MIRACULOUS BIRTH.
 ELENA HAS A MAGIC HEN.
 BABAYAGA WALKS INTO THE CERTAIN KINGDOM.
 BABAYAGA ASKS MARCO WHERE IS THE MAGIC HEN.
 MARCO SAYS THAT THE MAGIC HEN IS IN THE HOUSE.
 BABAYAGA SEIZES THE MAGIC HEN.
 BABAYAGA MURDERS ELENA.
 ELENA CALLS FOR DUNIA.
 ELENA ANNOUNCES THAT BABAYAGA MURDERED ELENA.
 DUNIA DECIDES TO SEARCH FOR THE MAGIC HEN.
 DUNIA LEAVES ON A SEARCH.

DUNIA MEETS A JUG ALONG THE WAY.
 THE JUG IS IMPRISONED.
 THE JUG ASKS TO BE FREED.
 DUNIA FREES THE JUG.
 A MAGIC BOW, A MAGIC CARPET AND THE MAGIC HEN ARE SHOWN TO DUNIA.
 DUNIA STARTS BACK HOME.
 BABAYAGA PURSUDES DUNIA.
 DUNIA HIDES IN A TREE.
 *BABATAGA ATTEMPTS TO GNAW THROUGH THE TREE.
 DUNIA ESCAPES BY JUMPING TO THE OTHER TREE.
 DUNIA RETURNS HOME.

6

THE POPOVICHES LIVE IN A DISTANT PROVINCE.
 THE FATHER IS VLADIMIR.
 THE OLDEST SON IS EREMA.
 THE YOUNGER SON IS EMELYA.
 THE YOUNGEST SON IS BORIS.
 ELENA IS THE ONLY DAUGHTER.
 VASILISA ALSO LIVES IN THE SAME LAND.
 VASILISA IS OF MIRACULOUS BIRTH.
 A DRAGON WALKS INTO THE DISTANT PROVINCE.
 THE DRAGON DEMANDS VLADIMIR.
 ELENA REFUSES.
 ELENA CALLS FOR VASILISA.
 ELENA ANNOUNCES THAT THE DRAGON DEMANDED VLADIMIR.
 VASILISA LEAVES ON A SEARCH.

VASILISA MEETS A DEVIL ALONG THE WAY.
 THE DEVIL GREETES VASILISA.
 THE DEVIL ASKS VASILISA TO ANSWER A QUESTION.
 VASILISA ANSWERS THE QUESTION.
 A MAGIC FLINT IS SHOWN TO VASILISA.
 A MAGIC BOW, A MAGIC STEED AND A MAGIC CARPET COME FROM THE MAGIC FLINT.
 VASILISA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.
 VASILISA TRAVELS ON THE MAGIC STEED.
 VASILISA FINDS THE DRAGON.
 VASILISA SURPRISES THE DRAGON.
 VASILISA KILLS THE DRAGON WITH THE AID OF THE MAGIC BOW.
 THE DRAGON IS SEIZED BY VASILISA.
 VASILISA STARTS BACK HOME.
 THE DRAGON'S WIVES ATTEMPT TO DEVOUR VASILISA.
 VASILISA ESCAPES BY FLYING ON THE MAGIC CARPET.
 VASILISA RETURNS HOME.

7

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.
 THE FATHER IS FOMA.
 THE MOTHER IS MARIA.
 THE ONLY SON IS EREMA.
 THE OLDEST DAUGHTER IS ELENA.
 THE YOUNGER DAUGHTER IS MARTHA.
 A WOLF WALKS INTO THE CERTAIN KINGDOM.
 THE WOLF DISGUISES HIMSELF AS A YOUNG MAN.
 THE WOLF ATTEMPTS TO PERSUADE FOMA TO TAKE A STEAMBATH.
 FOMA IS PERSUADED TO TAKE A STEAMBATH.
 FOMA FALLS ASLEEP.
 THE WOLF CAUSES THE DISAPPEARANCE OF MARIA.
 FOMA ASKS PERMISSION TO LEAVE.
 FOMA DECIDES TO SEARCH FOR MARIA.
 FOMA LEAVES ON A SEARCH.

FOMA MEETS THE FOREST KNIGHT ALONG THE WAY.
 THE FOREST KNIGHT PROPOSES THAT FOMA WORK IN THE FOREST FOR THREE YEARS.
 FOMA DOES NOT RESPOND.
 THE FOREST KNIGHT ASKS AGAIN.
 FOMA REFUSES.
 THE FOREST KNIGHT ASKS FOR THE THIRD TIME.
 FOMA RESPONDS BY SPENDING THREE YEARS TOILING FOR THE FOREST KNIGHT IN THE FOREST.
 A MAGIC SWORD, A MAGIC BIRD AND A MAGIC CARPET ARE FOUND BY FOMA.
 FOMA TRAVELS TO THE LOCATION OF MARIA IN THE OTHER KINGDOM.
 MARTA IS OBTAINED BY FOMA.
 FOMA STARTS BACK HOME.
 FOMA RETURNS HOME.

8

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.
 THE FATHER IS FOMA.
 THE MOTHER IS KATRINA.
 THE OLDEST SON IS EREMA.
 THE YOUNGER SON IS IVAN.
 THE YOUNGEST SON IS EMELYA.
 EREMA NEEDS A MAGIC COW.
 EREMA ASKS PERMISSION TO LEAVE.
 EREMA LEAVES ON A SEARCH.

EREMA MEETS AN OLD MAN ALONG THE WAY.
 THE OLD MAN IS THREATENED BY EREMA.
 THE OLD MAN REQUESTS MERCY FROM EREMA.
 EREMA SHOWS MERCY TOWARD THE OLD MAN.
 THE MAGIC COW IS GIVEN TO EREMA.
 EREMA STARTS BACK HOME.
 EREMA RETURNS HOME.

9

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.
 THE MOTHER IS VASILISA.
 THE OLDEST SON IS MARCO.
 THE YOUNGER SON IS EREMA.
 THE YOUNGEST SON IS FOMA.
 ELENA IS THE ONLY DAUGHTER.
 EREMA NEEDS A MAGIC COW.
 EREMA DECIDES TO SEARCH FOR THE MAGIC COW.
 EREMA LEAVES ON A SEARCH.

EREMA MEETS A FOREST KNIGHT ALONG THE WAY.
 THE FOREST KNIGHT GREET'S EREMA.
 THE FOREST KNIGHT ASKS EREMA TO ANSWER A QUESTION.
 EREMA ANSWERS THE QUESTION.
 THE MAGIC COW IS SHOWN TO EREMA.
 EREMA STARTS BACK HOME.
 EREMA RETURNS HOME.

10

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.
 THE MOTHER IS MARIA.
 BORIS IS THE ONLY CHILD.
 MARCO ALSO LIVES IN THE SAME LAND.
 MARCO IS OF MIRACULOUS BIRTH.
 A DRAGON FLIES INTO THE CERTAIN KINGDOM.
 THE DRAGON ASKS EMELYA WHERE IS MARIA.
 EMELYA SAYS THAT MARIA IS IN THE WOODS.
 THE DRAGON DECLARES WAR ON MARIA.
 BORIS CALLS FOR HELP FROM MARCO.
 MARCO DECIDES TO SEARCH FOR THE DRAGON.

MARCO MEETS A DEVIL ALONG THE WAY.
 THE DEVIL ATTEMPTS TO KILL MARCO BY FEEDING TO RATS.
 MARCO KILLS THE DEVIL BY FEEDING TO RATS.
 A MAGIC FLINT IS GIVEN TO MARCO.
 A MAGIC BOW, A MAGIC CARPET AND A MAGIC STEED COME FROM THE MAGIC FLINT.
 MARCO TRAVELS TO THE LOCATION OF THE DRAGON IN THE OTHER KINGDOM.
 MARCO TRAVELS BY THE MAGIC CARPET.
 MARCO FINDS THE DRAGON.
 THEY FIGHT IN AN OPEN FIELD.
 MARCO IS WOUNDED.
 MARCO DEFEATS THE DRAGON WITH THE AID OF THE MAGIC BOW.
 MARCO STARTS BACK HOME.
 MARCO RETURNS HOME.

11

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.
THE FATHER IS NICHOLAS.
THE MOTHER IS ELENA.
THE ONLY SON IS MARCO.
MARTHA IS THE ONLY DAUGHTER.
ELENA HAS THE DAYLIGHT.
A DRAGON WALKS INTO THE CERTAIN KINGDOM.
THE DRAGON DISGUISES HIMSELF AS AN OLD LADY.
THE DRAGON USES A SLEEPING POTION ON NICHOLAS.
NICHOLAS FALLS ASLEEP.
THE DRAGON SEIZES THE DAYLIGHT.
ELENA SENDS NICHOLAS TO SEARCH FOR THE DAYLIGHT.
NICHOLAS DECIDES TO SEARCH FOR THE DAYLIGHT.

NICHOLAS MEETS A COW ALONG THE WAY.
THE COW IS THREATENED BY NICHOLAS.
THE COW REQUESTS MERCY FROM NICHOLAS.
NICHOLAS SHOWS MERCY TOWARD THE COW.
A MAGIC HEN IS GIVEN TO NICHOLAS.
NICHOLAS TRAVELS TO THE LOCATION OF THE DAYLIGHT IN THE OTHER KINGDOM.
NICHOLAS DESCENDS BY USING LEATHER STRAPS.
NICHOLAS FINDS THE DRAGON.
THEY ENGAGE IN A COMPETITION.
NICHOLAS WINS WITH HELP OF CLEVERNESS.
THE DAYLIGHT APPEARS FROM THE MAGIC HEN.
NICHOLAS STARTS BACK HOME.
THE DRAGON TEMPTS NICHOLAS BY CHANGING INTO AN ALLURING OBJECT.
NICHOLAS ESCAPES BY AVOIDING THE TEMPTATION.
NICHOLAS RETURNS HOME.

12

THE BERENNIKOV'S LIVE IN A CERTAIN KINGDOM.
THE FATHER IS BORIS.
THE MOTHER IS MARTA.
THE OLDEST SON IS ALOSHA.
THE YOUNGER SON IS EMELYA.
THE OLDEST DAUGHTER IS VASILISA.
THE YOUNGER DAUGHTER IS KATRINA.
KATRINA NEEDS A HUSBAND.
ALOSHA SENDS KATRINA TO SEARCH FOR A HUSBAND.
KATRINA LEAVES ON A SEARCH.

KATRINA MEETS A JUG ALONG THE WAY.
THE JUG IS FIGHTING WITH DUNIA OVER A MAGIC BOX.
THE JUG ASKS KATRINA TO DIVIDE THE MAGIC BOX.
KATRINA TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC BOX UNPROTECTED.
THE MAGIC BOX IS SEIZED BY KATRINA.
KATRINA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.
KATRINA CLIMBS A STAIRWAY.
A HUSBAND IS ENTICED BY KATRINA.
KATRINA STARTS BACK HOME.
KATRINA RETURNS HOME.

13

THE PODOVICHES LIVE IN A DISTANT PROVINCE.
 THE FATHER IS EMELYA.
 THE OLDEST SON IS BORIS.
 THE YOUNGER SON IS NICHOLAS.
 THE OLDEST DAUGHTER IS ELENA.
 THE YOUNGER DAUGHTER IS MARIA.
 THE YOUNGEST DAUGHTER IS DUNIA.
 BORIS, NICHOLAS AND DUNIA ARE IN THE BARN.
 BORIS SAYS NICHOLAS, LEAVE THE BARN.
 BORIS LEAVES TO GO FISHING.
 NICHOLAS LEAVES THE BARN.
 A WOLF FLIES INTO THE DISTANT PROVINCE.
 THE WOLF DISGUISES HIMSELF AS AN OLD LADY.
 THE WOLF USES A MAGIC PIN ON NICHOLAS.
 NICHOLAS FALLS ASLEEP.
 THE WOLF DEHANDS DUNIA.
 NICHOLAS REFUSES.
 NICHOLAS ASKS PERMISSION TO LEAVE.
 NICHOLAS DECIDES TO SEARCH FOR THE WOLF.
 NICHOLAS LEAVES ON A SEARCH.

NICHOLAS MEETS A JUG ALONG THE WAY.
 THE JUG IS IMPRISONED.
 THE JUG ASKS TO BE FREED.
 NICHOLAS FREES THE JUG.
 A MAGIC FLINT IS GIVEN TO NICHOLAS.
 A MAGIC BOW, A MAGIC BIRD AND A MAGIC CARPET COME FROM THE MAGIC FLINT.
 NICHOLAS TRAVELS TO THE LOCATION OF THE WOLF IN AN OTHER KINGDOM.
 NICHOLAS TRAVELS BY THE MAGIC BIRD.
 NICHOLAS FINDS THE WOLF.
 THEY FIGHT IN AN OPEN FIELD.
 NICHOLAS DEFEATS THE WOLF WITH THE AID OF THE MAGIC BOW.
 THE WOLF IS SEIZED BY NICHOLAS.
 NICHOLAS STARTS BACK HOME.
 THE WOLF PACK PURSUDES NICHOLAS.
 NICHOLAS HIDES IN A TREE.
 THE WOLF PACK ATTEMPTS TO GNAW THROUGH THE TREE.
 NICHOLAS ESCAPES BY FLYING ON THE MAGIC CARPET.
 NICHOLAS RETURNS HOME.

14

THE PARANOVS LIVE IN A DISTANT PROVINCE.
 THE FATHER IS EMELYA.
 THE MOTHER IS MARIA.
 THE OLDEST SON IS FOMA.
 THE YOUNGER SON IS BALDAK.
 VASILISA IS THE ONLY DAUGHTER.
 EMELYA SAYS BALDAK, DO NOT GO TO THE HOUSE.
 EMELYA DIES HORRIBLY.
 BALDAK GOES TO THE HOUSE.
 A BEAR FLIES INTO THE DISTANT PROVINCE.
 THE BEAR ASKS MARCO WHERE IS BALDAK.
 MARCO SAYS THAT BALDAK IS IN THE HOUSE.
 THE BEAR ORDERS THE MURDER OF BALDAK.
 BALDAK IS SECRETLY FREED.
 BALDAK IS WANDERING.

BALDAK MEETS A FOREST KNIGHT ALONG THE WAY.
 THE FOREST KNIGHT BRAWLS IN A FOREST HUT WITH BALDAK.
 THE FOREST KNIGHT TWICE REPELS BALDAK.
 THEY FIGHT FOR THE THIRD TIME.
 BALDAK DEFEATS THE FOREST KNIGHT.
 A MAGIC CARPET IS GIVEN TO BALDAK.
 BALDAK STARTS BACK HOME.
 BALDAK RETURNS HOME.

15

THE BOBISIEVICHES LIVE IN A DISTANT PROVINCE.

THE FATHER IS MARCO.

DUNIA IS THE ONLY CHILD.

NICHOLAS WHO OWNS THE DAYLIGHT ALSO LIVES IN THE SAME LAND.
A WOLF FLIES INTO THE DISTANT PROVINCE.

THE WOLF DISGUISES HIMSELF AS A YOUNG MAN.

THE WOLF ATTEMPTS TO PERSUADE DUNIA TO TAKE A MAGIC RING.
DUNIA IS PERSUADED TO TAKE THE MAGIC RING.

DUNIA FALLS ASLEEP.

THE WOLF SEIZES THE DAYLIGHT.

NICHOLAS CALLS FOR HELP FROM DUNIA.

DUNIA MEETS THE FOREST KNIGHT ALONG THE WAY.

THE FOREST KNIGHT PROPOSES THAT DUNIA WORK IN THE FOREST FOR THREE YEARS.
DUNIA RESPONDS BY SPENDING THREE YEARS TOILING FOR THE FOREST KNIGHT IN THE FOREST.

A MAGIC FLINT IS FOUND BY DUNIA.

A MAGIC BOW, A MAGIC STEED AND A MAGIC HORN COME FROM THE MAGIC FLINT.

DUNIA TRAVELS TO THE LOCATION OF THE DAYLIGHT IN ANOTHER KINGDOM.

DUNIA TRAVELS BY THE MAGIC STEED.

DUNIA FINDS THE WOLF.

DUNIA SURPRISES THE WOLF.

DUNIA KILLS THE WOLF WITH THE AID OF THE MAGIC BOW.

THE DAYLIGHT APPEARS FROM THE MAGIC HORN.

DUNIA STARTS BACK HOME.

DUNIA RETURNS HOME.

16

THE POPOVICHES LIVE IN A DISTANT PROVINCE.

THE FATHER IS VLADIMIR.

THE MOTHER IS DUNIA.

THE OLDEST SON IS BORIS.

THE YOUNGER SON IS EREMA.

THE YOUNGEST SON IS FJOMA.

VASILISA IS THE ONLY DAUGHTER.

EREMA ASKS DUNIA WHERE IS YOUR WISDOM,

DUNIA SAYS THAT MY WISDOM IS IN A MAGIC EGG,

DUNIA HURDLES EREMA,

A LAMENT IS SUNG FOR EREMA.

EREMA IS WANDERING.

EREMA MEETS A STOKE ALONG THE WAY.

THE STOKE PROPOSES THAT EREMA EAT THE MEAL WHICH IT HAS PREPARED.

EREMA RESPONDS BY PARTAKING OF THE MEAL.

A MAGIC POTION IS CONSUMED BY EREMA.

EREMA OBTAINS INCREDIBLE SPEED.

EREMA STARTS BACK HOME.

EREMA RETURNS HOME.

17

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.
 THE FATHER IS EMELYA.
 THE MOTHER IS MARTHA.
 THE OLDEST SON IS EREMA.
 THE YOUNGER SON IS FONA.
 THE YOUNGEST SON IS BALDAK.
 VASILISA ALSO LIVES IN THE SAME LAND.
 IVAN IS VASILISA'S CHILD.
 A DRAGON FLIES INTO THE DISTANT PROVINCE.
 IVAN ASKS THE DRAGON WHERE IS YOUR DEATH.
 THE DRAGON SAYS THAT MY DEATH IS IN A MAGIC EGG.
 THE DRAGON DECLARES WAR ON IVAN.
 VASILISA CALLS FOR HELP FROM EREMA.

EREMA MEETS A BULL ALONG THE WAY.
 THE BULL BRAWLS IN A FOREST HUT WITH EREMA.
 THE BULL TWICE REPELS EREMA.
 THEY FIGHT FOR THE THIRD TIME.
 EREMA DEFEATS THE BULL.
 A MAGIC BOW, A MAGIC CARPET AND A MAGIC BIRD ARE SHOWN TO EREMA.
 EREMA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.
 EREMA TRAVELS BY THE MAGIC CARPET.
 EREMA FINDS THE DRAGON.
 EREMA SURPRISES THE DRAGON.
 EREMA KILLS THE DRAGON WITH THE AID OF THE MAGIC BOW.
 EREMA STARTS BACK HOME.
 THE DRAGON'S WIVES ATTEMPT TO DEVOUR EREMA.
 EREMA ESCAPES BY FLYING ON THE MAGIC BIRD.
 EREMA RETURNS HOME.

18

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.
 THE FATHER IS NICHOLAS.
 THE OLDEST SON IS BALDAK.
 THE YOUNGER SON IS IVAN.
 THE OLDEST DAUGHTER IS MARIA.
 THE YOUNGER DAUGHTER IS VASILISA.
 A DRAGON FLYS INTO THE DISTANT PROVINCE.
 THE DRAGON DISGUISES HIMSELF AS A BIRD.
 THE DRAGON USES A SLEEPING POTION ON NICHOLAS.
 NICHOLAS FALLS ASLEEP.
 BALDAK IS REPLACED WITH THE DRAGON'S SON.
 BALDAK SENDS NICHOLAS TO SEARCH FOR THE HEART.
 NICHOLAS DECIDES TO SEARCH FOR THE HEART.
 NICHOLAS LEAVES ON A SEARCH.

NICHOLAS MEETS A WITCH ALONG THE WAY.
 THE WITCH PROPOSES THAT NICHOLAS LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.
 NICHOLAS FAILS.
 NICHOLAS TRIES AGAIN.
 NICHOLAS FAILS AGAIN.
 NICHOLAS TRIES FOR THE THIRD TIME.
 NICHOLAS RESPONDS BY STAYING AWAKE WHILE LISTENING TO THE GUSLA.
 A MAGIC WAFER IS CONSUMED BY NICHOLAS.
 NICHOLAS OBTAINS TRANSFORMABILITY.
 NICHOLAS TRAVELS TO THE LOCATION OF THE HEART IN AN OTHER KINGDOM.
 NICHOLAS TRAVELS ON A SHIP.
 THE HEART IS SOLD TO NICHOLAS.
 NICHOLAS STARTS BACK HOME.
 NICHOLAS RETURNS HOME.

19

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.
THE ONLY SON IS NICHOLAS.
THE OLDEST DAUGHTER IS VASILISA.
THE YOUNGER DAUGHTER IS DUNIA.
THE YOUNGEST DAUGHTER IS MARTHA.
DUNIA, VASILISA AND NICHOLAS ARE IN THE TOWN.
DUNIA SAYS VASILISA, DO NOT LEAVE THE TOWN.
DUNIA LEAVES TO GO BERRY GATHERING.
VASILISA LEAVES THE TOWN.
BABAYAGA SNICKS INTO THE DISTANT PROVINCE.
BABAYAGA ASKS ELENA WHERE IS NICHOLAS.
ELENA SAYS THAT NICHOLAS IS IN THE TOWN.
BABAYAGA TORMENTS NICHOLAS AT NIGHT.
VASILISA ASKS PERMISSION TO LEAVE.
VASILISA DECIDES TO SEARCH FOR BABAYAGA.
VASILISA LEAVES ON A SEARCH.

VASILISA MEETS A DEVIL ALONG THE WAY.
THE DEVIL OFFERS A MAGIC SWORD FOR EXCHANGE TO VASILISA.
VASILISA AGREES TO EXCHANGE.
VASILISA USES THE MAGIC SWORD TO KILL THE DEVIL.
THE MAGIC SWORD IS SEIZED BY VASILISA.
VASILISA TRAVELS TO THE LOCATION OF BABAYAGA IN AN OTHER KINGDOM.
VASILISA IS DIRECTED BY A BEGGAR.
VASILISA FINDS BABAYAGA.
THEY FIGHT IN AN OPEN FIELD.
VASILISA IS WOUNDED.
VASILISA DEFEATS BABAYAGA WITH THE AID OF THE MAGIC SWORD.
VASILISA STARTS BACK HOME.
BABAYAGA FLYS AFTER VASILISA.
VASILISA ESCAPES BY BEING HIDDEN BY BLACKSMITHS.
VASILISA RETURNS HOME.

20

THE POPOVICHES LIVE IN A DISTANT PROVINCE.
THE FATHER IS NICHOLAS.
THE MOTHER IS MARIA.
KATRINA IS THE ONLY CHILD.
EREMA ALSO LIVES IN THE SAME LAND.
BALDAK IS EREMA'S CHILD.
A DRAGON FLIES INTO THE DISTANT PROVINCE.
THE DRAGON DISGUISES HIMSELF AS AN OLD LADY.
THE DRAGON USES A MAGIC PIN ON NICHOLAS.
NICHOLAS FALLS ASLEEP.
THE DRAGON THREATENS TO EAT BALDAK.
EREMA CALLS FOR NICHOLAS.
EREMA ANNOUNCES THAT THE DRAGON THREATENED TO EAT BALDAK.
NICHOLAS DECIDES TO SEARCH FOR THE DRAGON.
NICHOLAS LEAVES ON A SEARCH.

NICHOLAS MEETS A WITCH ALONG THE WAY.
THE WITCH IS FIGHTING WITH ENELYA OVER A MAGIC CARPET.
THE WITCH ASKS NICHOLAS TO DIVIDE THE MAGIC CARPET.
NICHOLAS TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC CARPET UNPROTECTED.
THE MAGIC CARPET IS SEIZED BY NICHOLAS.
NICHOLAS TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.
NICHOLAS TRAVELS BY THE MAGIC CARPET.
NICHOLAS FINDS THE DRAGON.
THEY ENGAGE IN COMPETITION.
NICHOLAS WINS WITH HELP OF CLEVERNESS.
NICHOLAS STARTS BACK HOME.
NICHOLAS RETURNS HOME.

21

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.
 THE FATHER IS ALIOSHA.
 KATRINA IS THE ONLY CHILD.
 MARCO ALSO LIVES IN THE SAME LAND.
 VLADIMIR IS MARCO'S CHILD.
 A DRAGON APPEARS IN THE CERTAIN KINGDOM.
 THE DRAGON IMPRISONED VLADIMIR.
 MARCO CALLS FOR HELP FROM ALIOSHA.
 ALIOSHA DECIDES TO SEARCH FOR VLADIMIR.
 ALIOSHA LEAVES ON A SEARCH.

ALIOSHA MEETS A BULL ALONG THE WAY.
 THE BULL BRAWLS IN A FOREST HUT WITH ALIOSHA.
 THE BULL TWICE REPELS ALIOSHA.
 THEY FIGHT FOR THE THIRD TIME.
 ALIOSHA DEFEATS THE BULL.
 A MAGIC SWORD, A MAGIC STEED AND A MAGIC BIRD ARE GIVEN TO ALIOSHA.
 ALIOSHA TRAVELS TO THE LOCATION OF VLADIMIR IN THE OTHER KINGDOM.
 ALIOSHA TRAVELS ON THE MAGIC STEED.
 ALIOSHA FINDS THE DRAGON.
 THEY FIGHT IN AN OPEN FIELD.
 ALIOSHA DEFEATS THE DRAGON WITH THE AID OF THE MAGIC SWORD.
 VLADIMIR IS OBTAINED BY ALIOSHA.
 ALIOSHA STARTS BACK HOME.
 THE DRAGON FLIES AFTER ALIOSHA.
 ALIOSHA ESCAPES BY FLYING ON THE MAGIC BIRD.
 ALIOSHA RETURNS HOME.

22

THE MOREVNAS LIVE IN A DISTANT PROVINCE.
 THE MOTHER IS MARTHA.
 THE OLDEST SON IS ALIOSHA.
 THE YOUNGER SON IS VLADIMIR.
 VLADIMIR NEEDS WEALTH.
 VLADIMIR ASKS PERMISSION TO LEAVE.
 VLADIMIR LEAVES ON A SEARCH.

VLADIMIR MEETS A WITCH ALONG THE WAY.
 THE WITCH PROPOSES THAT VLADIMIR LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.
 VLADIMIR FAILS.
 VLADIMIR TRIES AGAIN.
 VLADIMIR FAILS AGAIN.
 VLADIMIR TRIES FOR THE THIRD TIME.
 VLADIMIR RESPONDS BY STAYING AWAKE WHILE LISTENING TO THE GUSLA.
 A MAGIC HEN IS SOLD TO VLADIMIR.
 VLADIMIR TRAVELS TO THE LOCATION OF WEALTH IN AN OTHER KINGDOM.
 GOLD IS PRODUCED.
 VLADIMIR STARTS BACK HOME.
 VLADIMIR RETURNS HOME.

23

THE BORISTEVICHES LIVE IN A DISTANT PROVINCE.
THE FATHER IS VLADIMIR.
THE MOTHER IS VASILISA.
THE FAMILY IS CHILDLESS.
ALIOSHA ALSO LIVES IN THE SAME LAND.
ALIOSHA IS OF MIRACULOUS BIRTH.
VASILISA HAS THE ANIMALS.
A BEAR SNEAKS INTO THE DISTANT PROVINCE.
VASILISA ASKS THE BEAR WHERE IS YOUR DEATH.
THE BEAR SAYS THAT MY DEATH IS IN A MAGIC EGG.
THE BEAR PLUNDERS THE ANIMALS.
VASILISA CALLS FOR ALIOSHA.
VASILISA ANNOUNCES THAT THE BEAR PLUNDERED THE ANIMALS.
ALIOSHA DECIDES TO SEARCH FOR THE BEAR.

ALIOSHA MEETS A BULL ALONG THE WAY.
THE BULL BRAHLS IN A FOREST HUT WITH ALIOSHA.
ALIOSHA DEFEATS THE BULL.
A MAGIC FLINT IS SHOWN TO ALIOSHA.
& MAGIC SWORD, A MAGIC BIRD AND A MAGIC STEED COME FROM THE MAGIC FLINT.
ALIOSHA TRAVELS TO THE LOCATION OF THE BEAR IN AN OTHER KINGDOM.
ALIOSHA TRAVELS BY THE MAGIC BIRD.
ALIOSHA FINDS THE BEAR.
ALIOSHA SURPRISES THE BEAR.
ALIOSHA KILLS THE BEAR WITH THE AID OF THE MAGIC SWORD.
ALIOSHA STARTS BACK HOME.
THE BEAR'S FATHER ATTEMPTS TO DEVOUR ALIOSHA.
ALIOSHA ESCAPES BY FLYING ON THE MAGIC STEED.
ALIOSHA RETURNS HOME.

24

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.
THE FATHER IS IVAN.
THE MOTHER IS KATRINA.
THE FAMILY IS CHILDLESS.
KATRINA NEEDS THE EGG OF DEATH.
KATRINA ASKS PERMISSION TO LEAVE.
KATRINA DECIDES TO SEARCH FOR THE EGG OF DEATH.

KATRINA MEETS A FOREST KNIGHT ALONG THE WAY.
THE FOREST KNIGHT GREETS KATRINA.
THE FOREST KNIGHT ASKS KATRINA TO ANSWER A QUESTION.
KATRINA ANSWERS THE QUESTION.
A MAGIC BOX IS SOLD TO KATRINA.
KATRINA TRAVELS TO THE LOCATION OF THE EGG OF DEATH IN THE OTHER KINGDOM.
THE EGG OF DEATH APPEARS FROM THE MAGIC BOX.
KATRINA STARTS BACK HOME.
KATRINA RETURNS HOME.

25

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.
THE MOTHER IS VASILISA.
THE OLDEST SON IS MARKO.
THE YOUNGER SON IS IVAN.
MARTHA IS THE ONLY DAUGHTER.
VASILISA NEEDS THE EGG OF DEATH.
VASILISA LEAVES ON A SEARCH.

VASILISA MEETS THE COW ALONG THE WAY.
THE COW IS DYING.
THE COW ASKS THAT VASILISA EAT NOT OF HER MEAT.
VASILISA IS TO GATHER THE BONES.
VASILISA IS TO FORGET NOT THE COW.
VASILISA DOES NOT RESPOND.
THE COW ASKS AGAIN.
VASILISA REFUSES.
THE COW ASKS FOR THE THIRD TIME.
VASILISA RESPONDS BY FOLLOWING THE INSTRUCTIONS OF THE COW.
A MAGIC HEN APPEARS TO VASILISA.
VASILISA TRAVELS TO THE LOCATED UP OF THE EGG OF DEATH IN AN OTHER KINGDOM.
VASILISA IS DIRECTED BY A HEDGEHOG.
THE EGG OF DEATH APPEARS FROM THE MAGIC HEN.
VASILISA STARTS BACK HOME.
VASILISA RETURNS HOME.

26

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.
THE FATHER IS EREMA.
THE OLDEST SON IS BORIS.
THE YOUNGER SON IS ALIOSHA.
THE YOUNGEST SON IS IVAN.
DUNIA IS THE ONLY DAUGHTER.

A DRAGON APPEARS IN THE DISTANT PROVINCE.
THE DRAGON DISGUISES HIMSELF AS AN OLD LADY.
THE DRAGON ATTEMPTS TO PERSUADE ALIOSHA TO TAKE A MAGIC RING.
ALIOSHA IS PERSUADED TO TAKE THE MAGIC RING.
ALIOSHA FALLS ASLEEP.

THE DRAGON CUTS OFF BORIS'S LEG.
BORIS SENDS ALIOSHA TO SEARCH FOR THE LEG.
ALIOSHA DECIDES TO SEARCH FOR THE LEG.

ALIOSHA MEETS A WITCH ALONG THE WAY.
THE WITCH IS THRETEENED BY ALIOSHA.
THE WITCH REQUESTS MERCY FROM ALIOSHA.
ALIOSHA SHOWS MERCY TOWARD THE WITCH.

A MAGIC SWORD, A MAGIC BIRD AND A MAGIC HEN ARE SEIZED BY ALIOSHA.
ALIOSHA TRAVELS TO THE LOCATION OF THE LEG IN AN OTHER KINGDOM.
ALIOSHA TRAVELS BY THE MAGIC BIRD.
ALIOSHA FINDS THE DRAGON.
ALIOSHA SURPRISES THE DRAGON.
ALIOSHA KILLS THE DRAGON WITH THE AID OF THE MAGIC SWORD.
THE LEG APPEARS FROM THE MAGIC HEN.

ALIOSHA STARTS BACK HOME.
THE DRAGON'S WIVES CHASE AFTER ALIOSHA.
ALIOSHA ESCAPES BY BEING HIDDEN BY BLACKSMITHS.
ALIOSHA RETURNS HOME.

27

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.
 THE FATHER IS MARCO.
 THE MOTHER IS MARTHA.
 THE OLDEST SON IS VLADIMIR.
 THE YOUNGER SON IS EREMI.
 THE YOUNGEST SON IS IMELYA.
 THE OLDEST DAUGHTER IS ELENA.
 THE YOUNGER DAUGHTER IS MARIA.
 THE YOUNGEST DAUGHTER IS DUNIA.
 A DRAGON APPEARS IN THE DISTANT PROVINCE.
 THE DRAGON DISGUISES SELF AS A YOUNG MAN.
 THE DRAGON ATTEMPTS TO PERSUADE MARCO TO TAKE A STEAMBATH.
 MARCO IS PERSUADED TO TAKE A STEAMBATH.
 MARCO FALLS ASLEEP.
 THE DRAGON DECLARES WAR ON MARIA.
 MARCO DECIDES TO SEARCH FOR THE DRAGON.
 MARCO LEAVES ON A SEARCH.

MARCO MEETS THE FOREST KNIGHT ALONG THE WAY.
 THE FOREST KNIGHT PROPOSES THAT MARCO WORK IN THE FOREST FOR THREE YEARS.
 MARCO DOES NOT RESPOND.
 THE FOREST KNIGHT ASKS AGAIN.
 MARCO REFUSES.
 THE FOREST KNIGHT LURES FOR THE THIRD TIME.
 MARCO RESPONDS BY SPENDING THREE YEARS TOILING FOR THE FOREST KNIGHT IN THE FOREST.
 A MAGIC WAFER IS CONSUMED BY MARCO.
 MARCO OBTAINS SUPER-HUMAN STRENGTH.
 MARCO TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.
 MARCO FINDS THE DRAGON.
 MARCO SURPRISES THE DRAGON.
 MARCO KILLS THE DRAGON WITH THE AID OF SUPER-HUMAN STRENGTH.
 MARCO STARTS BACK HOME.
 MARCO RETURNS HOME.

28

THE POPOVICHES LIVE IN A DISTANT PROVINCE.
 THE FATHER IS FOMA.
 THE OLDEST DAUGHTER IS DUNIA.
 THE YOUNGER DAUGHTER IS VASILISA.
 THE YOUNGEST DAUGHTER IS KATRINA.
 VASILISA NEEDS A FIREBIRD.
 DUNIA SENDS VASILISA TO SEARCH FOR THE FIREBIRD.
 VASILISA DECIDES TO SEARCH FOR THE FIREBIRD.

VASILISA MEETS AN OLD MAN ALONG THE WAY.
 THE OLD MAN GREETES VASILISA.
 THE OLD MAN ASKS VASILISA TO ANSWER A QUESTION.
 VASILISA ANSWERS THE QUESTION.
 A MAGIC BOX IS SHOWN TO VASILISA.
 VASILISA TRAVELS TO THE LOCATION OF THE FIREBIRD IN AN OTHER KINGDOM.
 VASILISA TRAVELS ON A SHIP.
 THE FIREBIRD APPEARS FROM THE MAGIC BOX.
 VASILISA STARTS BACK HOME.
 VASILISA RETURNS HOME.

29

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.
 THE FATHER IS IVAN.
 THE OLDEST SON IS MARCO.
 THE YOUNGER SON IS NICHOLAS.
 THE OLDEST DAUGHTER IS VASILISA.
 THE YOUNGER DAUGHTER IS ELENA.
 VLADIMIR ALSO LIVES IN THE SAME LAND.
 VLADIMIR IS OF MIRACULOUS BIRTH.
 A BEAR WALKS INTO THE DISTANT PROVINCE.
 THE BEAR ORDERS IVAN INTO THE SEA.
 MARCO CALLS FOR HELP FROM VLADIMIR.
 VLADIMIR LEAVES ON A SEARCH.

VLADIMIR MEETS A COW ALONG THE WAY.
 THE COW IS FIGHTING WITH MARIA OVER BONES.
 THE COW ASKS VLADIMIR TO DIVIDE THE BONES.
 VLADIMIR RECONCILES THE DISPUTE BY FAIRLY DIVIDING THE BONES.
 A MAGIC FLINT IS GIVEN TO VLADIMIR.
 A MAGIC BOW, A MAGIC BIRD AND A MAGIC BOX COME FROM THE MAGIC FLINT.
 VLADIMIR TRAVELS TO THE LOCATION OF IVAN IN AN OTHER KINGDOM.
 VLADIMIR TRAVELS BY THE MAGIC BIRD.
 IVAN APPEARS FROM THE MAGIC BOX.
 VLADIMIR STARTS BACK HOME.
 THE BEAR TEMPTS VLADIMIR BY CHANGING INTO AN ALLURING OBJECT.
 VLADIMIR ESCAPES BY AVOIDING THE TEMPTATION.
 VLADIMIR RETURNS HOME.

30

THE BERENIKOV'S LIVE IN A DISTANT PROVINCE.
 THE MOTHER IS MARIA.
 THE OLDEST SON IS FOMA.
 THE YOUNGER SON IS IVAN.
 THE YOUNGEST SON IS EREK.
 DUNIA ALSO LIVES IN THE SAME LAND.
 DUNIA IS OF MIRACULOUS BIRTH.
 A DRAGON SNEAKS INTO THE DISTANT PROVINCE.
 THE DRAGON ASKS BORIS WHERE IS IVAN.
 BORIS SAYS THAT IVAN IS IN THE WOODS.
 THE DRAGON ORDERS THE MURDER OF IVAN.
 MARIA CALLS FOR DUNIA.
 MARIA ANNOUNCES THAT THE DRAGON ORDERED THE MURDER OF IVAN.
 DUNIA LEAVES ON A SEARCH.

DUNIA MEETS THE COW ALONG THE WAY.
 THE COW IS DYING.
 THE COW ASKS THAT DUNIA EAT NOT OF HER MEAT.
 DUNIA DOES NOT RESPOND.
 THE COW ASKS AGAIN.
 DUNIA REFUSES.
 THE COW ASKS FOR THE THIRD TIME.
 DUNIA RESPONDS BY FOLLOWING THE INSTRUCTIONS OF THE COW.
 A MAGIC FLINT IS GIVEN TO DUNIA.
 A MAGIC BOW, A MAGIC CARPET AND A MAGIC BIRD COME FROM THE MAGIC FLINT.
 DUNIA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.
 DUNIA TRAVELS BY THE MAGIC CARPET.
 THE DRAGON IS CAUGHT BY DUNIA.
 DUNIA STARTS BACK HOME.
 THE DRAGON'S WIVES YELL FOR DUNIA.
 DUNIA ESCAPES BY FLYING ON THE MAGIC BIRD.
 DUNIA RETURNS HOME.

31

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.
 THE MOTHER IS MARIA.
 THE OLDEST SON IS FOMA.
 THE YOUNGER SON IS IVAN.
 THE YOUNGEST SON IS EREK.
 DUNIA ALSO LIVES IN THE SAME LAND.
 DUNIA IS OF HUMILIOUS BIRTH.
 A DRAGON SNEAKS INTO THE DISTANT PROVINCE.
 THE DRAGON ASKS MARIA WHERE IS IVAN.
 MARIA SAYS THAT IVAN IS IN THE WOODS.
 THE DRAGON ORDERS THE MURDER OF IVAN.
 MARIA CALLS FOR DUNIA.
 MARIA ANNOUNCES THAT THE DRAGON ORDERED THE MURDER OF IVAN.
 DUNIA LEAVES ON A SEARCH.

DUNIA MEETS THE COW ALONG THE ROAD.
 THE COW IS DYING.
 THE COW ASKS THAT DUNIA EAT NOT OF HER MEAT.
 DUNIA DOES NOT RESPOND.
 THE COW ASKS AGAIN.
 DUNIA REFUSES.
 THE COW ASKS FOR THE THIRD TIME.
 DUNIA RESPONDS BY FOLLOWING THE INSTRUCTIONS OF THE COW.
 A MAGIC FLINT IS GIVEN TO DUNIA.
 A MAGIC BON, A MAGIC CARPET AND A MAGIC BIRD COME FROM THE MAGIC FLINT.
 DUNIA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.
 DUNIA TRAVELS BY THE MAGIC CARPET.
 THE DRAGON IS CAUGHT BY DUNIA.
 DUNIA STARTS BACK HOME.
 THE DRAGON'S WIVES YELL FOR DUNIA.
 DUNIA ESCAPES BY FLYING ON THE MAGIC BIRD.
 DUNIA RETURNS HOME.

32

THE PARANOVS LIVE IN A DISTANT PROVINCE.
 THE FATHER IS BORIS.
 THE MOTHER IS DUNIA.
 VLADIMIR IS THE ONLY CHILD.
 VLADIMIR NEEDS A GOLD DUCK.
 VLADIMIR ASKS PERMISSION TO LEAVE.

VLADIMIR MEETS A COW ALONG THE ROAD.
 THE COW BRAWLS IN A FOREST HUT WITH VLADIMIR.
 VLADIMIR DEFEATS THE COW.
 A MAGIC SWORD, A MAGIC BIRD AND A MAGIC BOX ARE GIVEN TO VLADIMIR.
 VLADIMIR TRAVELS TO THE LOCATION OF THE GOLD DUCK IN AN OTHER KINGDOM.
 VLADIMIR TRAVELS BY THE MAGIC BIRD.
 THE GOLD DUCK APPEARS.
 VLADIMIR STARTS BACK HOME.
 VLADIMIR RETURNS HOME.

33

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.
THE FATHER IS FOMAA.
THE OLDEST SON IS NICHOLAS.
THE YOUNGER SON IS VLADIMIR.
VASILISA IS THE ONLY DAUGHTER.
EREMA ALSO LIVES IN THE SAME LAND.
EREMA IS OF MIRACULOUS BIRTH.
A BEAR FLIES INTO THE CERTAIN KINGDOM.
THE BEAR ABDUCTS NICHOLAS.
THE BEAR MURDERS VASILISA.
VASILISA CALLS FOR EREMA.
VASILISA ANNOUNCES THAT THE BEAR MURDERED VASILISA.
EREMA LEAVES ON A SEARCH.

EREMA MEETS A WITCH ALONG THE WAY.
THE WITCH GREETES EREMA.
THE WITCH ASKS EREMA TO ANSWER A QUESTION.
EREMA DOES NOT RESPOND.
THE WITCH ASKS AGAIN.
EREMA RESPONDS RUDELY.
THE WITCH ASKS FOR THE THIRD TIME.
EREMA ANSWERS THE QUESTION.
A MAGIC RING IS GIVEN TO EREMA.
A MAGIC BOX, A MAGIC BIRD AND A MAGIC HEN COME FROM THE MAGIC RING.
EREMA TRAVELS TO THE LOCATION OF NICHOLAS IN THE OTHER KINGDOM.
EREMA TRAVELS BY THE MAGIC BIRD.
NICHOLAS APPEARS FROM THE MAGIC HEN.
EREMA STARTS BACK HOME.
EREMA RETURNS HOME.

34

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.
THE FATHER IS EHELYA.
KATRINA IS THE ONLY CHILD.
BALDAK ALSO LIVES IN THE SAME LAND.
BALDAK IS OF MIRACULOUS BIRTH.
A WOLF FLYS INTO THE CERTAIN KINGDOM.
THE WOLF EXPELS KATRINA.
EHELYA CALLS FOR BALDAK.
EHELYA ANNOUNCES THAT THE WOLF EXPELLED KATRINA.
BALDAK DECIDES TO SEARCH FOR KATRINA.
BALDAK LEAVES ON A SEARCH.

BALDAK MEETS A JUG ALONG THE WAY.
THE JUG IS THREATENED BY BALDAK.
THE JUG REQUESTS MERCY FROM BALDAK.
BALDAK SHOWS MERCY TOWARD THE JUG.
A MAGIC BOX, A MAGIC CARPET AND A MAGIC STEED ARE SHOWN TO BALDAK.
BALDAK TRAVELS TO THE LOCATION OF KATRINA IN THE OTHER KINGDOM.
BALDAK TRAVELS BY THE MAGIC CARPET.
KATRINA IS OBTAINED BY BALDAK.
BALDAK STARTS BACK HOME.
BALDAK RETURNS HOME.

35

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.
THE MOTHER IS ELENA.
THE OLDEST SON IS VLADIMIR.
THE YOUNGER SON IS IVAN.
VASILISA IS THE ONLY DAUGHTER.
ALIOSHA ALSO LIVES IN THE SAME LAND.
ALIOSHA IS OF MIRACULOUS BIRTH.
A WOLF APPEARS IN THE CERTAIN KINGDOM.
VASILISA ASKS THE WOLF WHERE IS YOUR KINGDOM.
THE WOLF SAYS THAT MY WISDOM IS IN A MAGIC EGG.
THE WOLF DECLARES WAR ON VASILISA.
IVAN CALLS FOR HELP FROM ALIOSHA.
ALIOSHA DECIDES TO SEARCH FOR THE WOLF.
ALIOSHA LEAVES ON A SEARCH.

ALIOSHA MEETS A BULL ALONG THE WAY.
THE BULL BRAWLS IN A FOREST HUT WITH ALIOSHA.
ALIOSHA DEFEATS THE BULL.
A MAGIC CARPET IS SHOWN TO ALIOSHA.
ALIOSHA TRAVELS TO THE LOCATION OF THE WOLF IN THE OTHER KINGDOM.
ALIOSHA TRAVELS BY THE MAGIC CARPET.
ALIOSHA FINDS THE WOLF.
THEY PLAY CARDS.
THE WOLF IS TROUNCED AT CARDS.
ALIOSHA STARTS BACK HOME.
ALIOSHA RETURNS HOME.

36

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.
THE FATHER IS VLADIMIR.
THE OLDEST SON IS ERENA.
THE YOUNGER SON IS MARCO.
THE OLDEST DAUGHTER IS MARIA.
THE YOUNGER DAUGHTER IS DUNIA.
THE YOUNGEST DAUGHTER IS KATRINA.
MARTHA ALSO LIVES IN THE SAME LAND.
MARTHA IS OF MIRACULOUS BIRTH.
BABAYAGA FLIES INTO THE DISTANT PROVINCE.
BABAYAGA ASKS ELENA WHERE IS MARIA.
ELENA SAYS THAT MARIA IS IN THE BARN.
BABAYAGA THREATENS TO MARRY MARIA.
DUNIA CALLS FOR HELP FROM MARTHA.
MARTHA DECIDES TO SEARCH FOR BABAYAGA.
MARTHA LEAVES ON A SEARCH.

MARTHA MEETS A WITCH ALONG THE WAY.
THE WITCH PROPOSES THAT MARTHA LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.
MARTHA FAILS.
MARTHA TRIES AGAIN.
MARTHA FAILS AGAIN.
MARTHA TRIES FOR THE THIRD TIME.
MARTHA RESPONDS BY STAYING AWAKE WHILE LISTENING TO THE GUSLA.
A MAGIC WAFER IS CONSUMED BY MARTHA.
MARTHA OBTAINS INCREDIBLE SPEED.
MARTHA TRAVELS TO THE LOCATION OF BABAYAGA IN AN OTHER KINGDOM.
MARTHA TRAVELS ON INCREDIBLE SPEED.
MARTHA FINDS BABAYAGA.
THEY ENGAGE IN A COMPETITION.
MARTHA WINS WITH HELP OF CLEVERNESS.
MARTHA STARTS BACK HOME.
BABAYAGA ATTEMPTS TO KILL MARTHA.
MARTHA ESCAPES BY AVOIDING BEING KILLED.
MARTHA RETURNS HOME.

37

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.
 THE FATHER IS BORIS.
 THE MOTHER IS MARTHA.
 THE ONLY SON IS VLADIMIR.
 THE OLDEST DAUGHTER IS ELENA.
 THE YOUNGER DAUGHTER IS DUNIA.
 THE YOUNGEST DAUGHTER IS VASILISA.
 MARCO ALSO LIVES IN THE SAME LAND.
 MARCO IS OF MIRACULOUS BIRTH.
 A DRAGON FLIES INTO THE CERTAIN KINGDOM.
 THE DRAGON CUTS OFF BORIS'S LEG.
 BORIS IS REPLACED WITH THE DRAGON'S SON.
 BORIS CALLS FOR HELP FROM MARCO.
 MARCO DECIDES TO SEARCH FOR THE LEG.

MARCO MEETS A STOVE ALONG THE WAY.
 THE STOVE PROPOSES THAT MARCO EAT THE MEAL WHICH IT HAS PREPARED.
 MARCO DOES NOT RESPOND.
 THE STOVE ASKS AGAIN.
 MARCO REFUSES.
 THE STOVE ASKS FOR THE THIRD TIME.
 MARCO RESPONDS BY PARTAKING OF THE MEAL.
 A MAGIC WAFER IS CONSUMED BY MARCO.
 MARCO OBTAINS THE ABILITY TO FLY.
 MARCO TRAVELS TO THE LOCATION OF THE LEG IN THE OTHER KINGDOM.
 MARCO TRAVELS BY THE ABILITY TO FLY.
 THE LEG IS SHOWN TO MARCO.
 MARCO STARTS BACK HOME.
 THE DRAGON ATTEMPTS TO DEVOUR MARCO.
 MARCO ESCAPES BY AVOIDING BEING EATEN.
 MARCO RETURNS HOME.

38

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.
 THE FATHER IS IVAN.
 THE OLDEST SON IS FOMA.
 THE YOUNGER SON IS ALOISHA.
 THE OLDEST DAUGHTER IS VASILISA.
 THE YOUNGER DAUGHTER IS KATRINA.
 KATRINA NEEDS THE EGG OF DEATH.
 KATRINA ASKS PERMISSION TO LEAVE.
 KATRINA DECIDES TO SEARCH FOR THE EGG OF DEATH.

KATRINA MEETS A STOVE ALONG THE WAY.
 THE STOVE PROPOSES THAT KATRINA EAT THE MEAL WHICH IT HAS PREPARED.
KATRINA DOES NOT RESPOND.
 THE STOVE ASKS AGAIN.
 KATRINA REFUSES.
THE STOVE ASKS FOR THE THIRD TIME.
 KATRINA RESPONDS BY PARTAKING OF THE MEAL.
 A MAGIC BOX APPEARS TO KATRINA.
KATRINA TRAVELS TO THE LOCATION OF THE EGG OF DEATH IN THE OTHER KINGDOM.
 KATRINA IS DIRECTED BY A HEDGEHOG.
 THE EGG OF DEATH APPEARS.
KATRINA STARTS BACK HOME.
 KATRINA RETURNS HOME.

39

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS BALDAK.

THE OLDEST SON IS NICHOLAS.

THE YOUNGER SON IS MARCO.

THE YOUNGEST SON IS EMELYA.

THE OLDEST DAUGHTER IS DUMIA.

THE YOUNGER DAUGHTER IS MARTHA.

THE YOUNGEST DAUGHTER IS MARIA.

BORIS ALSO LIVES IN THE SAME LAND.

BORIS IS OF HINAULQW BIRTH.

A BEAR WALKS INTO THE CERTAIN KINGDOM.

THE BEAR ASKS VASILISA WHERE IS THE HEART.

VASILISA SAYS THAT THE HEART IS IN THE HUT.

THE BEAR CUTS OUT BALDAK'S HEART.

BALDAK IS REPLACED WITH THE BEAR'S SON.

BALDAK CALLS FOR HELP FROM BORIS.

BORIS DECIDES TO SEARCH FOR THE HEART.

BORIS LEAVES ON A SEARCH.

BORIS MEETS A STOVE ALONG THE WAY.

THE STOVE PROPOSES THAT BORIS EAT THE MEAL WHICH IT HAS PREPARED.

BORIS DOES NOT RESPOND.

4

THE STOVE ASKS AGAIN.

BORIS REFUSES.

THE STOVE ASKS FOR THE THIRD TIME.

BORIS RESPONDS BY PARTAKING OF THE MEAL.

A MAGIC SWORD, A MAGIC BIRD AND A MAGIC HEN ARE GIVEN TO BORIS.

BORIS TRAVELS TO THE LOCATION OF THE HEART IN THE OTHER KINGDOM.

BORIS TRAVELS BY THE MAGIC BIRD.

THE HEART APPEARS FROM THE MAGIC HEN.

BORIS STARTS BACK HOME.

THE BEAR TEMPTS BORIS BY CHANGING INTO AN ALLURING OBJECT.

BORIS ESCAPES BY AVOIDING THE TEMPTATION.

BORIS RETURNS HOME.

40

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS VLADIMIR.

THE MOTHER IS VASILISA.

THE OLDEST SON IS NICHOLAS.

THE YOUNGER SON IS ALIOSHA.

A WOLF WALKS INTO THE CERTAIN KINGDOM.

THE WOLF ASKS MARTA WHERE IS ALIOSHA.

MARTA SAYS THAT ALIOSHA IS IN THE FIELDS.

THE WOLF THREATENS TO EAT ALIOSHA.

VLADIMIR SENDS VASILISA TO SEARCH FOR THE WOLF.

VASILISA LEAVES ON A SEARCH.

VASILISA MEETS A BULL ALONG THE WAY.

THE BULL IS IMPRISONED.

THE BULL ASKS TO BE FREED.

VASILISA FREES THE BULL.

A MAGIC CARPET IS GIVEN TO VASILISA.

VASILISA TRAVELS TO THE LOCATION OF THE WOLF IN THE OTHER KINGDOM.

VASILISA TRAVELS BY THE MAGIC CARPET.

VASILISA FINDS THE WOLF.

THEY PLAY CARDS.

THE WOLF IS TROUNCHED AT CARDS.

VASILISA STARTS BACK HOME.

VASILISA RETURNS HOME.

41

THE RORISIEVICHES LIVE IN A DISTANT PROVINCE.

THE FATHER IS FOMA.

THE MOTHER IS MARIA.

THE OLDEST SON IS VLADIMIR.

THE YOUNGER SON IS EMELYA.

THE YOUNGEST SON IS IVAN.

THE OLDEST DAUGHTER IS KATRINA.

THE YOUNGER DAUGHTER IS VASILISA.

THE YOUNGEST DAUGHTER IS DUNIA.

DUNIA HAS CROPS.

A DRAGON SNEAKS INTO THE DISTANT PROVINCE.

THE DRAGON DISGUISES HIMSELF AS A YOUNG MAN.

THE DRAGON ATTEMPTS TO PERSUADE KATRINA TO TAKE A STEAMBATH.

KATRINA IS PERSUADED TO TAKE A STEAMBATH.

KATRINA FALLS ASLEEP.

THE DRAGON PILLAGES THE CROPS.

DUNIA SENDS KATRINA TO SEARCH FOR THE DRAGON.

KATRINA DECIDES TO SEARCH FOR THE DRAGON.

KATRINA LEAVES ON A SEARCH.

KATRINA MEETS THE COW ALONG THE WAY.

THE COW IS DYING.

THE COW ASKS THAT KATRINA EAT NOT OF HER MEAT.

KATRINA RESPONDS BY FOLLOWING THE INSTRUCTIONS OF THE COW.

A MAGIC STEED IS GIVEN TO KATRINA.

KATRINA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.

KATRINA TRAVELS ON THE MAGIC STEED.

KATRINA FINDS THE DRAGON.

THEY PLAY CARDS.

THE DRAGON IS TROUNCHED AT CARDS.

KATRINA STARTS BACK HOME.

KATRINA RETURNS HOME.

42

THE PARANOVS LIVE IN A DISTANT PROVINCE.

THE FATHER IS EREMA.

THE ONLY SON IS MARCO.

THE OLDEST DAUGHTER IS VASILISA.

THE YOUNGER DAUGHTER IS KATRINA.

THE YOUNGEST DAUGHTER IS DUNIA.

FOMA ALSO LIVES IN THE SAME LAND.

FOMA IS OF MIRACULOUS BIRTH.

A DRAGON FLEYS INTO THE DISTANT PROVINCE.

DUNIA ASKS THE DRAGON WHERE IS YOUR DEATH.

THE DRAGON SAYS THAT MY DEATH IS IN A MAGIC EGG.

THE DRAGON ABDUCTS DUVIA.

THE DRAGON MURDERS VASILISA.

VASILISA CALLS FOR HELP FROM FOMA.

FOMA DECIDES TO SEARCH FOR DUNIA.

FOMA LEAVES ON A SEARCH.

FOMA MEETS A MAN ALONG THE WAY.

THE MAN IS DYING.

THE MAN ASKS THAT FOMA SPEND THREE NIGHTS BESIDE HIS GRAVE.

FOMA DOES NOT RESPOND.

THE MAN ASKS AGAIN.

FOMA REFUSES.

THE MAN ASKS FOR THE THIRD TIME.

FOMA RESPONDS BY SITTING FOR THREE NIGHTS BY HIS GRAVE.

A MAGIC BOX IS GIVEN TO FOMA.

FOMA TRAVELS TO THE LOCATION OF DUNIA IN AN OTHER KINGDOM.

FOMA IS DIRECTED BY A HEDGEHOG.

DUNIA APPEARS FROM THE MAGIC BOX.

FOMA STARTS BACK HOME.

FOMA RETURNS HOME.

43

THE PARNOVS LIVE IN A DISTANT PROVINCE.

THE FATHER IS NICHOLAS.

THE OLDEST DAUGHTER IS MARIA.

THE YOUNGER DAUGHTER IS DUNIA.

MARTHA ALSO LIVES IN THE SAME LAND.

MARTHA IS OF MIRACULOUS BIRTH.

A DRAGON FLIES INTO THE DISTANT PROVINCE.

THE DRAGON CUTS OUT DUNIA'S HEART.

DUNIA CALLS FOR HELP FROM MARTHA.

MARTHA DECIDES TO SEARCH FOR THE HEART.

MARTHA LEAVES ON A SEARCH.

MARTHA MEETS A STOVE ALONG THE WAY.

THE STOVE PROPOSES THAT MARTHA EAT THE MEAL WHICH IT HAS PREPARED.

MARTHA DOES NOT RESPOND.

THE STOVE ASKS AGAIN.

MARTHA REFUSES.

THE STOVE ASKS FOR THE THIRD TIME.

MARTHA RESPONDS BY PARTAKING OF THE MEAL.

A MAGIC BIRD APPEARS TO MARTHA.

MARTHA TRAVELS TO THE LOCATION OF THE HEART IN AN OTHER KINGDOM.

MARTHA TRAVELS BY THE MAGIC BIRD.

MARTHA FINDS THE DRAGON.

THEY FIGHT IN AN OPEN FIELD.

THE DRAGON IS BADLY DEFEATED.

THE HEART IS SEIZED BY MARTHA.

MARTHA STARTS BACK HOME.

THE DRAGON YELLS FOR MARTHA.

MARTHA ESCAPES BY FLYING ON THE MAGIC BIRD.

MARTHA RETURNS HOME.

44

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.

THE FATHER IS BORIS.

THE MOTHER IS MARIA.

EREHA IS THE ONLY CHILD.

VLADIMIR ALSO LIVES IN THE SAME LAND.

VASILISA IS VLADIMIR'S CHILD.

A BEAR APPEARS IN THE DISTANT PROVINCE.

THE BEAR DISGUISES HIMSELF AS A YOUNG MAN.

THE BEAR USTS A SLEEPING POTION ON MARIA.

MARIA FALLS ASLEEP.

THE BEAR DECLARIES WAR ON VASILISA.

VLADIMIR CALLS FOR HELP FROM MARIA.

MARIA DECIDES TO SEARCH FOR THE BEAR.

MARIA LEAVES ON A SEARCH.

MARIA MEETS AN OLD MAN ALONG THE WAY.

THE OLD MAN IS FIGHTING WITH MARCO OVER A MAGIC SWORD.

THE OLD MAN ASKS MARIA TO DIVIDE THE MAGIC SWORD.

MARIA TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC SWORD UNPROTECTED.

THE MAGIC SWORD, A MAGIC CARPET AND A MAGIC STEED ARE SEIZED BY MARIA.

MARIA TRAVELS TO THE LOCATION OF THE BEAR IN AN OTHER KINGDOM.

MARIA TRAVELS BY THE MAGIC CARPET.

MARIA FINDS THE BEAR.

MARIA SURPRISES THE BEAR.

MARIA KILLS THE BEAR WITH THE AID OF THE MAGIC SWORD.

MARIA STANDS BACK HOME.

THE BEAR'S FATHER YELLS FOR MARIA.

MARIA ESCAPES BY FLYING ON THE MAGIC STEED.

MARIA RETURNS HOME.

45

THE PLACE IS A CERTAIN KINGDOM.
 MARTHA IS ALONE.
 MARTHA NEEDS A HUSBAND.
 MARTHA DECIDES TO SEARCH FOR A HUSBAND.
 MARTHA LEAVES ON A SEARCH.

MARTHA MEETS THE FOREST KNIGHT ALONG THE WAY.
 THE FOREST KNIGHT PROPOSES THAT MARTHA WORK IN THE FOREST FOR THREE YEARS.
 MARTHA DOES NOT RESPOND.
 THE FOREST KNIGHT ASKS AGAIN.
 MARTHA REFUSES.
 THE FOREST KNIGHT ASKS FOR THE THIRD TIME.
 MARTHA RESPONDS BY SPENDING THREE YEARS TOILING FOR THE FOREST KNIGHT IN THE FOREST.
 A MAGIC BOX IS SEIZED BY MARTHA.
 MARTHA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.
 MARTHA CLIMBS A STAIRWAY.
 A HUSBAND APPEARS FROM THE MAGIC BOX.
 MARTHA STARTS BACK HOME.
 MARTHA RETURNS HOME.

46

THE PARANOVS LIVE IN A CERTAIN KINGDOM.
 THE FATHER IS VLADIMIR.
 THE MOTHER IS ELENA.
 THE OLDEST SON IS ALIOSHA.
 THE YOUNGER SON IS NICHOLAS.
 THE OLDEST DAUGHTER IS MARIA.
 THE YOUNGER DAUGHTER IS MARTHA.
 ELENA NEEDS A HUSBAND.
 ELENA ASKS PERMISSION TO LEAVE.
 ELENA LEAVES ON A SEARCH.

ELENA MEETS A COW ALONG THE WAY.
 THE COW BRAWLS IN A FOREST HUT WITH ELENA.
 ELENA DEFEATS THE COW.
 A MAGIC SWORD, A MAGIC CARPET AND A MAGIC HEN ARE GIVEN TO ELENA.
 ELENA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.
 ELENA TRAVELS BY THE MAGIC CARPET.
 A HUSBAND IS ENTICED BY ELENA.
 ELENA STARTS BACK HOME.
 ELENA RETURNS HOME.

47

THE SERENNIKOV'S LIVE IN A CERTAIN KINGDOM.
THE FATHER IS DUNIA.
THE ONLY SON IS MARCO.
THE OLDEST DAUGHTER IS MARIA.
THE YOUNGER DAUGHTER IS KATRINA.
NICHOLAS ALSO LIVES IN THE SAME LAND.
NICHOLAS IS OF MIRACULOUS BIRTH.
A WOLF FLIES INTO THE CERTAIN KINGDOM.
THE WOLF MURDERS MARIA.
MARCO CALLS FOR NICHOLAS.
MARCO ANNOUNCES THAT THE WOLF MURDERED MARIA.
NICHOLAS DECIDES TO SEARCH FOR MARIA.
NICHOLAS LEAVES ON A SEARCH.

NICHOLAS MEETS A WITCH ALONG THE WAY.
THE WITCH GREETS NICHOLAS.
THE WITCH ASKS NICHOLAS TO ANSWER A QUESTION.
NICHOLAS DOES NOT RESPOND.
THE WITCH ASKS AGAIN.
NICHOLAS RESPONDS RUDELY.
THE WITCH ASKS FOR THE THIRD TIME.
NICHOLAS ANSWERS THE QUESTION.
A MAGIC FLINT IS SHOWN TO NICHOLAS.
A MAGIC BOX, A MAGIC BIRD AND A MAGIC BOX COME FROM THE MAGIC FLINT.
NICHOLAS TRAVELS TO THE LOCATION OF MARIA IN THE OTHER KINGDOM.
NICHOLAS TRAVELS BY THE MAGIC BIRD.
NICHOLAS STARTS BACK HOME.
NICHOLAS RETURNS HOME.

48

THE PARANOV'S LIVE IN A CERTAIN KINGDOM.
THE FATHER IS BALDAK.
THE MOTHER IS MARTHA.
THE OLDEST SON IS ALIOSHA.
THE YOUNGER SON IS BORIS.
THE YOUNGEST SON IS EMELYA.
IVAN ALSO LIVES IN THE SAME LAND.
NICHOLAS IS IVAN'S CHILD.
A WOLF SNEAKS INTO THE CERTAIN KINGDOM.
THE WOLF DISGUISES HIMSELF AS AN OLD LADY.
THE WOLF ATTEMPTS TO PERSUADE MARTHA TO TAKE A SWIM.
MARTHA IS PERSUADED TO TAKE A SWIM.
MARTHA FALLS ASLEEP.
THE WOLF TORMENTS NICHOLAS AT NIGHT.
IVAN CALLS FOR HELP FROM MARTHA.
MARTHA DECIDES TO SEARCH FOR THE WOLF.
MARTHA LEAVES ON A SEARCH.

MARTHA MEETS A GIANT ALONG THE WAY.
THE GIANT IS IMPRISONED.
THE GIANT ASKS TO BE FREED.
MARTHA FREES THE GIANT.
A MAGIC BOX, A MAGIC CARPET AND A MAGIC BIRD ARE GIVEN TO MARTHA.
MARTHA TRAVELS TO THE LOCATION OF THE WOLF IN THE OTHER KINGDOM.
MARTHA TRAVELS BY THE MAGIC CARPET.
MARTHA FINDS THE WOLF.
MARTHA SURPRISES THE WOLF.
MARTHA KILLS THE WOLF WITH THE AID OF THE MAGIC BOW.
MARTHA STARTS BACK HOME.
MARTHA RETURNS HOME.

COMMENT by *Pierre Maranda*

The procedure proposed in this paper is an inversion of that of content analysis. Steps similar to those taken in content analysis, in effect, are used to generate a text instead of analyzing it. And, like content analysis, the present approach depends on the nature and power of the formulation on which the formalization rests.

What is called here "classes" is the equivalent of what content analysts have termed "tags" or "descriptors." What is called here "scenario" is a syntagmatic chain connecting the different "classes." The "scenarios" are structured according to a combinatorial rule which, in this case, is a random choice within parameters defined on the basis of what can be called "compatibilities" and "incompatibilities" in a given mythological universe.

The following comments will be restricted to Section 4.0 dealing with the model for five myths from *The raw and the cooked*.

As Lévi-Strauss has shown in "La structure et la forme" and in *Mythologiques*, the definition of "classes" is the first step in structural analysis. This takes place through a "coding" process. In it, a reader or coder assigns elements, such as "water," to a descriptor or tag, such as "deprivation" (M_{12} , M_{124} —see class lists on p. 152). But in the case of this particular example, chosen because it is crucial in the Lévi-Straussian analysis which the program purports to model, the coder failed to disambiguate "water." To take only the coding of M_{12} : the hero is "deprived" of water at first (as properly coded in this paper) but then deprives the crocodile of his water—which the coder failed to record. Similarly, in M_{124} , the coder did not take into account that "water" is (1) related again to "crocodile" with which again the hero is in conflict, and (2) related to the ocean which it creates by expansion (against the complete disappearance of water in M_{12}).

Because of such inadequate formulation (i.e. coding) of the data, it is not surprising to see that the computer-generated versions of M_1 , M_2 , M_{12} , M_{124} , and M_{123} do not reveal the structure described by Lévi-Strauss. These versions, if they are to replicate Lévi-Strauss' analysis as "scenarios," should display at least the contrasts between M_1 and M_{124} which are fundamental in *Le cru et le cuit* (1964: 207-218). Likewise, the double-twist transformations defined by Lévi-Strauss between the five myths in question (p. 217) cannot be abstracted from the outputs. In order to be valid, these should display the transformation if the objective of the simulation system is to model Lévi-Strauss' own procedures.

In sum, it seems that the program generates only impoverished (as do all content analysis techniques) plot abstracts. Once the coding is improved, modeling the complexity of the analysis will remain a major task. Whether or not it can be done remains to be seen. The enterprise will be successful, I think, only when the computer can reproduce if not the form at least the contents of the figure on p. 217 of *Le cru et le cuit*. This should be a minimum requirement. A further and more satisfactory step would be to generate the complex figure on p. 202. The challenge is certainly worth arduous work.

LÉVI-STRAUSS, C.

1964 *Le cru et le cuit*. Paris: Plon.

REPLY by Sheldon Klein

With great regret we note that Pierre Maranda, for reasons of time limitation, was not able to comment on more than the introductory example of our paper. We make no defense in response to Maranda's criticism of the Lévi-Strauss example in Section 4.0. We were aware of the defects, and constructed the model purely as a pedagogical device to illustrate some of the formal mechanisms of our metasymbolic simulation system. We note that our title lists our commitment to Lévi-Strauss (1964) automation as the SECOND ITEM, and, indeed, our serious appraisal of the task of automating Lévi-Strauss is in Section 8.0, "Toward the Ultimate Modeling of Lévi-Strauss." There, we acknowledge the complexity of the task, and our views appear in virtual agreement with the final comments of Maranda. Our fault in Section 4.0 was in not making our intention more clear. We note especially that the Lévi-Strauss model in 4.0 used less powerful logical devices than were used in our Propp model (even though the inherent complexities are the reverse). Accordingly, the virtue of Maranda's criticism is that it will further help the reader to comprehend the nature of our more sophisticated Propp example. After receipt of a draft of Maranda's commentary, we produced a new and greatly expanded version of our Lévi-Strauss model. It includes the disambiguation of "water," the contrast between M_1 and M_{124} , the double twist transformations, and the contents of the figure on p.217 of *Le cru et le cuit*, which Maranda lists as a minimum requirement for success (Klein et al 1976).

Maranda's characterization of the model as a syntagmatic chain connecting classes (second paragraph) is incorrect. He seems to view the model as a finite state grammar, or at best a kind of linguistic tagmemic grammar. Such a model is logically incapable of handling the complexities of Propp manifest in our example. The first-order predicate calculus logical quantification technique permits us to modify class membership dynamically—a technique not used in our Lévi-Strauss example, but exploited extensively in the Propp model. The reader is urged to read Lakoff's "Structural complexity in fairy tales" (1972) for a demonstration of why the model Maranda would equate with ours is logically incapable of handling Propp. Lakoff's argument borrows from Chomsky's work and demonstrates the inadequacy of finite state and phrase structure grammars for natural language.

In a sense, structuralism in folklore theory is derivative from a pre-Chomsky linguistics model. Now, linguistics in combination with computer science is returning to the field, but with conceptual tools derived from several theoretical revolutions. It would be tragic if structuralists in folklore were not able to avoid the trauma of an analogue of the Chomskian revolution in linguistics.

Maranda's comment about the structure of our generated texts is justified. In both the Lévi-Strauss and Propp examples, the style was intentional, in the first case for pedagogical purposes, and in the second case to approximate the level of plot synopsis used by Propp himself. We do note that our Propp texts are much more sophisticated than those produced by our Lévi-Strauss model. (For example, our sentences often involve rather sophisticated use of embedded grammatical structures.) We also note that our text generation, however impoverished it may appear with respect to real world texts, represents a first in computational linguistics. The logical complexity of the texts, in combination with their method of generation from a deep

semantic structure, is unequalled to date. The effort is also a first from a strictly computational point of view in that the texts were generated 100 to 1000 times faster than ever achieved before with a transformational type automated generative grammar, even for sentences produced independent of the matrix of a structured text.

For the vast majority of readers who do not have the background to evaluate the computational and linguistic methodology underlying our meta-symbolic simulation system, we say, "Be skeptical, judge our efforts on the quality of our output, and demand, as does Pierre Maranda, satisfaction of your own criteria in terms that you can understand." Towards this goal, we urge the reader to study the comments in the Propp program in paragraph 10.3 which refer to specific pages in Propp (1968). Thereby, the reader may verify the adequacy and completeness of our model, at least intuitively. (There are some rather obvious quantification errors which the Marandas pointed out to us informally, e.g. women as heroes, etc. These are due to our ignorance of the source material, since we relied just on Propp's model. Such errors are trivially correctable, requiring approximately one line of code each). One last remark on the notion of the second or higher-order predicate calculus (Maranda does not discuss the predicate calculus at all). In simplified terms it means that, for example, a rule A that has been quantified by a rule B has, itself, the power to redefine and quantify the very rule B which was originally used to quantify A. Such a device permits the building of automated models for defining and creating NEW text grammars, and we feel that it will be essential for building an automated model for replicating the analytic process of Lévi-Strauss.

We note that, in the future, folklorists may have to begin to master the latest concepts of linguistics, logic and computer science. Our work is not an isolated, idiosyncratic effort, but rather part of a new movement in text linguistics.

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SECTION TWO

Patterns of Content

Lévi-Strauss' Myth of Method

MORRIS FREILICH

The odious comparisons of greatness then, may be left to take care of themselves, for even when we feel obliged to assent to them they are still only unproductive platitudes. The real concern of the evaluating critic is with positive value, with goodness, or perhaps genuineness of the poem rather than the greatness of its author.

NORTHROP FRYE

PRELUDE

Scientifically, it has been said, *Mythologiques* is a MAGNIFICENT FAILURE (Nutini 1971). Yet the scholarly world has almost deified its author. How do we reconcile our fascination with Lévi-Strauss and our addiction to his enormous productivity with the frequent rejection of his work as "inadequate science"? Prattis provides some clues:

. . . the task Lévi-Strauss has set himself is no less than that of changing the rules of scientific procedure. . . . Positivism as part of Western ideology simply gives us a code for knowing using the criterion of falsifiability. It is possible that there are other codes of knowing which do not rest on the mechanics of logical and empirical adequacy as demanded by the positivist enterprise (1972: 1324).

Most of us agree that there are "other codes of knowing"; hence the Lévi-Straussian revolution (Kuhn 1962) has our emotional support. But we need more information concerning how to do "The New Anthropology" (Ardener 1971). And Lévi-Strauss' guidelines belong to the same genre as the stories he analyzes: THEY ARE MYTHS. The goal of this paper is to describe the kinds of myths that Lévi-Strauss

writes regarding method and to use the latter to develop a strategy for myth analysis.

RONDO

Utilizing mounds of data, intriguing hypotheses, and (at times) difficult-to-follow logic, Lévi-Strauss attempts to prove that the mind can be “conquered” by the structural analysis of myth. While many scholars have disagreed and will continue to do so, none are inattentive. Disciples and critics of this Master Mythologist share at least two basic beliefs: (a) whatever Lévi-Strauss writes merits study; and (b) his work does not fit everyone’s conception of “science.” Supporters claim that his contributions put him into the ranks of such reality transformers as Darwin, Marx, and Freud. Critics accuse him of writing myth.¹

Impervious to these and related debates, Lévi-Strauss probes a problem with vigor and dedication. In myths anything can happen; reality appears totally arbitrary. Yet, enigmatically, myths widely separated in space and time show a surprising number of similarities (1963a:208). Myths present us with these strange similarities, argues Lévi-Strauss, because their purpose is everywhere the same: to resolve the dilemmas of human existence. The mind, whose survival depends on order, often encounters a reality which appears disconnected, disorganized, and even chaotic. Myth enters as a savior, protecting the mind from madness. Perhaps because the message is timeless, explaining the “present, the past and the future,” myths communicate in code. Or, as Lévi-Strauss puts it, “behind all sense [in myth] there is non-sense”: behind the obvious SENSE of the “story” non-sense exists in the form of coded messages (1963b:209). The trick is two-fold: to find the non-sense hidden behind the simple and the sensible and to discover what each bit of non-sense really means. To transform “the trick” into a public and scientifically viable method is no simple matter. Let us examine Lévi-Strauss’ attempts to explain his own approach.

The sense or message of a myth is well hidden and clues must be

¹ Reactions to Lévi-Strauss’ work include (a) HERO WORSHIP: “a heroic contribution, containing profound suggestions about the ways in which our minds operate and the foundations on which ethics and aesthetics are built” (Gardener 1970:356); (b) LOW-KEY CRITICISMS: “Lévi-Strauss appears to take unwarranted liberties with his evidence . . . one cannot help noticing that when he comes down from the clouds and deals with specific cases, he is often trivial, or just plain wrong” (Mayberry-Lewis 1967-1968); and (c) CLOWNISH ASSAULT: “Unlike Marx, Lévi-Strauss confronted a great opportunity to which he did not respond. He found Comte, Durkheim and Mauss standing on their heads, and he joined them” (Harris 1968).

gathered by digging into the set to which a given myth belongs. As Lévi-Strauss puts it, "a myth derives its significance not from contemporary or archaic institutions of which it is a reflection, but from its relation to other myths within a transformational group" (1970:51). Putting a set together — discovering what myth is closely tied to what other myths — requires selecting a "first myth." This is not done arbitrarily but is accomplished "through an intuitive feeling [!] that it [the first myth] is both rich and rewarding" (1970:2). What happens then is rather involved, requiring a long quote.

. . . after analyzing it [the first myth] in terms of rules laid down in previous works . . . I establish a group of transformations for each sequence, either within the myth itself, or by elucidation of the isomorphic links between sequences derived from several myths originating in the same community. This itself takes us beyond the study of individual myths to the consideration of certain guiding patterns situated along a single axis. At each point of the axis where there is such a pattern or schema, we then draw, as it were, a vertical line representing another axis established by the same operation but carried out this time not by means of apparently different myths originating from a single community, but by myths which present certain analogies to the first, although they derive from different communities. As a result, the guiding patterns are simplified, made more complex or transformed [!]. Each one becomes a source of new axes, which are perpendicular to the first on different levels, and to which will presently be connected, by a two-fold prospective and retrospective movement, sequences derived either from myths originating in more remote communities or from myths originally neglected because they seemed useless or impossible to interpret, even though they belonged to peoples already discussed. It follows that as the nebula gradually spreads, its nucleus condenses and becomes more organized [!]. Loose threads join up with one another, gaps are closed, connections are established and something resembling order is to be seen emerging from the chaos. Sequences arranged in transformational groups, as if around a germinal molecule, join up with the initial group and reproduce its structure and determinative tendencies. Thus is brought into being a multi-dimensional body, whose central parts disclose a structure, while uncertainty and confusion continue to prevail along its periphery (1970:2-3).

Since this passage will be referred to several times I will call it "the critical passage" for easy reference. In the critical passage we are told of the intuitive selection of a "first myth" which is analyzed according to "rules laid down in previous works." The latter include *Structural anthropology* where we learn that "the technique which has been applied so far by this writer consists in analyzing each myth individually, breaking down each story into the shortest possible sentences, and writing each sentence on an index card bearing a number corresponding to the unfolding of the story" (1963a:211).

What happens next is described in *Totemism*:

The method we adopt in this case as in others, consists in the following operations: (1) define the phenomena under study as a relation between two

or more terms, real or supposed; (2) construct a table of possible permutations between these terms; (3) take this table as the general object of analysis which, at this level only, can yield necessary connections, the empirical phenomenon considered at the beginning being only one possible combination among others, the complete system of which must be reconstructed [postulated?] beforehand (1963c:16).

To transform the phenomena under study (the minimal sentences) into a set of relationships requires grouping such sentences under a minimal number of rubrics. The latter are discovered by looking for themes “running through” the sentences already isolated. For example: Lévi-Strauss found that the Oedipus legend could well be summarized by eleven sentences: (1) Cadmos seeks his sister Europa, ravished by Zeus; (2) Cadmos kills the dragon; (3) The Spartoi kill one another; (4) Labadcos (Laois’ father) has a name meaning “lame”; (5) Oedipus kills his father, Laois; (6) Laois means “left-sided”; (7) Oedipus kills the sphinx; (8) Oedipus means “swollen foot”; (9) Oedipus marries his mother Jocasta; (10) Eteocles kills his brother, Polynices; (11) Antigone buries her brother Polynices despite prohibitions (1963a:214).

Four themes found to be running through these sentence (T.1 through T.4) permit Lévi-Strauss to make the following groupings (1963a:216):

T.1 Overrating Blood Relatives

Cadmos seeks sister
Oedipus marries mother
Antigone buries brother

T.2 Underrating Blood Relatives

Spartoi kill each other
Oedipus kills father
Eteocles kills brother

T.3 Denying Autochthonous

Origin

Cadmos kills dragon
Oedipus kills sphinx

T.4 Clumsy Walkers

Labadcos = Lame
Laois = Left-sided
Oedipus = Swollen foot

Four elements make it possible to isolate the kind of relationships which Lévi-Strauss often discovers in myths; in formula form a:b::c:d (read “a is to b as c is to d”). But before such analysis can be presented something must be done about element four (T.4). “Clumsy Walkers” does not easily “relate” to anything else isolated, therefore this element must hide a deeper meaning. What does “Clumsy Walkers” really signify? Surely, Lévi-Strauss argues, one gets a walking impediment after completing a long and arduous journey: as when men emerge from the depths of the earth. Therefore Lévi-Strauss concludes “Clumsy Walkers” (T.4) really means “the persistence of the autochthonous origin of man”!

Everything is now quite clear: this myth, like all myths, solves a dilemma:

The myth has to do with the inability, for a culture which holds the belief that mankind is autochthonous . . . to find a satisfactory transition between this theory and the knowledge [clear from daily experience] that human beings are actually born from the union of man and woman (1963a:216).

Is autochthonous creation true as the legends teach? Or does man really come out of the union of man and woman? No one ever saw a man just pop out of the earth, yet tradition teaches that that is precisely what happened.

Although the problem obviously cannot be solved, the Oedipus myth provides a kind of logical tool [for dealing with it] . . . the overrating of blood relations [T.1] is to the underrating of blood relations [T.2] as the attempt to escape autochthony [T.3] is to the impossibility of succeeding in it [T.4]. Although experience contradicts theory, social life validates cosmology by its similarity of structure. Hence cosmology is true (1963a:216).

One is tempted to ask: does the message "cosmology is true" merit a myth? But more to the point let us summarize the procedure used. Lévi-Strauss takes a story line which is ordered "in time" and replaces it by a set of themes which (apparently) exist outside of time. This makes good sense if we accept his belief that myths, like music, "are instruments for the obliteration of time" (1970:16). What is not so clear is how these particular themes were discovered and if one should always stop at four themes in order to get the a:b:c:d formula. It is reasonable to conclude tentatively that intuition is the major method in both isolating the first myth and analyzing it. Now this may be no serious scientific charge, since the critical passage seems to imply some self-corrective mechanisms at work as soon as we begin the comparison process; in Lévi-Strauss' words, "It follows that as the nebula gradually spreads, its nucleus condenses and becomes more organized. Loose threads join up with one another, gaps are closed, connections are established, and something resembling order is to be seen emerging from chaos."

Let us therefore examine, first, the simplest bit of comparative analysis that Lévi-Strauss seems to have done. This work seems quite fortuitous for our purposes since it is referred to in the critical passage as one of the sources where "the method" can be found. In his Inaugural Lecture (Collège de France, Chair of Social Anthropology), Lévi-Strauss (1967) compared the Oedipus legend with an incest tale told by the Iroquois and by the Algonkian. The latter (henceforth called the Amerindian myth) has four major characters: a girl ("Girl"), her brother ("Brother"), the brother's double ("Double") and the Double's mother, a wise witch with the title "Mistress of the Owls." The Amerindian myth tells how Girl is visited nightly by a

lover she believes to be Brother. Brother claims complete innocence and explains sister's error quite plausibly. Another man, Double, looks just like him; moreover (and less plausibly), whatever happens to Brother also happens to Double, and vice versa. To prove his story Brother kills Double in the presence of Sister. Fearful that Double's mother, the witch, will want to avenge her son, Brother tries to fool the witch into believing that her son still lives. He plans to take over the role of Double. Brother marries Sister believing that such a marriage will be proof positive to the witch that he is her son. "She cannot believe that I would marry my own sister," Brother argues, "therefore she must believe that I am her son, Double."

In grabbing a message from the Oedipus-Amerindian "duet," Lévi-Strauss identifies three themes found in both myths: (1) INCEST: son-mother and brother-sister; (2) DOUBLE PERSONALITY OF HERO: Oedipus as dead child and as triumphant hero, and Brother as himself and as Double; and (3) A RIDDLE — implicit in the role "Mistress of the Owls"² and explicit in the Oedipus-Sphinx episode. Given these common themes Lévi-Strauss wonders: "Is this simply a coincidence: . . . that the same motifs are arbitrarily found together, or does the analogy have deeper foundations? In making the comparison, have we not put our finger on a fragment of a meaningful whole?" (1967:35). Wonder quickly turns to certainty and Lévi-Strauss presents the key to the puzzle: THE CORRELATION BETWEEN RIDDLE AND INCEST. This correlation "seems to obtain among peoples separated by history, geography, language and culture" (1967:37). The key lies in the meaning of riddle, and riddle, says Lévi-Strauss, really means A QUESTION WITHOUT AN ANSWER. That is, INCEST=RIDDLE=QUESTION WITHOUT ANSWER. And with a simple transformation we get a second "equation": CHASTITY=INNOCENCE=ANSWER WITHOUT A QUESTION. Finally by putting both "equations" together Lévi-Strauss discovers the message hidden in both myths.

Like the solved puzzle, incest brings together elements doomed to remain separate: the son marries the mother, the brother marries the sister, in the same way in which the answer succeeds, against all expectations in getting back to its question (1967:39).

The message presented (riddles and incest show that the impossible is possible) and the logic used to arrive at it — of a type that talmudic scholars call *pilpul* — provide much "pleasant puzzlement."³ And

² The Mistress of the Owls is often described in Algonkian myths as presenting heroes with riddles.

³ The classic *pilpul* story which illustrates the nature of this logic is, as Lévi-Strauss might have guessed, a riddle. Two chimney sweeps finished a day's work together. The first (S) is covered with soot, while his friend (C) has managed to stay quite clean. Who must wash? Obviously C, the clean one, must wash! When S looks at

unless we postulate that pleasant puzzlement=hidden law, the goal of myth analysis was here missed. Beyond the fact that the message dug out of the myths appears far from world-shaking, there is the matter of a shaky methodology: circling around a myth (so to speak) until the desired passage is found. One is inclined to accept Leach's argument: his ethnographic "worry" that Lévi-Strauss may have "unconsciously selected his evidence so as to fit his theory, very much as Frazer used to do. His evidence ILLUSTRATES his theory but suppose he had chosen other evidence: might not the whole argument fall to pieces?" (Leach 1970). "The whole argument" crumples somewhat, without the help of "other evidence." Let us reexamine data Lévi-Strauss provides for comparing Oedipus with the Amerindian myth.

Lévi-Strauss isolates three themes which hide messages; strangely, he interprets only two. Riddle "really means" A QUESTION WITHOUT AN ANSWER. Double identity hides THE TWO FACES OF THE HERO. But incest, (*à la* Gertrude Stein) IS INCEST, IS INCEST. Moreover in interpreting "riddle" we are given meanings which are better linked to the word "koan."⁴ Riddles have a wide appeal because they tease our intelligence. The tease here (as any tease anywhere) is a tough challenge which nevertheless has a solution. In the words of the *Oxford dictionary* a riddle is a "question, statement or description, designed or serving to test the ingenuity of hearers . . . [a] challenge." In Lévi-Straussian style, we could say that a riddle is A SOLUTION LOOKING FOR AN INGENIOUS HERO. Now, in both myths a solution exists: the sphinx can be answered and the Mistress of the Owls can be fooled; in both myths the solution and the ingenious hero meet head-on. The central message is almost ready to be grasped: INGENIOUS HEROES GRAB SOLUTIONS AND COMMIT INCEST. Clearly, "incest," like all critical items or themes in myths, is a bit of sense which hides "nonsense": it is a message coded in a form which means something like "personal tragedy." The message is now clear and (I believe) of some value: THE FATE OF INGENUITY IS SUCCESS: CONQUEST AT HIGH COSTS. The life histories of inventors, avant garde musicians, painters, writers, scholars, and other "ingenious heroes" well illustrate the truth of this message. Two equally plausible, but different, explanations coming from the same general approach to myth, using the same data, cast further doubt as to the existence of a Lévi-Straussian method for myth. Yet the critical passage clamors for further probing. Perhaps two myths are insufficient self-correcting devices to lead from chaos

C and finds him clean, he assumes that he too is clean. Why should a clean man wash? However, when C looks at S. . . . The phrase "pleasant puzzlement" was taken from Kroeber (1948) who doubted the value of the concept "structure."

⁴ A classic koan "question" illustrates the utility of defining THIS concept as a question without an answer: "What is the sound of one hand clapping?"

into order? Perhaps twenty, or two hundred, or two thousand? The presence or absence of self-correcting devices will be tested for by sampling some of Lévi-Strauss' "long distance" analyses. I will stop when additional work appears to provide minimal marginal returns.

ARIA "RAW AND COOKED"

The key or first myth (M_1), which leads Lévi-Strauss into nearly 200 myths, is a mother-son incest tale told by the Bororo Indians of central Brazil (1970:35-37). Digging into the meaning of M_1 , Lévi-Strauss present us with some general information about the Bororo including data on (1) settlement pattern; (2) social organization; (3) cultural theories; and (4) language. The latter in particular is considered of great importance since Lévi-Strauss expends much effort in attempting to understand the meaning of some special Bororo words. By going back to words the Bororo use in their myth —that is, going back to the "myth language" — Lévi-Strauss finds important clues to the meaning of the myth.

The hero is called *Gerguiguatugo*. This name . . . can be split up into: *atugo* "painted" "decorated," an adjective that, used substantively, refers to the jaguar; and *geriguigui* "land tortoise" . . . [or] *jerigigi* [the constellation Corvus] . . . The Tortoise is one of the eponyms of the Paiwe clan . . . to which we know the hero belonged. By virtue of the matrilineal law of consanguinity, it must have also been his mother's clan. His mother's name was *Korogo* . . . [a word much like *koroge* which] refers in fact to an enemy tribe, conquered and subsequently assimilated as a Paiwe subclan (1970:43).

The importance of treating the myth language with care is strongly stressed by Lévi-Strauss. Referring to a poor translation of M_1 , he writes:

It is regrettable that such liberties should be taken with the wording of a myth . . . a myth may well contradict the ethnographic reality to which it is supposed to refer, and the distortion nevertheless forms part of its structure. Or it may be the case that the myth perpetuates the memory of customs that have disappeared or still persist in another part of the tribal territory (1970:45).

As he did with the Oedipus myth, Lévi-Strauss presents M_1 in the simplest form which still communicates the story or surface message.

The initial theme of the key myth is the incest committed by the hero with his mother. Yet the idea that he is "guilty" seems to exist mainly in the mind of the father, who desires his son's death and schemes to bring it about. The myth itself does not render a verdict, since the hero begs for and obtains help from his grandmother, thanks to whom he survives all the ordeals. In the long run, it is the father who appears guilty, through having tried to avenge himself, as it is he who is killed.

A "curious indifference to incest" is the bit of "non-sense" which Lévi-Strauss finds in M_1 . This non-sense is the bridge that leads to M_2 , where a massacre committed by Bokodori is selected as the bridge leading to M_3 . When these three myths are compared ($M_1 M_2 M_3$), an important problem is found and solved. The changeover from continuous quantity to discrete quantity is achieved "by the radical elimination of certain fractions of the continuum." The removal of certain elements of a system implies a "remover." What happens to him, and why?

... the originator of the reduction is himself reduced . . . [shown to lack something]. Mythological figures who are blind or lame, one-eyed or one-armed, are familiar the world over . . . [because] just as a system that has been made discrete becomes logically richer, although numerically poorer, so myths often confer a positive significance on the disabled or the sick, who embody modes of mediation (1970:53).⁵

The positive value of flawed or "negativized" being and its inversion — negativizing a positive contributor (Achilles and his unfortunate heel, for example) — are important insights. And it is also useful to ponder on the relationships between CONTINUITY and DISCRETE QUANTITY since it is a problem which still plagues modern science. The methodological worry is still: how is it done?

The fact that "it was vengeance and not incest, that prompted supernatural sanctions" (a variant of the first bit of non-sense) is the bridge that leads to a new subset of myths ($M_4 M_{16} M_{150}$) and to a superior explanation of myths discussed (1970:63):

An excessive conception of family relations leads to a disjunction of elements that are normally linked. The conjunction is re-established thanks to the introduction of a mediatory agent, whose origin it is the purpose of the myth to explain: water (between heaven and earth); bodily adornments (between nature and culture); funeral rites (between the living and the dead); and disease (between life and death).

And this interpretation leads back to subset $M_1 M_2 M_5$ where heroes waste away for reasons now clear and interrelated. DEPRIVATION OF FOOD SUPPLIED BY SISTER (M_1) becomes DEPRIVATION OF A MOTHER WHO SUPPLIED FOOD (M_2) which becomes ABSORPTION OF ANTI-FOOD (M_5). Further, inability to retain food consumed (M_1) becomes inability to evacuate anti-food consumed(M_5).

While these conclusions are not inevitable they are reasonable and the "pleasant puzzlement" produced allows us to accept the incest

⁵ The Bororo solve the problem of THE CONTINUOUS BECOMING MORE DISCRETE by eliminating the most "insignificant" elements, thus giving the larger, more important ones more room to spread. This, too, is the solution used in some American ghettos, where sections are bulldozed out of existence to give high-priced apartment houses more room to spread out.

that Lévi-Strauss finds in all three myths: "normal" (penis to vagina) and "horizontal" (within one generation) in M_2 ; "normal" and "vertical" in M_1 ; and "abnormal" ("arrow" into anus) and "vertical" in M_5 . Finally comes the problem which leads to many additional myths.

It will be readily accepted that the sin committed by the hero in M_1 leads to a disjunction . . . between heaven [child] and earth [father] . . . where is the mediating agent in this case? (1970:64).

The reason a set contains such strange bedfellows as incest and food now becomes clear.

I propose to show that M_1 (the key myth) belongs to a set of myths that explains the origin of the COOKING OF FOOD (although this theme is, to all intents and purposes, absent from it); that cooking is conceived of in native thought as a form of mediation . . . between heaven and earth, life and death, nature and society (1970:64-65).

To understand the "cooking" side of the key myth, Lévi-Strauss picks up an additional theme therein ("the story of the bird-nester") which leads to myths concerning the origin of fire among the eastern and central Ge tribes (M_7-M_{12}). On the way a new theme is found — AFFINAL RELATIONS BETWEEN HUMANS AND ANIMALS — which leads to new myths (through M_{20}) and to the discovery of a hidden message; namely, givers:takers::birds:men::men:pigs. Gifts between affinals are really contrasts between nature and culture. Nature gets transformed into culture with the help of the jaguar (bringing the arts of civilization), and culture "degenerates into nature" when wild pigs (formally men) treat human women coarsely (promptly engaging them in sex).

What Lévi-Strauss does is now becoming clearer. A key myth (M_1) leads to the identification of several subsets ($M_1M_2M_3$, $M_4M_{16}M_{150}$, $M_1M_2M_5$) which lead to novel problems and/or answers which function as bridges to additional myths.

This procedure, says Lévi-Strauss, teaches us something about the relationship which exists between "content" and "form":

The detail I started from related to content, but as I have proceeded with the demonstration, the content has been, as it were reversed and has become form. This leads us to see that in structural analysis content and form are not separate entities, but complementary points of view essential for the deep understanding of one and the same object of study. Moreover the content has not simply changed into form; from being a mere detail in the beginning it has expanded into a system of the same type and the same kind of dimensions as the initial system in which it figured as an element" (1970:98).

Myths about a bird-nester (S_1 myths) led to myths about the origin of wild pigs (S_2 myths) and the journey (apparently) was worthwhile. "This procedure would be decisively confirmed," argues Lévi-Strauss,

"if the process were reversible." In actuality Lévi-Strauss does not really go "into reverse gear"; the next set of myths (M_{22} - M_{34}), which should start with the origin of pigs, starts instead with a myth about the origin of the jaguar and is followed by various origin myths. Moreover the fact that these will ultimately link up with the bird-nester myths is neither surprising nor a "demonstration" of anything because bird-nester myths too discuss origins. M_1 and M_2 each have "a Tugaro hero who creates either of celestial origin . . . [or of] terrestrial origin" (1970:50). As we jump from myth to myth we must sooner or later land on some which again deal with origins and which have a bird-nester. But for Lévi-Strauss, this is a "demonstration" which really proves that all the myths previously discussed are interrelated:

Tobacco smoke engenders wild pigs, which supply meat. In order that this meat may be roasted, a bird-nester has to obtain fire from the jaguar; finally, to get rid of the jaguar, another bird-nester has to burn its corpse on a fire, thus causing the birth of tobacco (1970:106).

The problem of shadow versus substance follows:

There is no more laughable situation, none more likely to cover the central figure with ridicule, than that of someone who sacrifices the substance to the shadow or struggles to grasp the shadow of his prey rather than the prey itself (1970:109).

This leads into a set of ORIGIN OF WOMEN myths (M_{29-32}). And after tricky logic (which includes finding a nonexistent disjunction and presenting us with the understatement of the book: "This last interpretation may appear far-fetched" [1970:118]) we get a set of myths connected to laughter and its consequences (M_{36-50}). These myths "establish a link between laughter and various forms of bodily opening," while some additional myths show a connection between laughter and the origin of fire.

The summary which follows soon hereafter is reasonable. All the myths attribute the origin of fire to an animal. Each species is defined in terms of the food it eats, including raw meat and rotten meat. And all the myths (somehow or other) account for the element of decay. It is therefore plausible⁶ to argue that the myths about the origin of fire

. . . function in terms of a double contrast . . . between what is raw and what is cooked . . . and between the fresh and the decayed. The raw/cooked axis is characteristic of culture; the fresh/decayed one of nature, since cooking brings about the cultural transformation of the raw, just as purification is its natural transformation (1970:142).

⁶ For methodological reasons we must note that Lévi-Strauss speaks not of plausibility but of PROOF: "It is thus confirmed that . . ." (1970:142).

The two axes both imply a life-death process; hence it is reasonable to jump to myths concerning mortality (M_{70-86}). These myths identify two basic problems and provide solutions:

Is it possible to avert death—that is, to prevent men from dying sooner than they want to? And, conversely, is it possible to restore men's youth once they have grown old, or to bring them back to life if they have already died? The solution to the first problem is always formulated in negative terms: do not hear, do not feel, do not touch, do not see, do not taste . . . The solution to the second problem is always expressed positively: hear, feel, touch, see, taste (1970:162).

After following Lévi-Strauss through 86 myths it is time to stop.

FROM MYTH (AND MUSIC) TO METHOD

Lévi-Strauss' game of mythological leap-frog is accompanied by two commentaries in contrapuntal fugue form. First we get the sweet sound of science: "permutations," "combinations," and "relations between terms"; "proofs," "demonstrations," and "deductions"; "rules" and (most *fortissimo*) "method." Moving in the opposite direction come the harsh notes of reality.

There is no real end to mythological analysis, no hidden unity to be grasped . . . It follows then that this book on myths is itself a kind of myth (1970:5-6).

And (since language is the primary code, myths the secondary codes)

. . . the present work is put forward as a tentative draft of a tertiary code, which is intended to insure the reciprocal translatability of several myths. This is why it is not wrong to consider this book as a myth: it is, as it were the myth of mythology (1970:12).

To get the real message from Lévi-Strauss we must do as he instructs: look for it "behind or beyond the text" and find its reality "in the best hypothesis" that comes to our minds (1970:6). Five such hypotheses follow.

H₁: *The Master plays his music too fast.* The truth will appear as we slow down the "recordings." WONDER quickly turns to "certainty" in Lévi-Straussian analysis; THINKING STYLE becomes "rules and methods" and ILLUSTRATIONS become "permutations" and "demonstrations." And, taken as a whole, some more or less vague GENERALIZATIONS are presented as "a method for myth analysis" or as "the structural study of myth."

H₂: Critical terminology must be carefully defined and thereafter used in a manner consistent with the definition.

H₃: The key concept, around which much analysis revolves, is "culture."

H₄: The Lévi-Straussian style of thinking, when explicated, formalized, and operationalized, will lead to significant advances in anthropological theory.

H₅: Revolutionary science thrives on conflict.

The Meaning of "Culture"

The question "what is culture?" is a chain with links to all my hypotheses (H₁₋₅). It slows down the Master's music by forcing a deeper probing (than Lévi-Strauss gives us) of his critical questions. (1) How do we go from nature to culture? (2) What is the price of this trip? (3) What is the opposite journey like (culture to nature) and how do humans tend to symbolize such "degenerations"? (4) Who or what reduces CONTINUOUS PROCESS (nature, eternity, immortality) with its "numerical" superiority into DISCRETE PROCESS (culture, time, mortality) with its "logical" superiority (Lévi-Strauss 1970:50-55)? "Culture," moreover, is the critical term in all of Lévi-Strauss' process analysis. Mediation, conjunction and disjunction, congruence, isomorphism, transformation and contrast: these and related concepts produce "pleasant puzzlement" because their central referent, culture, is left hanging in a definitional void.

As we get to understand culture better we can glean greater benefits from the amazing productiveness of the Master Mythologist and use the conflict he generates to more productive ends.⁷

"Culture," Kluckhohn and Kelly taught long ago (1945), is best described as

... historically created designs for living, explicit and implicit, rational, irrational, and non-rational, which exist at any given time as potential guides for the behavior of men.

Culture is not behavior, not the consequences of behavior (masks, totems, tools, weapons, etc.), and not necessarily rational (adaptive, functional, efficient, effective). Culture is a POTENTIAL GUIDE FOR ACTION; its mother is history or TIME and its father is continuity or ORDER. More often than not, man has an avoidance relationship with "culture." His behavior is "discordant": it is logically inconsistent with the guides that come from history. Such discordant behaviors as (1) not marrying a mother's brother's daughter (where one "should"), (2) eating on fast days, (3) circumventing mourning taboos, and (4) speeding while sober and/or drunk have all too INFREQUENTLY attracted our attention.⁸ As we spend longer time in the

⁷ The brief analysis on "culture" which follows is explicated in Freilich (1972).

⁸ See, among other writings on the nonfollowing of cultural guides, Firth (1939), Malinowski (1926), Opler (1947).

field, as our fieldwork practices are improved, and as we shed notions which equate cultural avoidance with GUILT, it will be easier to "see" the native manipulating his culture and loving it:

Petty pilfering is a daily affair . . . [as are] extramarital liaisons with everyone else of the opposite sex unless they are of different generations or are explicitly forbidden from such a relation by the incest taboo.

This datum comes not from "degenerate" man in a modern slum. Rather it refers to the Mehinacu, Arawakan-speaking tropical forest horticulturalists who live along the headwaters of the Xingi River, in central Brazil. As to statistics, their ethnographer, Thomas Gregor, tells us that "approximately one-half of the men of the tribe are considered to be witches from the point of view of the average Mehinacu" (Roberts and Gregor 1971).

Strangely enough, discordant activities (those inconsistent with cultural guides) are predictable and patterned. How are such regularities produced? Clearly, at least one additional guidance system—with guides which are not based on history or time—monitors our behavior. I call this second guidance system "smart-norms." Smart-norms are closely tied to space and (therefore) subject to critical, empirical investigation. Smart-norms are subject to rejection if they do not match such pragmatic criteria as efficiency and effectiveness. The acid test of whether a norm belongs to the category of SPACE (i.e. is a smart-norm) or to the category of TIME (i.e. is a proper-norm) is the child's question, "Why should I do X?" For example, the question, "Why should I marry my mother's brother's daughter?" has no reasonable answer. Hence the guide involved is a proper-norm. Compare the latter to the smart-norm, "Look both ways before crossing the road." The question, "Why should I?" has a reasonable answer, to wit, "If you don't, you may die."

It should be evident now that many of Lévi-Strauss' dichotomies gain richness of insight when framed within the proper-smart duality. Social life "in nature" (where learning rather than instinct is involved) is based on shared smart-norms. Hence "nature versus culture" is transformable into "the smart versus the proper." However, "nature versus culture" (Lévi-Strauss to the contrary) is not equatable to "animal versus human." Animal sociality is based on smart-norms. Human sociality is based on smart- AND proper-norms. In Levi-Straussian style we can say nature:culture::(smartness + 0):(smartness + properness).

We learn smart-norms (I suggest) to survive, physically. We need proper-norms (or culture) to survive, psychically. Properness "gives" the mind sanity, smartness gives the mind a body "to live in." The human dilemma is then, not "To be or not to be," but rather "To be

smart (and live) or to be proper (and think sanely)." Intuitively and brilliantly Lévi-Strauss presents "mind" as a digital computer: Every bit of reality is dichotomized: thesis-antithesis, substance-shadow, raw-cooked, wife givers-wife takers, loud-soft, and minus-plus. Why does the human mind keep creating binary oppositions? Because human reality is dualistic: time versus space, the proper versus the smart, survival versus sanity. Then why does the mind create "mediators"? Because the smart is constantly transformed into the proper, as time (repeated process) leaks into space (adaptive process). Here, then, we have finally returned to myth. For what Malinowski referred to as the "charter" function of myth is better considered as the transformation function of myth.

Myths must regularly and effectively transform the smart (S, that which seems to be effective, efficient, and spatially useful) into the proper (P, that which becomes convention, a rule followed for "its own sake"). How can polar opposites become one? How can two separate and distinct entities (discrete process) become a unity (continuous process)? Clearly the first step is "finding" a house located halfway between the conflicting pair: here the mediator is the message. The mediator (M), with the help of myth and time, transforms S into P.

But environment (space) keeps posing new adaptive problems, requiring new smart solutions. New smart-norms must be (initially) kept separate from old proper-norms. A different kind of mediator is required and found (as Lévi-Strauss well shows): a disjunctive mediator, a "middleman" who generates conflict, a halfway house no one can live in. The human dilemma around which so many myths weave their questions and answers now shows itself in great clarity. Survival or sanity; pragmatism or aesthetics; law or justice; function or meaning; nature or culture (Lévi-Strauss); space or time (Bergson); control or purpose (Rapoport); signs (which look outwards, i.e. to space) or symbols (which focus inward, i.e. to time; Frye); living in nature or living in history (Whitehead); sphere of life or sphere of mind (Teilhard de Chardin) and the smart or the proper.⁹

The human wants the best of both worlds. In myth language, he goes down (into space) and develops intimacy with pigs; and he goes up (into time) and develops intimacy with birds. But the bird-nester cannot (without conflict) have a pig as an affinal relative, just as Dr. Jekyll cannot live in peace with Mr. Hyde. We are now ready to utilize Lévi-Straussian ideas for the development of a method for myth.

⁹ For related discussions see Whitehead (1960), Lewis (1957), Morgenstern (1960), Teilhard de Chardin (1965), Rapoport (1968), Frye (1957).

Non-sense in Myth Strategy: The Birth Pains of a Method Called NIMS

What is it that Lévi-Strauss is trying to discover in his study of myth? He wants to know "How is it and why is it that men, who are part of nature, manage to see themselves as 'other than' nature even though, in order to subsist, they constantly must maintain 'relations with' nature" (Leach 1967:45). More simply, humans exist in SPACE and survive physically by utilizing numerous spatial phenomena (i.e. nature). However, humans also live in TIME, hence they accurately see themselves as "other than" nature. The two faces of man are mirrored by the two sides of myth:

. . . the dual nature of mythological thought, which coincides with its object by forming a homologous image of it but never succeeds in blending with it, since thought and object operate on different levels (Lévi-Strauss 1970:6).

In other words, the myth must deal with "objects"—phenomena which exist in space—and does so through the use of concepts which represent or form homologous images of objects. However, such thinking cannot hope to perfectly represent "objects" since "thought and object operate on different levels": time and space, respectively. In short, myths take space phenomena (objects) and transform them into time phenomena (thought). And such a transformation misrepresents objects.

Myths, Lévi-Strauss to the contrary, are NOT vehicles for the suppression of time; rather, they are vehicles for transforming space into time. Space and the adaptive problems it provides—solved by developing "smart-norms"—must be changed into time and its adaptive problems. Order, consistency, balance and harmony, rhythm and relationship—these and related phenomena fill the world of time. The strategy of life in nature, the smart, must be transformed into the strategy of life in time, the proper. In all transformations something gets lost, and so too here. In transforming space into time, myths lose, (or better—HIDE) the fact that man is just an animal living in a world filled with the unexpected and, frequently, with the tragic. In transforming the capriciousness of space into the orderliness of time, myths provide us with a major tool for self-deception, a tool that helps maintain sanity.

In transforming space into time, myths hide parts of nature and cover them with bits of culture, but they do more. Man, a halfway creature who lives both in space and in time—who is of nature and of culture—lives in a constant state of conflict. The rules of nature (the smart) contradict the rules of culture (the proper). With constant pressure from nature and from culture, man finds his pleasures in "acting out," in involvement with social conflict. Man loves myth, therefore, for much the same reason that he loves war. And

as the passive study of conflict decreases, we must expect the active involvement with conflict to increase.

By simulating the structure of human existence, myths do to nature what man does to his immediate environment: they hide and they reveal, they cover and they spotlight. To get at the structure of meaning in myth, the hidden must be uncovered. And to uncover the hidden we must know much about the "hider," *Homo sapiens*. A strategy for myth analysis must therefore begin with generalizations concerning the system, *Homo sapiens*.

Nature of Man

This thirst for objective knowledge is one of the most neglected aspects of the thoughts of the people we call "primitive." Even if it is rarely directed towards facts of the same level as those with which modern science is concerned it implies comparable intellectual application and methods of observation. In both cases the universe is an object of thought at least as much as it is a means of satisfying needs (Lévi-Strauss 1962:3).

1. Man has two major problems to solve: SURVIVAL and ORDER.
2. In concentrating on survival problems, man considers the universe as a means of SATISFYING NEEDS.
3. On concentrating on the discovery and imposition of order man considers the universe as a source of OBJECTIVE KNOWLEDGE.
4. Man's chief strategy for survival and for order is information processing.
5. Information considered useful for satisfying needs is defined by some expression like "the smart."
6. Information collected which is generally considered valuable as "objective knowledge" is defined by some expression like "the proper."
7. Smart-rules (demanding adaptation to space) put a premium on change since environmental conditions are always changing.
8. Proper-rules (demanding adaptation to time, i.e. providing order through continuity with the past) put a premium on non-change.
9. Conflict pervades all of human life since every situation is analyzable by two different and generally contradictory systems: survival or order, change or persistence, "smartness" or "properness," functional knowledge or objective knowledge.
10. Man develops a host of strategies to deal with the contradictions in his life; chief among these is a process called "hiding."¹⁰

¹⁰ Support for these generalizations can be found in Freilich (1972).

Nature of Myth

1. Myths simulate the structure of human life.
2. Simulating the structure of human life, myths present reality as consisting of sets of binary oppositions.
3. Myths attempt to resolve the fundamental human dilemma: to be smart and stay (physically) alive or to be proper and stay sane (henceforth referred to as S v P).
4. Myths attempt to resolve contradictions including:
 - 4.1. Contradictory smart-norms: $S_1 \vee S_2$.
 - 4.2. Contradictory proper-norms: $P_1 \vee P_2$.
5. Myths attempt to explain paradoxes including:
 - 5.1. $P \rightarrow t$ (i.e. why properness, at times, leads to tragedy).
 - 5.2. $S \rightarrow l$ (i.e. why smartness, at times, leads to losses).
6. Myths attempt to solve puzzles including phenomena for which no empirical solution exists (e.g. how things start, what happens after death, etc.).
7. Myths resolve dilemmas, contradictions, paradoxes, and puzzles by identifying mediators $M_1 \dots M_n$.
8. Mediators both separate and join conflicting ideas, since a mediator:
 - 8.1. Contains elements found in neither of the conflicting ideas.
 - 8.2. Contains elements found in both of the conflicting ideas.
9. Mediators dilute and multiply problems, paradoxes, etc.; for example, the difficult problem S v P, when mediated by M, becomes two simpler problems:
 - 9.1. $S \vee M$.
 - 9.2. $M \vee P$
10. The structure of a myth consists of:
 - 10.1. The sum total of all the paired opposites discoverable in a myth.
 - 10.2. The internal relationships amongst the paired opposites.¹¹
11. Simulating the structure of human life, the structure of myth both hides and reveals information pertaining to problems which plague the mind.

¹¹ Compare with the definition provided by Köngäs Maranda and Maranda (1971): "Structure can be defined as the internal relationship through which constituent elements of a whole are organized. Structural analysis thus consists of the discovery of significant elements and their order . . . A structural analysis should then be centered upon first discovering in the item itself pairs of opposites and a mediator capable of including them."

It seems to me that both they and I are saying the same thing: the significant elements of a myth are the paired opposites ($O_1 \dots O_n$) and the structure of meaning is therefore the sum total of all the relationships existing between these paired opposites.

12. Myths hide information by covering (what Lévi-Strauss calls) non-sense (messages presented in coded form) with amusing content.
13. Three types of non-sense exist in myths:
 - 13.1. cultural non-sense: information inconsistent with the myth culture.
 - 13.2. Empirical non-sense: information inconsistent with common experience (for example, a woman "coming out of" a man, as in Genesis).
 - 13.3. Stylistic non-sense: information presented in a manner inconsistent with the communication style utilized in composing stories of this genre.
14. The key subsystems which together comprise "a myth" are:
 - 14.1. Content: "history," a story which amuses.
 - 14.2. Structure: technology, paired opposites which carry messages.
 - 14.3. Hidden messages: instructions as to what is "proper" and what is "smart."
15. As myths weave together content, structure, and message they assist man in solving a fundamental human problem: transforming the smart into the proper.

Operational Rules for Myth Analysis for the Identification of the Structure and of the Message¹²

1. Myths are cultural productions, therefore close links must be maintained by the analyst between a given myth and its cultural setting (the "myth culture").
2. Maintaining close links between a myth and its culture (the "myth culture") requires the myth analyst to have an intimate knowledge of the myth culture.
3. An intimate knowledge of the myth culture includes the ability to understand the myth as it is told or written in the language of the culture in which the myth is used (the "myth language").
4. An intimate knowledge of the myth culture includes the ability to understand the general informational environment in which the myth belongs (for example, "Adam and Eve" is one story

¹² Structure and message are as intimately connected in myth as structure and meaning are in general linguistics. Continued separation between structure and message will lead us to the same dead ends in which many linguists are currently trapped. See Goodenough's very instructive paper (1971). König Maranda and Maranda (1971) also comment: "In the course of this study we have found that there is in our structural models a definite slot for the 'message' of the item in question, i.e. the psycho-social function."

- out of many found in the Pentateuch or Old Testament. It is suggested that this myth cannot be well analyzed unless the analyst has a firm comprehension of the Old Testament).
5. Since the purpose of a myth is to solve perplexing problems, structural analysis begins with the first problem the myth "discusses."
 6. Problem one must then be presented in binary terms.¹³
 7. Step two is to FIND THE MEDIATOR.¹⁴
 8. The next problem which the myth "tries to solve" must then be identified.
 9. Then we identify mediator 2, etc., etc.
 10. Discovery of problems (i.e. binary oppositions) and solutions (i.e. mediators) is facilitated by the identification of non-sense.
 11. Non-sense (coded information) includes information logically inconsistent with three subsystems found "in" the myth:
 - 11.1. Myth culture.
 - 11.2. Myth style.
 - 11.3. Myth society (the empirical world within which the myth "lives").
 12. A given sentence (M) may violate all three logical systems of (11). Such M information can be considered more full of non-sense than sentences which violate but one logical system. It is here postulated that all other things being equal, THE "MADDER" THE NON-SENSE, THE MORE HIDDEN MEANINGS IT CONTAINS.
 13. Three distinct systems deal with non-sense in its various levels of madness: the COMMUNICATION LANGUAGE, the MYTH LANGUAGE, and the THEORETICAL LANGUAGE. The communication language is the weakest interpretive tool the myth analyst owns, since its central purpose is not to discover hidden meaning but rather to communicate to an interested public what the myth analyst already knows. Serious problems arise when the communication language is used as a major interpretive tool. For example, in Genesis many things happen because God says certain words, such as: "Let there be light." The causal system here identified is linked to the concept "word." My communication

¹³ In time we should have consensus concerning (1) the basic types of problems myths deal with, and (2) how to translate them into structural language. For example, I suggest that the problem "Oedipus" attempts to answer (problem 1) is FATE (will of the Gods) versus PLANNING (will of man). Also that the first problem of Genesis is "How does nothing become everything?" (i.e. zero: everything:X:Y).

¹⁴ Following Lévi-Strauss, we can assume that if a problem as tackled in a myth admits of no mediation, then that problem becomes transformed into one which can be mediated. For example, in Genesis the problem ZERO:EVERYTHING becomes transformed into "What is the relationship between Elohim (a system with no body, no form, etc.) and nature (i.e. everything)?" (McKenzie 1960).

language is English, therefore I am tempted to ask (in Lévi-Straussian style), "What does 'word' really mean?" The better question, however, is, "What does *DBR* [the Hebrew root for "word"] mean?" *DBR* means "to get behind," "to drive," or "to push"; a concept which "tells" us that the right word changes phenomena, creates new forms. Such a meaning is absent in the English "word," a concept which derives from the Greek *logos*, whose root *legein* means "to put to order." The focus in English is on the orderliness words create, in the manner of a filing system which puts like things together.

14. Non-sense interpretation must therefore rely on:
 - 14.1. The theoretical language.
 - 14.2. The myth language and myth culture.
15. Theory, in the formal sense of the word as a logico-deductive system with predictive abilities, does not really exist in social science. Hence the analyst must rely heavily on:
 - 15.1. The myth language.
 - 15.2. The myth culture.

It should now be clear why the myth analyst must be able to handle the myth in its "own language" and be fully conversant with the myth culture.

TESTING AN EMBRYONIC METHOD

The analysis strategy I call NIMS has been applied to Genesis 1-3 with some degree of success.¹⁵ The "structure" identified (Figure 1) and the interpretation of the non-sense necessitate a retelling of Genesis 1-3 without its original non-sense.

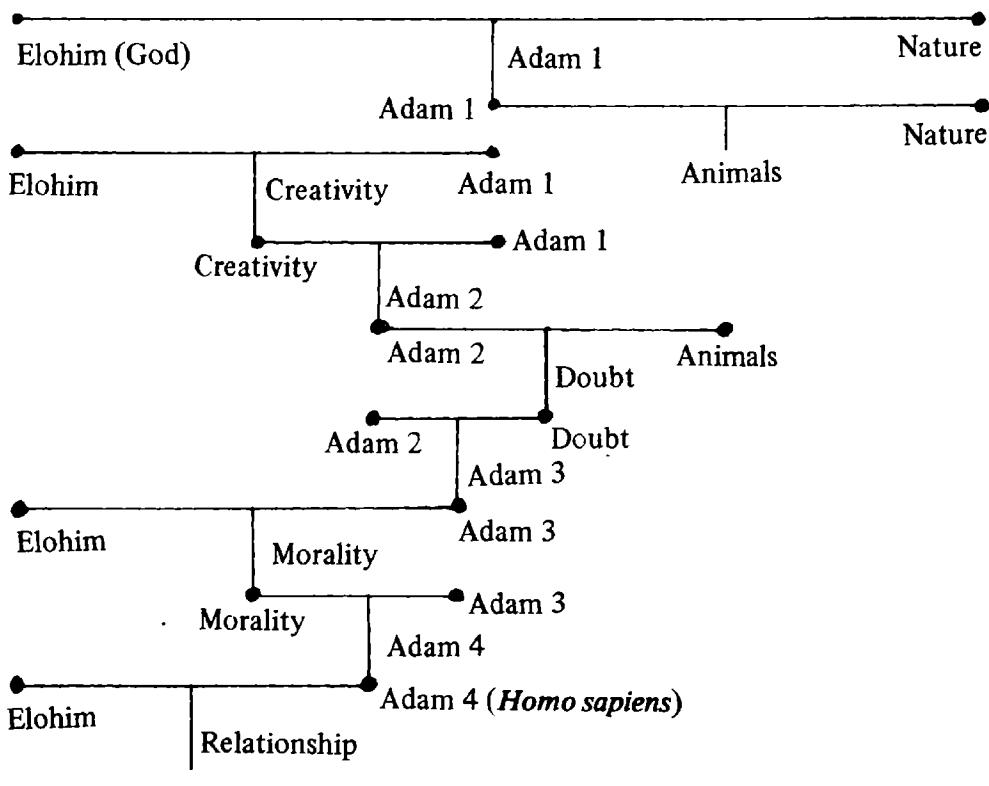
A lonely, order-loving God (Elohim) creates a variety of forms (nature) and then labels them with a nonnatural coding system. The work is called "good" and "very good." Having dichotomized all of creation (heaven, earth; land, sea) Elohim shows that he too has two parts: a numinous, infinite quality (symbolized by the tree of infinity)

¹⁵ See Freilich (1975). The paper has been read by a number of prominent structuralists with mixed responses. At least one bishop (Catholic) and several rabbis (Jewish; Conservative and Reform) have described the results as "extremely interesting" and "worthy of much thought." It is also worth noting that my analysis comes toward a metaphysical position similar to that assumed by Max Scheler just prior to his death: ". . . the highest Being . . . cannot find its own determination without the cooperation of man . . . I have heard it said that it is not possible for man to endure the idea of an unfinished God, or a God in the process of becoming. My answer is that metaphysics is not an insurance policy for those who are weak and in need of protection" (Scheler 1961:94). That the ancient myth makers of Genesis and Scheler (who after 1921 disowned his earlier religious ideas) show an area of agreement provides some extra support for NIMS.

and a moral quality (symbolized by the tree of good and evil). Creation did not solve Elohim's loneliness so he made an imperfect replica of himself in order to have "relationship." Adam 1, lonely like his maker, was put into a perfect place (ADAM 1:EDEN::ELOHIM: PERFECTION). Lonely Adam (Adam 1) was too animal-like to form a relationship with Elohim; instead he looked to the other animals for "friendship." Loving order, just like his creator, Lonely Adam "ordered" the animal world in the best way he could: he utilized a nominal scale. Adam 1 found no "friends" among the animals; he was too much like Elohim to find comfort in their presence and too much like the animals to be able to relate to Elohim. That is, ELOHIM:ADAM 1::ADAM 1:ANIMALS. Elohim wanted to bring Adam 1 closer to himself, so he gave him "creativity" (the non-sense better known as "Eve"). Lonely Adam embraced creativity and became transformed into Creative Adam (Adam 2). But the creative ability had not solved Elohim's loneliness, neither could it by and of itself do much for Adam 2. Still lonely, Creative Adam again looked to the animal world for companionship and found the smartest of the animals. That is, the serpent was a temporary mediator between Creative Adam and the rest of the animals (CREATIVE ADAM:SERPENT:: SERPENT:ANIMALS). This brief relationship taught Adam 2 how to doubt, and once he had mastered this lesson he again was transformed into a new being, Adam 3 — Creative-Doubting Adam.

Doubt when mixed with creativity makes a potent brew. For doubt actualized becomes "courage," and a creative, doubting, and courageous system is in constant search for new worlds. So too Adam 3, who "reaches" for the world of morality. Adam 3, urged on by creativity ("Eve") took the leap out of the world of space (with its rules for "smart" living) and into the world of time (with its rules for "proper" living). Adam 3 had found morality and had thereby transformed himself into Adam 4 — Moral man, *Homo sapiens*.

Coming "down into" space again — realizing that much of himself was "animal" with the same needs of sustenance as other animals, Adam 4 did what humans do the world over: he hid. In other words, "hiding the animal" is a major game in human attempts to maintain sanity. Adam 4, now human, had to hide. Elohim, temporarily unconcerned with Adam's new psychic problems, approaches him with the full force of his "raw" or numinous power. Noticing Adam's existential situation, Elohim covers his own "nakedness" (raw power) with the most expensive quality found in the world of time: morality. But Adam's nakedness is covered by the least expensive phenomenon found in time (i.e. in culture): manufactured clothing. Moral man (Adam 4) could not (as yet) relate to Elohim's



Legend:

- binary “opposition”
- | mediator

Figure 1. The structure of meanings in Genesis 1-3

numinous quality (symbolized by the tree of infinity). But, having courage, creativity, and the power to doubt, he might be tempted to relate to it. Adam 4 must be sent out of Eden where everything is finished, so that he can utilize his newly acquired talents. Out of Eden Adam 4 can build his own world.

In Genesis 1-3 the non-sense messages go far beyond providing an explanation for creation. Myths, modeling the human mind and its productivity, ramble on:

1. Words can transform an environment and create order and beauty.
2. Loneliness lies behind creativity.
3. Creativity begins with chaos.
4. Creativity finds its peak in relationship.
5. A perfect place can never be paradise for a creative system.
6. Creativity leaves man “in” nature.

7. Creativity when energized by doubt leads to morality.
8. Morality is born in decision making: in challenge instead of security.
9. Loneliness led Elohim to create and led to the God-human relationship.
10. Loneliness led Elohim to surrender omnipotence for relationship.
11. Everything evolves: Elohim, man, morality, relationship . . .
12. Relationship involves revealing and hiding: Elohim reveals his numinous quality and then hides it with morality; Adam 4 hides his animal background and then reveals his morality.
13. Transformations involve some losses: man pays for morality with death; Elohim pays for relationship with loss of omnipotence. Empathy with Adam 4 and morality now monitor Elohim's actions.

Genesis, congruent with the rest of the Torah, presents an evolutionary message quite similar to that found in the writings of Teilhard de Chardin (1965). In pointing out the losses which go along with the gains in major transformations, the text appears to use good thermodynamic thinking.

WHITHER MYTH ANALYSIS?

Like others who create myths, much of what Lévi-Strauss says about myth is redundant, enigmatic, and hence subject to much interpretation. Like other myths, those developed by Lévi-Strauss hide as much information as they reveal. But this is no serious charge. Every analyst, not just Lévi-Strauss, is also a myth maker; for all of us are involved in the most human of games: hide-reveal. A given analysis, like a spotlight focused on a dark area, puts much which is of importance clearly in focus, but leaves surrounding areas more hidden than before. What we must guard against is his tendency to call his myths "method." Let us therefore take from him only what he can give.

Everything of importance, Lévi-Strauss instructs, COMES IN TWOS AND IN CONFLICT. I have found this to be a valuable hypothesis that need not be linked to the fundamental nature ("structure"?) of the human mind. Acting AS IF a given structure were made up of binary pairs and their mediators has assisted me in identifying messages that scholars of divinity have found of some value. And in this endeavor I have also derived benefit from Lévi-Strauss' views that myths hide their basic messages in non-sense. Eve "popping out of" Adam (a curious switch in human reproduction), a talking serpent, a God who

quickly changes his anger to repentance and provides gifts when his orders are disobeyed — these and other bits of non-sense beg for interpretation. But the latter is only possible when we know what represents "sense." My initial identification of three types of sense systems — linguistic, cultural, and empirical — needs much refinement. And this work can be much aided by utilizing Jason's analysis of thirteen coordinates which underlie oral literature (1969).

Myths, Lévi-Strauss teaches, provide solutions to problems which plague the mind. Nowhere, however, do we get an adequate definition of "myth." Nor are we ever told how to identify the problems that given myths "solve." How do we find, in a "scientific," reproducible manner, the first problem of a given myth? How, very precisely, do we translate this problem into a "binary opposition"? What can we do about the fact that some "binary opposites" (life and death) are true logical opposites — denying one automatically affirms the other — while others (father and son) represent but a way of contrasting two phenomena? How can we be sure that we have discovered the "mediator"?

Following the logic of Jason's analysis (1969), a given myth could be considered as having structures on several different levels: the level of texture, the level of narrative plot; perhaps also the levels of message, value system, temporal and spatial aspects are patterned too. Lévi-Strauss addresses himself to the level of message. Can we build a master model, i.e. "the structure" which has those various levels as substructures? Is it possible to relate methodologies based on Lévi-Straussian ideas with models developed by Nikiforov (1927), Propp (1968), or Jason (this volume)? Answers to these and related questions should keep us both amused and busy for quite a while. Hopefully, such answers will transform structuralism from fad to science.

Along with Lévi-Strauss we can say:

But if the structural analysis of myth has any future, the way in which it chooses and uses its concepts in the initial stages must be subjected to SEVERE criticisms. Each term must be defined afresh and limited to a particular use. Above all the rough classifications which I have used because they were the instruments that came to hand must be refined by analysis into more subtle categories and applied methodologically (1970:30; emphasis added).

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Scandinavian Mythology as a System of Oppositions

ELEAZAR MELETINSKIJ

The purpose of the present study is not to give a new interpretation of Scandinavian myths based on a critical revision of the sources, but to outline patterns governing the systematic arrangement of certain mythological concepts as they appear in Younger Edda and Elder Edda. The system which may be elicited from the Scandinavian mythology is composed of two spatial subsystems, a horizontal and a vertical subsystem, and two temporal subsystems, a cosmogonic and an eschatological subsystem.

THE SPATIAL SYSTEM

Within the spatial system, the horizontal anthropocentric system is built on the opposition between the populated enclosed middle part of the earth (Midgard) and whatever is found beyond its limits, outside the enclosure, a sphere both inimical and devoid of culture (Utgard). The Midgard-Utgard opposition is, undoubtedly, a realization of the elementary semantic opposition of "own" versus "alien." It also implicitly reflects the opposition of order versus disorder, center versus periphery, close versus remote, town versus desert, home versus woods. As in the horizontal model, the sky (Asgard) is not practically opposed to the earth, and the abode of deities is topologically inseparable from Midgard. In narratives, Asgard and Midgard usually appear as alternatives.

On the strength of the dual opposition center versus periphery and

This paper is a condensed version of the article "Scandinavian mythology as a system" which originally appeared in two parts in *The Journal of Symbolic Anthropology* 1:43-58 (1973) 2:57-78 (1974).

land versus water, Midgard is contrasted to the wide ocean surrounding the earth. Midgard is the home of Jörmungand, the dragon of Midgard. The very name of the dragon of Midgard may serve as an indication that it was perhaps regarded as a positive element of the general cosmological system. However, Scandinavian mythology, with its attraction to eschatology, sees Jörmungand as yet another chaotic power harnessed by the deities. Midgard and Asgard are contrasted to Hell, the realm of death, Midgard and Asgard being located in the south and Hell in the north. On the basis of the oppositions center versus periphery and west versus east, Midgard is contrasted to the giants' country of Jotunheim (practically identical to Utgard), located on the verge of the earth, in a wild and rocky desert. The giants' country is sometimes conceived of as also extending northwards, most probably as a result of the conventional demonical nature of the north in Scandinavian as well as many other Eurasian mythologies. The south is regarded as demonic only in the eschatological model of Scandinavian mythology where it is the habitation of the fiery giant Surt. The horizontal cosmic model provides a spatial setting for the numerous epics about the adventures of the Aces, seen as a conflict between the Aces and the giants (Jotuns and Turses), and only partially between the Aces and the dwarfs (Zwergs and black Elves). The deities and giants are portrayed as being in a state of continual warfare, chiefly due to Thor's innumerable eastbound expeditions in which he batters the giants. Thor stands out also as the world dragon's chief adversary. Eddic poetry represents Thor as almost wholly devoted to the protection of "his own people" from foreigners and deities, from giants and demons. This pattern fits the horizontal projection of the cosmos. The struggle against giants may often be waged over the possession of women (a goddess is the giants' permanent object of desire) and miraculous objects (sources of affluence and renewal) produced by the high workmanship of blacksmiths and dwarf-craftsmen for the deities. These goods are circulated among deities, giants, and dwarfs chiefly through the efforts of the mythic rogue Loki, who travels with ease from one world to another maintaining a kind of shamanic mediation between them though, of course, his role as a mediator is confined within the bounds of the horizontal cosmic model. The concept of dwarfs who are named after the four parts of the world (north, south, west, east) and who support the firmament at the corners of the universe, forms part of the horizontal model, although it is somewhat isolated.

The center of the vertical cosmic model is the world tree Yggdrasil, the ash tree, which connects the sky and earth, the earth and the lower world, dividing the universe on the vertical axis into three parts by the double opposition of top and bottom. The trichotomous vertical

division is aptly represented by the zoomorphic series localized on different levels, with the eagle at the top of the tree, the dragon gnawing the roots, and deer nibbling the leaves on the middle level. The squirrel who runs from the dragon to the eagle is a zoomorphous mediator between the top and the bottom.

The concept of the cosmic tree connecting the various parts of the universe is specifically related to concepts of shamanism. Odin passes through a patently shamanic initiation in being first pierced through with a spear and then hanged on the tree for nine days. This emphasizes the role of the world ash tree as Odin's "horse." Apart from Odin, there is another figure closely related to the world tree, namely, Heimdal, the guard of the deities, and perhaps originally Odin's anthropomorphic incarnation (or even a zoomorphous one?). Indeed, Heimdal possesses a horn which he blows and from which he drinks mead, though the epithet "steep-horned" indicates perhaps his apostasis as a deer (the latter being inseparable from the world tree in Siberian shamanism). The cosmic tree is also the tree of life and the tree of fate. It is evergreen; along it drips downward the life-giving honey or milky dew which feeds the springs at the roots (the master of which is Nimir). From these springs the Norns, in turn, spray the world tree (opposition of damp versus dry like live versus dead).

The Siberian parallel throws some light on the way in which the world tree is organically linked with the idea of genesis and birth. This refers not only to the birth of shamans but of men in general (hence the tree-related images of human origin such as the "embryo" of people from the ash tree and the willow in the Scandinavian myth). The epitome of the relation between the idea of birth and the cosmic tree is the Norns, who may be compared to the female spirits of the shamanic tree who give souls to new born humans or protect deliveries. Norns have specific functions as midwives or donors of personal fate (opposition of fortune versus misfortune). In fact, the destiny of the world and the gods themselves is tied to the cosmic tree.

The tree top, which is in heaven, is the gathering place of deities. In heaven is located the permanent abode of deities (Asgard) as well as a special realm of the dead, ruled by Odin (Valhalla). There Odin receives the souls of heroes who fell bravely in battle. Decisions on fates in the battle are taken by Odin and the Valkyries.

Niglheim, the last refuge of the ordinary dead, is located deep down below the earth. The differentiation and opposition of the upper versus lower realms of the dead and, accordingly, of Valkyries versus Norns are important to the vertical cosmic model. Thus, along with the opposition of life versus death, the vertical cosmic model produces the opposition of two kinds of death and an opportunity for a kind of mediation between life and death and, finally, for the regaining of life

through war and death. In the myths about Odin, war is conceived as a mediator between life and death, a mediator which works in both directions. The giants are practically nonexistent in the vertical model, apart from the casual mention that people, giants, and Hell are found under the roots of the ash tree.

Certain correspondences exist between the vertical model and the horizontal model. These correspondences may be conceived as transformations. The main link between both models is the equation of north and also east with bottom (the location of the realm of the dead and, more generally, of chthonic demonic forces). The meaning of the water element (sea) is largely negative in the horizontal model, and positive in the vertical model when it appears as springs. Jörmungand shows some measure of equivalence with Nidhöggi gnawing the cosmic tree roots. The vertical model does not include Loki's shamanic mediation between the Aces, giants, and dwarfs, and the shamanic functions are performed only by Odin. The vertical model gives an extensive description of the celestial world of deities and the celestial "happy" realm of the dead. The opposition of deities versus giants and the struggle against the latter is actually missing. The contrast between the deities and the giants may to some extent be construed as corresponding to the contrast of the realm of the deities to the realm of the dead and of the chthonic forces. While in the horizontal model the opposition culture versus nature is most pronounced, it is the opposition cosmos versus chaos that comes to the fore in the vertical model.

An example of a transformation from the horizontal to the vertical model may be found in the story of the acquisition by Odin of the sacred mead which bestows poetic inspiration and wisdom. The Younger Edda narrates how Odin stole the mead of poetry from the cliff where it was guarded by Gunnlöd, the giant Suttung's daughter. Odin spent three nights with her, for which he was allowed to drink the mead which he then "spat out" as soon as he was back in Asgard. The entire story unfolds, as it were, in the horizontal projection against the background of the Aces' perpetual struggle with giants who live on the ends of the earth among cliffs and rocks. There is only one implicit turn of the plot related to the vertical pattern of the world: Odin finds his way to the cliff as a dragon, but comes back to Asgard as an eagle. Bearing in mind that the eagle and the dragon represent the upper and the lower levels of the world tree, its top and its roots, the celestial abode of the deities and the chthonic sphere, we can identify this episode, i.e. the transformation from dragon to eagle, with the vertical (downward and upward) travel along the tree. In the mythology of many nations, the cliff (mountain) is analogous with the world tree; accordingly, Gunnlöd, the mistress of the cliff

and the mead contained therein, appears to be in remote connection to the Norns who live at the tree roots, near the sacred spring. Gunnlöd's father Suttung can be likened to Nimir, the master of the honey spring at the roots of Yggdrasil, or even to Heimdal, the guardian of the world tree, Nimir's anthropomorphic counterpart. Thus, as transition is made from the horizontal to the vertical model, the cliff turns into the world tree covered with the life-giving mead and fed from the honey spring. Accordingly, Odin receives a mouthful of the sacred mead after he has volunteered to be hung on the world tree and has made some self-sacrifice. During the transition from the horizontal to the vertical plane, the culture hero turns into the first shaman and passes through an excruciating initiation after he has stolen the mead from its original guardian (the motif of the cosmic tree is specifically related to shamanism). The stealing of the mead from the giant (with the help of a cunning trick) is transformed into a gift from the giant after a ritual initiation. The liaison with the giant's daughter is transformed into an honorable kinship with the giants on the maternal side. Accordingly, a change occurs in the treatment of the giants themselves: instead of being the stupid ogres of the fairy tale, they emerge as the guardians of ancient wisdom who conduct the initiation of their grandchildren and give not only mead, but also the magic runes.

THE TEMPORAL SYSTEM

In the course of time, the cosmic model bifurcates into the cosmogonic and eschatological subsystems. A certain asymmetry between them may be ascribed to the fact that the eschatological aspect pervades the whole of Scandinavian mythology.

The cosmogonic mythology of the Edda (which is not all a sum total of independent etiological myths) depicts a process whereby the world has emerged from the void (presumably the primordial abyss Ginnungagap), cosmos created from chaos. The motif of the origin of the earliest anthropomorphous beings is broken down into the stories of the first giant Ymir who sprang from ice, the procreator of deities Bur (literally a "parent") from a stone which the cow Audhumla used to lick, and the earliest human beings from chunks of wood revived by the Aces (Odin, Lodur, and Honir). Thus the motif of the origin of anthropomorphous beings assumes a systematic arrangement, inasmuch as the giants, deities, and humans have their counterparts in a series of solid natural substances (ice, stone, wood). In addition there is an indication of the progressively growing role of the demiurges, a trend from spontaneity to organization. The sacrifice of Ymir by Bur's sons and the subsequent creation of the world from his body

parts (earth from his flesh, sea from his blood, sky from his skull, and mountains from his bones) is the supreme act of creation, the elevation of chaos into cosmos.

Among the cosmogonic myths there are several which are related to eschatology, namely the story of the harnessing of the mythic monsters borne by the giantess Angrboda to Loki. These are the world dragon Jörmungand, the mistress of death Hel, and the wolf Fenrir. The Eddic myth of the golden age (when the Aces made everything of gold, played dice, and rejoiced) perpetuates the moment before the advent, in the newly created cosmos, of that "inner curse" which was to ruin it later. The etiological myth about the first war (between the Aces and the Vans) already heralds the forthcoming death, because of the breach of treaties and vows. The role of death is even more significant because the Vans are in a way related to the ritual of fertility, prosperity, and wealth.

The myth about the creation of humans states that they were created without breath or fate. The Aces revived them whereas fate seemed to have been granted to them by the Norns, who appear only at the end of the Golden Age. Fate, the important element in Scandinavian mythology, is a necessary component of the organized world order, but it also spells out the possibility of peril not only for individual humans, but for the gods and the world as a whole.

Finally, the myth about Baldr, central to the ancient Scandinavian mythology, is in essence an etiological myth about the origin of death. It is also a prologue to the tragedy of the end of the world, a proper introduction to the Scandinavian eschatology. While the sacrifice of Ymir amounted to the transformation of chaos into cosmos, the sacrifice of Baldr prepared the ground for the reversal of cosmos into chaos.

In part, eschatologic myths represent a mirror image of cosmogonic myths (this mirror-like relationship is a significant feature of the two subsystems). The story of the harnessing of chthonic monsters has its opposite in the story about their release and battle with the deities. Come what may, Thor still remains the chief adversary of the world dragon; Heimdal fights with Loki (as they once did in the guise of seals when contesting Freya's jewel); and Tyr challenges the chthonic hound Garm, whose twin Fenrir he used to tame in the past (the Ace Odin is now fighting Fenrir). Land previously lifted from the sea now sinks down again; stars put by gods on the sky plummet downward; the sun which the Aces had specially installed to give light is extinguished; ice and fire, the substances whose interaction brought about the world, now destroy the universe.

The eschatologic subsystem is markedly closed. Some of its features are at variance with the cosmogonic mythology and the myths about

the wanderings and adventures of gods. Thus, in some myths Loki and Odin join forces and nearly duplicate each other functionally, while in eschatological myths they are sharply contrasted to one another. Odin, the father of the gods and of Baldr (who was the leader of the Einherjar), is opposed to Loki, the father of the chthonic monsters, the pilot of the ship of the dead who planned Baldr's murder. Odin and Thor often alternate with each other in the stories describing cosmogonic acts (Odin lifts the earth and Thor draws the dragon of the middle earth) and in the adventures of gods. They act together on the eschatologic plane. The Aces and the Vans, deities of farming, while opposed in cosmology, are fused into one in eschatology. Finally, the dwarfs, who are partly contrasted to gods, fear just as the latter do the invasion of chthonic monsters on the eschatologic plane.

THE INTERRELATIONSHIP OF THE TWO MODELS

The interrelation of the spatial and temporal models poses a problem in Scandinavian mythology. The image of the earth surrounded by the sea is derived from the conception of the earth's cosmogonic emergence from the ocean and its eschatologic submergence into water. In the process of cosmogony, the Aces are contrasted to the giants on both the temporal and the spatial axis: the giants appear before the Aces, and the Aces kill them in order to create a world from the body of one of them, Ymir. On the spatial axis this contrast is revealed by the opposition between Asgard and Jotunheim which engage in continual warfare. Instead of the key role being played by Odin, the creator, it is played by Thor, the warrior. This extension of the same opposition over space as well as time, the existence of two subsystems, spatial and temporal, is characteristic of poetic thinking. It will be noted, however, that the above-mentioned convergence between cosmogony and cosmology belongs only to the horizontal projection. In plots unfolding in the horizontal projection, the progress of time is not so tangible, because they are built on the cyclic principle. They describe cyclic circulation of goods among various classes of mythic beings (though these themes are genetically myths). Thus, the sacred mead passes from the Aces to the dwarfs, from the dwarfs to the giants, and back to the Aces again. The enmity between the Aces and the giants provides a background for the adventures of Odin, Thor, and Loki, but the general cosmic situation remains unchanged with time.

The vertical spatial model is more sensitive to the irreversible temporal processes, for the cosmic tree is a concentration of the world's fate. Generally, the cosmic tree is the most significant element

in eschatologic pictures, though it is largely divorced from cosmogony. The concept of the world tree provides in effect an alternative to that of the creation of the world from parts of the body of an anthropomorphous being. Redundancy is compensated for by the fact that the theme of the world creation from Ymir's body never extends beyond the cosmogonic framework: it is as if the world has indeed been created from Ymir, yet its structure is further determined not by the shape of a human body but by that of a tree.

THE SYSTEM OF THE MYTHIC ACTORS

The deities as one group of mythological beings are opposed to the giants (Jotuns, Turses) and the dwarfs (Zwergs, black Elves), as well as to certain other classes of female beings such as Norns and Valkyries, which are inferior to the Aces. The giants and dwarfs associate with the Aces rather than with each other. One important distinguishing feature is height (i.e. giants and dwarfs are taller or shorter than the deities or humans). This accounts perhaps for a peculiar balance in the narratives of the Aces' adventures: Aces always confront one giant but two dwarfs, the giants are more often challenged by two or three Aces (Thor or Odin with their associates), while Loki alone confronts the dwarfs.

The Vans (who seem to be identified with the white Elves, hence the common alliterative formula "Aces and Elves") confront the Aces as a limited group of deities who are associated with agrarian cults through certain secondary patterns. The Vans possess magic and the gift of prophecy as well. Though the arts of magic and prophecy are attributes of Odin, love of peace an attribute of Baldr, and agrarian welfare an attribute of Thor, i.e. genuine Aces, it is the Vans alone who show a combination of all three attributes together.

Odin is an ever-present party in the matters of creation, sometimes with Loki as a coparticipant. Odin alternates with Thor in the adventures with the giants, and Loki can act as a companion to either. The groups of Odin and Thor are opposed in terms of the number of participants involved. From the viewpoint of mythological type, the difference between Thor and Odin appears to be that of culture hero (Odin) and hero (Thor) who cleans the earth of chthonic monsters (cf. Prometheus versus Hercules). Odin's shamanic ecstasy is contrasted with Thor's combatant wrath. At the same time, Thor, when armed with a hatchet or hammer, is opposed to Odin with the spear, a symbol of military power and military magic. While Thor is a prototype of armed freemen, Odin is a prototype of a body of

professional warriors. While Thor, like so many epic heroes, defends "his own folk," i.e. humans and deities against "foreigners" (i.e. the giants and chthonic monsters), Odin is the inciter of discords and wars between humans in his function of the giver of military luck. As a patron of initiations, Odin allows occasional deaths among his fellow warriors, but these are but a temporary death in the overall ritual, to be followed by the superlife of the Einherjar in the myth.

In effect, Odin, Thor, and Loki are the only three active characters of the mythic epic. They are also endowed with a certain epic personality. Thor possesses the immense epic physical power (its other manifestations are his wrath, gluttony, etc.). In that sense he is contrasted to the wit and guile of Odin and Loki. The opposition of Thor to Loki is that of strong versus tricky. Loki, as Thor's companion and aide, possesses the cunning necessary for the success of his undertakings. Loki appears as the comical counterpart of Odin in cosmogonic myths but as his evil antagonist in eschatological myths. Odin's wit, a combination of lofty wisdom and lowly perfidy, clairvoyance, cunning, and omnipotent witchcraft, is wider than Loki's guile and artifice. When Odin and Loki operate jointly, Loki carries out either their common objective or one of Odin's designs (such as the theft of Freya's necklace, which caused her to spark off animosity between two heroes, or the robbery of the dwarf Andvari's gold).

Tyr's military function is, in fact, that of upholding order: he is the one who tames Fenrir, the foremost chthonic destructor. Tyr is opposed to both Odin, the inciter of feuds (law against luck) and Thor, the tempestuous warrior, who always defends "his folk" from the external forces of chaos. Odin, Thor, and Tyr are continually in touch with each other as specifically celestial deities (the celestial localization is perhaps the permanent feature of the pantheon as a whole). The relict and etiological features mark Tyr as the primordial "master" of the sky (like Dios-Zeus) while Odin emerges only later as the principal celestial deity and the principal antagonist of the tellurian chthonic monsters, primarily Fenrir the wolf.

The Eddic narrative plots constitute a semantic system which developed in a certain way from the syncretism of etiological myths. The system comprises a number of complementary parts (such as the mythic symbolism of mead as the embodiment and source of wisdom and the source of physical renewal, the perpetual renewal of food sources).

The theme of obtaining the magic drink (food) is broken down into paradigms (such as sacred-profan, content-container, i.e. internal-external, liquid-solid) and distributed among several characters (Odin, Thor, Loki). Specific narrative cycles are associated with them such as

the myths about the culture hero and gallant warriors, and the mythological anecdotes about the trickster's frolics. Since each of these cycles relates the same basic plot, by telling the plot in three different ways it becomes possible to overcome the redundancy of mythic information.

Content Analysis of Oral Literature: A Discussion

HEDA JASON

Recently, content analysis has seemed to gain popularity in the same measure as the use of computers in anthropology has grown (see Hymes 1965). A discussion of the working methods, the goals, and the results of content analysis therefore seems useful. Some time ago a critique was attempted by Dundes (1965) but so far no attention has been paid to it. In his brief review, Dundes raised many of the points which are here discussed in more detail. It has not been possible, however, to dwell here on all minutia which merited comment; only the main points have been singled out for discussion. The reviewed writings are not always clear and explicit. Many of the premises in the works to be discussed have had to be inferred. We hope that the guesses are correct. If we have not succeeded, we would be glad to be corrected by the authors discussed, and to hear their explications of the obscure.

We are in some sense "outsiders," as Maranda says (1967a:77), and do not engage in content analysis. Instead, we have had the opportunity to work with oral literature; and as oral literature is the object under analysis, our familiarity with it may help us to understand the work content analysts do.

1. TECHNICAL PROBLEMS

Let us start with some rather pedestrian matters: the technical and

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text critique questions. We found Colby et al., for instance, disposing of technical difficulties such as the problems of using translated texts, the mixing of different types of tales, the lapse of time between the recording of diverse texts used, and the problem of lexical ambiguities (1963:318). In spite of this we think it useful to take a closer look at such problems.

1.1. *The Sources*

What does the content analyst say about the sources of his material? Regrettably, in the examined papers the exact sources of the folktale texts which have been used are missing. We are not told which texts from the quoted collections were utilized. Maranda is a little more explicit when he states that he has utilized all the texts in his collection (1967b:9), but when analyzing a particular text he fails to say which one in the collection it is. This practice of dispensing with exact sources makes control of the finished work or repetition of the experiment difficult. Both these procedures should be fairly basic requirements.

1.2. *The Choosing of Texts*

Most investigators do explain in each case how they choose their texts. While Maranda used all available texts (1967b:9) and Colby used equal quantities of continuous texts from each culture with which he worked (Colby et al. 1963:318), Kalin et al. made an elaborate selection (1966:571). First, they chose the societies they wanted to work on. They carefully selected "cultures . . . whose location, relative to one another would tend to discourage transference of folktale themes" (1966:572). This criterion is based solely on the contemporary geographical factor. Yet what happened on the time axis? Could not, for example, tribes and smaller groups, even individuals, migrate and on their way come into contact with other groups? Or could not a migrating group serve as a link between two stationary ones? Before deciding whether or not two groups really have been in contact, an examination of their past would presumably be necessary. This is often not possible because of lack of documentation. However deplorable this may be, such lack of documentation does not thereby allow us to solve the problem negatively.

As their second criterion, Kalin et al. considered the "different linguistic affiliations" (1966:572) of the societies they included in their sample. Yet it is known that linguistic boundaries have no relation to

folktale distribution. For example, all of non-Mediterranean Europe has a rather similar folktale repertoire, although the linguistic affiliations in the area are quite diverse. The same can be said about the Mediterranean and Near Eastern countries, where Romance, Slavic, Semitic, Iranian, and Caucasian languages are spoken. The folktale repertoire, however, is fairly similar in content and style throughout the area (see the table in Jason 1966a). To add to the difficulty, the cultural boundary, and with it the boundary of the typical folktale repertoire between the Mediterranean and the rest of Europe, runs straight across the Slavic-speaking territory of Yugoslavia, following the old frontiers of the Ottoman Empire. Thus, the language affiliation would not be a sufficient indicator of cultural originality and independence.

1.3. *The Size of the Sample*

What is the size of the sample used to represent a society? Colby et al. took 9,000 words of tale text from each society they wanted to work with (1963:318). Kalin et al. chose ten to fourteen tales per society (1966:571). Maranda used all the available texts from four societies, which amounted to 135 in all (1967b:9).

In order to get an idea in what measure, for example, ten or fifty folktales are representative of a society's repertoire, one may want to have a little more data. For example, how big are the societies from which the samples are taken? How many narrators does such a society have? The number of capable narrators in a society depends, of course, in some measure on the size of the society's population. Even the smallest total society (or a village unit of a larger society) will have several narrators, otherwise the community obviously would not be able to perpetuate its oral tradition.

The next question deals with the actual number of tales an average narrator might know. Such data are for the most part unknown. For Europe and the Mediterranean, we know of some good narrators who have a repertoire of 200 to 260 tales (see Erdész 1961, 1968; Noy 1963); from northern Russia we hear about an average repertoire of 70 tales (Nikiforov 1930). This would mean several hundred to several thousand tales per village unit. As to the size of a tale, a long European, Near Eastern, or Indian tale may average from 8,000 to 12,000 words. And if we go on asking how many different tale plots a whole society may know of, the list may amount to a thousand or more (see Andreev 1927 for Russia and 1933 for the Ukraine). Taking all these facts into consideration, ten tales or 9,000 words seem to be a rather meager representation of a society's oral literature.

1.4. *The Representativeness of the Sample*

To what extent are the chosen texts representative of the society's repertoire? Which tales have been chosen for analysis? Maranda (1967b) included all available tales; Colby et al. took indiscriminately the first 9,000 words from the consecutive text (1963:318); Kalin et al. made a careful choice of texts from the available material (1966:572). In making their choice, they excluded origin myths, historical legends from the recent past, and ritual instruction texts — we may remark that the latter are presumably not artistically shaped texts, i.e. not folktales at all.

But more important is the question of what kind of tales remained after this negative selection by investigators. It might easily turn out to be merely widespread international material. We have no means of knowing, as Kalin et al. do not say which texts they used. It is possible that a glance into the tale and motif indexes will show the investigator which kind of material he has. (See Aarne and Thompson 1961 [referred to hereafter as AT] and Thompson 1955–1958, both supplemented by many regional indexes; the indexes are, of course, neither perfect nor complete.)

The exclusion of origin myths and historical legends from Kalin et al.'s material should insure the cross-cultural comparability of the remaining tales. The authors seem to have assumed that origin myths and historical legends cannot be compared. Again, a glance at the indexes would show how much similarity is found the world over in origin myths and historical legends. The latter are easily adapted to fit different localities and historical or mythical personages (Christiansen 1958). Thus the typical oral literature repertoire of a society cannot be arrived at in the way attempted by Kalin et al.

While Kalin et al. eliminated by their choice of societies the problem of a people borrowing tales from outsiders, Colby was aware that tale borrowing exists everywhere. He dispensed with the problem in another way by assuming that "they [the borrowing society] usually provide their own special stamp in the retelling of borrowed tales" (Colby 1966c:604). Unfortunately, Colby nowhere reported what this "special stamp" (typical qualities?) consisted of nor whether he found it or not. (Exact methods for discovering the typical qualities of an oral literature have yet to be worked out. The problem is not a new one—see Bošković-Stulli 1963; Jason 1968; Pomerantseva 1963; Pop 1965; Sirovatka 1965.)

Let us raise an additional point related to the sensitivity of the field-worker, namely, what is a collector likely to hear from the natives and thus include in his publication (Newton 1967)? It is well known that many tribes hold their myths to be a holy secret, and the less sensitive

ethnographer (and still more, the layman collector) runs the risk of getting just "an esoteric hash of esoteric materials" (Newton 1967: 202). Furthermore, "as for the events themselves, which are told in the tale, the inquirer soon discovers that several sometimes conflicting versions may exist of each mythical event. The reason for this is precisely because each clan concerned is likely to have its own version . . ." (Newton 1967:203). This happens, for example, because "people are comparatively more interested in recounting those tales which can be interpreted as validating their claims to food-producing plots of land" (Newton 1967:203), and will therefore introduce respective changes into their version of the myth.

Another factor bearing on what kind of tales a collector will get is "what is told when to whom." For example, in many cultures obscene stories are not told in sexually mixed company or to outsiders. (What should not be forgotten is the fact that the very definition of what is "obscene" is relative and changes from society to society.)

In view of all these considerations, it seems clear that the investigator is more likely to hear a certain kind of tale, told in a certain manner, with a certain frequency, i.e. a nonrepresentative sample. Such difficulties can only be solved by spending years of work within a culture. As very few investigators are lucky enough to have such an opportunity in the field, most of the published collections must necessarily be nonrepresentative samples.

1.5. *The Time of Recording*

What is the significance of the point in time at which the tales were recorded? Kalin et al. examined the relations between the drinking habits of a society, certain qualities of this society, and certain qualities which appeared in the tales of this society. The data about the societies and their drinking habits were from the present; the tale texts, on the other hand, were recorded at various points in time. For example, Kalin et al. included, among others, texts recorded long ago by missionaries (1966:572). This means, first, that not all the tale texts used were of the same age-layer; thus they could not be measured by the same measuring stick. Second, the tales were recorded at a time when contacts with Western society had just begun, and no reports of the drinking habits were then available. Yet these older tales are now being compared to a modern society disintegrating under rapid colonial modernization, a society with new drinking and other habits. This lack of correspondence between the two sets of data — the tales and the observations of the society — is a serious problem which has not been taken into account by the investigators.

1.6. *The Use of Translations*

All investigators under review used English translations of native texts and performed linguistic semantic operations on these translated texts without questioning this method. Even double translations were used: Colby et al. (1963) used Rasmundsen's Eskimo tales retranslated into English and Maranda used Nimuendaju's South American texts, retranslated from German into English.

Can such a procedure give us semantic information about the native culture? Would anyone suggest studying, say, the British people by translating Shakespeare and Byron into Chinese and then scanning the translation by a "General Inquirer" (Stone et al. 1966) in the Chinese language? Naturally it is cheaper to do the work using English translations. All our programs are already geared to English, and in this way a single program can be used for all cultures. The cost of such a piece of work has, of course, to be taken into consideration. But such reasoning can hardly justify the procedure used in this case.

Let us just quote a short passage showing the dangers in using translated texts. Colby reasons in the following way: "The pattern for 'he' and 'him' in the Japanese tales . . . probably reflects the dominance of males in the culture. . . . Animals also are usually referred to, in the English translations, as 'he' and 'him'" (Colby 1966b:796). A Japanese friend has assured me that nouns, including terms for animals, have no gender at all in Japanese. But it is an English convention that, in folktales, animals acting in the plot are referred to as "he" and not as "it." Thus the quoted passage shows that properties of the English translation are attributed to the native culture.

1.7. *The Recording and Editing of Texts*

So far we have considered the dangers of using translated texts, all the while supposing that the original texts were the ones valid for inquiry. But let us now take a look at the original story and test its validity. What is the process by which a tale from the mouth of the native reaches our bookshelf, i.e. how are the recording and editing of the text done?

A story is told by a raconteur who is a gifted individual, an artist. A raconteur is as little an "informant" on folktales as the pianist Arthur Rubinstein is an "informant" on Western music when we chance to record his performance. The difference between the two consists in the raconteur's having a more creative role whereas the pianist has a more interpretative role (see Lord 1960, who discusses

the raconteur's work at length). The act of the narrator's telling of a story is, then, a performance. In order to get an authentic tale in full, one has to "catch" it in its natural environment, i.e. at the time of its performance before a native public, and to record it by a tape recorder and, if possible, a movie camera. The dramatic play of the raconteur in the performance, his voice and gestures, the reactions of the spectators, who may also be coactors, are as much a part of the tale as the wording. In addition, each narrator has his own individual style, as does any artist (see example below in paragraph 1.9).

With the foregoing in mind, we should ask the following questions whenever we examine a published collection of tales. Who told the tales? Was it the same individual who told them, or have several narrators told the tales of this collection? How have the texts been recorded? Was the recording made at the time of performance, or did the raconteur dictate it in private to the collector? Was the text tape-recorded or was it taken down manually? In what language did the collector hear the tale? Did he sufficiently master the native language to record it with understanding? Or did the European recorder get his text from a native who spoke just enough of a European language to get his ideas across somehow and who once, long ago, had heard some stories? Or did he get his text from a native who served as a translator, and gave just a short synopsis of the narrator's words?

Let us take a close look at a fragment of a tale which Maranda quotes and examine the quality of its recording:

When Moon found the ornament he waited till Sun came home and asked him to get a similar ornament for him. Sun at first tried to dissuade him, but when Moon insisted, he led him to the woodpeckers (1967b:21, Tale 4106).

The fragment does not sound like a real story but rather like the summary of a tale, giving its approximate content. The most suspicious feature is the lack of direct quotations from the characters' speech. Later on (paragraph 1.9, Text 2), a tape-recorded fragment of a tale is quoted describing a dragon fight. Another dragon-fight fragment from the same narrator (paragraph 1.9, Text 1) was recorded manually and immediately shows a much smaller proportion of direct speech. In addition to direct speech, tape-recorded stories may show fragmentary and faulty sentences; confusion as to which of the heroes of the tale are interacting where (note in the quoted texts the many added indications of who is speaking to whom); and occasionally small true poetic masterworks in the native language. All these details the investigator, writing up his notes at home, will "correct" and therefore lose.

Let us close the discussion on recording problems by mentioning a

simple experiment conducted by the present author. Several investigators noted down manually the same narrating performance. It turned out that the differences in the resulting texts were great, while each of the investigators was, of course, sure that his text was the proper one!

We now progress from the recording of the text to its publication. Only Kalin et al. are aware of part of the editing problem: ". . . if the author-editor of the texts made any mention of editing the text . . ." (1966:571), then the collection was disregarded. But not every editor is so scrupulous as to be aware of his editing, let alone to tell us about it. As an example of the pitfalls which may lie in the editor's path, let us bring a few sentences of the literal and the corresponding free translation of an Eskimo tale (Jenness 1926:4A, 32A), and observe the differences in the wording:

Literal Translation

/A squirrel, the story goes/
 /from its hole/which went to
 play/an owl/went over to it/
 /it entered/
 /when it entered/it called it
 out/the owl/
 /squirrel/come out and play/
 /the sun is warm/
 /the squirrel/said
 /we shall be blocked out/
 — — —
 /come,/come out and play/
 /it went out/
 /when it went out/it blocked
 it/the owl/
 /seeing that it had blocked it/
 /the squirrel/said/
 /I am going to dance beautifully/
 /sing for me/
 /the owl/sang/
 /the squirrel/this one/its
 hole/I have blocked it/
 / . . . / . . . / . . . /
 / . . . /tci/tci/
 /though it tried to enter,
 they say/it failed to enter

Free Translation

There was a squirrel outside its hole, and an owl went over to it.

The squirrel at once darted inside.
 The owl called it to come out, saying,
 "Squirrel, come out and play:
 it is warm in the sun."
 But the squirrel answered,
 "You will only block up my hole."
 [Still the owl called out.]
 "Come out and play,"
 till at last the squirrel did come out.
 Immediately the owl planted itself in front of its hole.
 Thereupon the squirrel said,

"I am going to dance beautifully.
 You sing for me."
 So the owl sang,
 "This squirrel's burrow I have blocked it, squirrel, squirrel."
 The squirrel made a dart towards its hole with a sharp squeak,
 but the owl stood directly in the entrance and stopped it.

We see that the narrative plot is preserved in the free translation; the wording here, however, differs from that of the literal translation both in the words used and in their frequency of appearance. Slashes

in the literal translation indicate word boundaries in the original. We see that the literal translation includes almost three times as many words as the original, while the free translation, which adds whole sentences, consists of still more words. The ellipsis points take the place of words which were not understood by the investigator. The reader will note that the narration in the free translation is nevertheless continuous. . . .

To be sure, most of the publications of popular tales are actually retellings for a Western public of texts which were recorded from the first native the investigator ran across, who was ready to narrate regardless of his talents as a narrator, his rights to tell stories in his society, or his effective knowledge. Moreover, as most investigators have no time to master completely the language and native culture, the texts are incorrectly understood. They are then freely translated: the parts which are not understood are omitted or reworked, the contradictions are settled, and the whole is retold in a style acceptable to a wider Western public. The end result of this process is then published. The foregoing may show how risky it is to work on most published collections of oral literature texts from unfamiliar cultures, especially if one's main concern is the wording of the folktale.

1.8. *The Preparing of Texts for Analysis*

In preparing the texts of the tales for investigation, Colby (1966b:794) cuts them into nine equal parts, looks for word frequencies in each part, and hopes in this way to get nearer to the structure of the tales.

It is obvious that a tale has some kind of opening section, followed by a main part consisting of the plot conflict and its resolution, and ending with a closing part. Each of these sections will presumably use certain parts of the vocabulary more than others, a fairly trivial fact. In addition, every culture and, moreover, every narrator within the limits allowed by the stylistic canons of the culture, will vary the length and style of each of these parts. Will a cutting of the text into equal sections master this problem?

We will try to draw an analogy to show more clearly what Colby is doing. Let us imagine for a moment that we are taking poems by Pushkin, or Heine, ten of each on a random basis, having them translated into English by an unskilled translator, cutting them into nine equal parts (Colby does not give a justification for why he chose to cut his text into nine parts), and counting word frequencies in each part. Would one expect this procedure to yield information about the poems, their structure (on what level?), their authors, their cultures,

or the semantic fields of language or culture?

Kalin et al. (1966) do not state how they treated their texts. Maranda used a "normalizing procedure" (1967b:10), i.e. he reduced all synonyms to a single form and all word forms to the word-root — all these from the English translations, of course. Such a procedure eliminates all semantic connotation synonyms do carry, tears words out of their environment, which is the very factor providing the subtler semantic connotations, and destroys any artistic poetic structure there may have been in the tale text. As it is exactly the semantic fields which are looked for in content analysis, a "normalization" procedure destroys the very raw material of the envisaged analysis.

1.9 *A Demonstration*

To demonstrate more clearly the difficulties and pitfalls which await the investigator who uses texts recorded and published by others, we quote here a popular episode, the fight of a fairy-tale hero with a dragon (or another kind of supernatural being) who has abducted a maiden. The reader may want to compare the style of this episode to the usual published texts of tales. Any collection of European folktales will contain this episode (a bibliography can be found under Numbers 300-303 in Aarne and Thompson's 1961 index).

We chose two narrators from the same society, Jews from Yemen, whose tales have been recorded reasonably well (for an ethnographic description of Yemenite Jews, see Brauer 1934). Both narrators are masters of their craft. Each of them told the episode of the dragon fight several times and two tellings of each narrator are given here.

In presenting these four fragments here we want to observe several points: (a) the same tale-event is told differently by different raconteurs; (b) each narrator has a very definite manner of relating stories and has a standard way of telling the same tale-event whenever he needs it in a tale (see Lord 1960 for the same phenomenon in epic songs); and (c) there are significant differences between a tape-recorded text and a text noted down manually. While text 2 was tape-recorded, texts 1, 3, and 4 were taken down manually; also, texts 3 and 4 were not recorded as carefully as text 1. The reader will notice that the proportion of direct quotations from the characters' speeches in the tale will be smaller and the sentences smoother if the manual recording is poorly done.¹

¹ Text 1 was told in Hebrew by Yefet Shvili, a Jew from Yemen, and recorded manually in 1957 by Jason in Israel. It is filed as Manuscript 88 in the Israel Folklore Archives, Ethnological Museum, Haifa. A full German translation can be found in Noy (1963: Tale 29). Text 2 was told by the same narrator and tape-recorded by Jason in 1958. It is filed as Manuscript 1547 in the Archives. A full German translation

Text 1

. . . Ali, son of the slave woman [the hero] came to this vicinity and saw a beautiful palace. He wanted to stay there overnight. He entered and walked through the rooms but did not see anybody there. When he came to the room of the princess, she became very alarmed and started to cry.

Ali said: "Why are you crying?"

She said: "I am crying because of you. Go quickly away from here, otherwise the *shed* [supernatural being, like a dragon] will eat you up."

He said: "Am I better than you? Either both of us will live or both of us will die."

She said: "But this is a *shed*, he will kill you!"

He said: "Don't be afraid!"

The girl hid Ali and the *shed* came home. He sniffed around a little, and said: "I smell a human smell here."

The girl said: "Nobody is here except me."

"Don't lie to me! I know my destiny. When Ali, son of the slave woman, comes, he will kill me."

Ali heard these words and was glad. He came out from his hiding place: "Here am I, Ali."

The *shed* jumped up and drew his sword: "Either I will kill you, or you will kill me."

Ali said: "You may start. You are the big one, I am the small."

The *shed* lifted his sword to kill Ali, but Ali slipped away.

Ali said: "Now give me your sword, I have no arms." It was possible to kill the *shed* only with his own sword. The *shed* gave Ali his sword, and Ali was afraid he would succeed. He said to the *shed*: "Do stand straight, don't think that your parents are standing behind you to help you!"

The *shed* turned around to see whether somebody was standing behind him, and in this very moment Ali gave him a blow on the neck and chopped off his head.

Ali took the head of the *shed*, cut out the tongue to serve as a token and threw the head into the city, over the walls. To the princess he said: "Go quickly home!" [. . .]

Text 2

. . . And this man [the hero] came to the forest. There was an *ufruth* [supernatural being like a dragon]; every year they gave him a girl, so that he would give them water. That evening [the man] came to the forest, and there was a girl from one [of the men] of the town, a rich one. He came nearer, then she said: "My lord, go away from here!"

"Why?"

She said: "It is a pity for your face [your life is in danger]. Are you from the humans or from the *sheds* [a supernatural being]?" —

appears in Noy (1963: Tale 13). Texts 3 and 4 are two fragments of the tale told in Hebrew by Yihye Nafesh, a Yemenite Jew, and manually recorded in 1960 by Baharav in Israel. They are filed as Manuscript 3532 in the Archives. The full text was published in Hebrew in Baharav (1964: Tale 39). Here the hero fights two dragons, one after the other.

He said: "I am from the humans."

She said: "Don't come near to me."

He said: "Why?"

She said: "My husband is an *ufruth*, he will come immediately, and will eat you up."

He said: "What is the reason? Why are you staying here?"

She said: "I? Every year they give to this *ufruth* a girl! For the water. And now, if he comes he will kill you."

He said: "Am I better than you? Either both of us will live or both of us will die. I will remain with you."

She said: "He will succeed."

He said: "Don't be afraid, either he will succeed or I. Finally my fate will be fulfilled." So he remained with her.

And lo! the *ufruth* came. The *ufruth* said: "I smell a guest, a stranger. I will grind it with my rear teeth and with my front teeth. The eye of the sun will not appease me!"

[Said the man:] "Here I am, my lord!"

[*Ufruth* said:] "Hello, my lord, who are you?" Said to him: "Are you *saif* [a sword, i.e. an enemy] or *daif* [a friend]?"

The man said: "How do you think? *Saif* or *daif*?" (He said to him meaning, "What do you want? If you want me to be *saif*, I am ready; if you want me to be *daif*, I am ready.")

[*Ufruth*] said to him: "I will tell you what. Better you should be *saif*!"

[The man] said to him: "It is good." [The man] said to him: "Come, get up for the fight!"

Ufruth said to him: "Get up!"

[The man] said to him: "Listen! I . . . I have no arms. The sword is in your hand. You should start."

[*Ufruth*] said to him: "You."

[The man] said to him: "You are the bigger one. It is said [one should] start with the big one."

[*Ufruth*] said to him: "Come!" He [*Ufruth*] started to give blows, and that one [the man] was short, and whenever this one [*ufruth*] would lift his sword, that one [the man] would slip away. Three times did he slip away.

[The man] said to him: "Give me now the sword, I have no sword."

[*Ufruth*] said to him: "Take it."

He [the man] took it, said to him: "I know that I am a short man and you are a tall one, and moreover . . . but you have now . . . there come all your friends to help you.² I . . . what should I do?"

This one [*ufruth*] looks to see whether really people came to help him, this one [*ufruth*] turns his neck so . . . ;³ [the man] took his sword and gave him a blow. Until he [the man] took his [the *ufruth*'s] head and threw it into the town.

He [the man] said to the girl: "What do you want now?" [. . .]

Text 3

. . . *Saif* [the hero] asked the girl [the abducted princess] to show him the place where the *shed* [the dragon] was living, and the door through

² Note the mixed-up sentence.

³ The narrator demonstrates the movement.

which he could enter the palace [of the *shed*]. The girl fulfilled the wish.

At the set time the *shed* arrived at the palace. *Saif* drew out his sword and chopped off his [the *shed's*] head. The *shed* started to speak from his belly and asked *Saif* to spit on him and to kick him as these were signs of submission. *Saif* understood that by doing these he might revive the *shed*, and said to him: "My mouth is dry, how can I spit? My foot is short, how can I kick you?"

They [*Saif* and the girl] buried the *shed* in the cellar of the palace. . . .

Text 4

. . . Late at night they [the townspeople] tied the princess to the cliff and left her alone not knowing what would be her fate. The prince [the hero] hid himself behind the "cliff of virginity" and waited for the *shed's* [the dragon's] coming. At the moment when the *shed* bowed, the prince drew the sword from the sheath, and chopped off his [the *shed's*] head with a single blow. The *shed* spoke from his belly and implored the prince to spit on him and to kick him. But *Saif* [the prince] was not persuaded; he left the corpse to wallow on the ground, placed the princess on his horse, and led her to the house of her father, the king. [. . .]

2. THE PREMISES

Suppose we have now solved the technical and text critique problems: our texts are representative and reliable, and prepared in a suitable way for computer input. We are now ready to let the search list scan the data. What questions will the content analyst ask the computer? What are the goals of his analysis? What are the questions he asked, the answers he got and the conclusions he drew? Content analysis is only a tool; we have to supply the questions it will answer and the theoretical framework to which the questions and answers belong.

Let us now examine the theoretical side of the content analyst's work. We start with a discussion of the premises which underlie his work, and continue by discussing the goals and results of his work (see Section 3 below). The premises of the content analysis of folktales are not always explicitly spelled out by the authors discussed here. Let us try to reconstruct these premises from their disparate statements and discuss them with the hope that we guessed right.

2.1. *The Nature of Oral Literature*

The first premise is about the nature of oral literature. We find that oral literature is considered to be a "text," not differing in principle

from any other verbal materials we have from a culture. The only differences stem from the fact that oral literature is a natural, unconscious product of the society, whereas other texts are interviews elicited by the investigator (Colby 1966a:381). This difference often makes it more profitable to use oral literature for anthropological investigation than other kinds of texts, and oral literature can be handled in the same manner as other kinds of verbal materials.

As was stated above (paragraph 1.7), a raconteur is an artist. Consequently, a work of oral literature is a work of art. In assuming this we disagree with the content analysts who make no distinction between oral literature and other types of verbal materials. In our opinion, oral literature, because it is art, cannot be dealt with in the same manner as an elicited interview. Oral literature has a very complex, multilevel structure and is, in itself, an artifact of the culture, functioning in the culture in a certain way (see Jason 1975); both of these qualities could not be attributed to elicited interviews of any sort. Psychiatric tests and, for instance, political speeches have some structure or other, but this structure will be different from the structure of oral literature.

On this point, let us quote the authors of the "General Inquirer": "... if we compare one man's public speeches with another man's family dinner conversation, we will probably learn more about the differences between public speeches and family dinner conversations than we will learn about the differences between the two men" (Stone et al. 1966:13).

2.2. *The Accessibility of Information*

The second premise of content analysis is that the information which oral literature has to offer can be found merely by understanding the general sense of the wording. This general sense is, in turn, found in the semantic fields which are considered to be preserved in translation. The assumption that there is no deeper layer of organization in oral literature is included in this premise. Opposed to this is the opinion, shared by the present author, that we have to regard oral literature as multilevel, i.e. that the meanings it bears are by no means to be readily found on the immediate surface or in the wording.

Any psychoanalytic analysis of folktales tries to demonstrate that there are deeper layers of meaning in oral literature. Lévi-Strauss tries also to find the structure of these deeper layers of meaning (1958). And recently an investigation attacked this problem from the standpoint of the function of oral literature in the social system. It was

found that, for instance, a deeper layer of a saint's legend may prove to have not only a different, but even an opposite meaning to the meaning that the surface layer exposes (Jason 1975).

2.3. *The Equality of Elements in the Folktale*

The third premise is that all the elements in the overt layer — the wording — are equal. Levels of significance of some sort are established only in regard to the frequency of the elements (Maranda 1967b:17-18, 20), but not in regard to their possible position in the tale (which may have some structure of its own). In our opinion, the elements in a tale are not equal. The position of an element in the tale is the outcome of an organization on at least two literary levels: (a) textural structure, which organizes the prosodic and the stylistic features of the tale, and (b) narrative plot structure. The prosodic features have been investigated by, among others, Lotz (1954) and Sebeok (1957, 1959, 1962). The narrative structure was investigated by, among others, Volkov (1924), Nikiforov (1927), Propp (1928), Dundes (1964), Horner (1970), and Jason (1967). Investigation proved that every element has its definite position and function in the literary structure, and each position has its meaning in the framework of the whole tale.

Let us make this idea clearer by an example showing the function of an element in the narrative structure of the tale. Earlier (paragraph 1.9), several fragments of tales describing a dragon fight were quoted. In text 1, the dragon fights Hero with his sword. The dragon plays, according to Propp (1928), the tale role of Villain and the sword is an extension of Villain. But soon Hero asks for the sword from the dragon. We are told that this same sword is the magic weapon (tale role: Magic Helper, according to Propp) without which Hero cannot overcome Villain (text 1: "It was possible to kill the *shed* only with his own sword"). When the dragon gives Hero the sword, the dragon momentarily switches the tale role he plays from Villain to Donor. Then, dragon changes back to playing Villain and, as such, is overcome and killed. The sword changes in the course of the tale from an extension of Villain to Magic Helper. As any Magic Helper in a fairy tale, the sword is not mentioned any more in the tale after it has fulfilled the role it has to play, namely, to overcome the Villain. Scanning the text and registering how many times a sword is mentioned and how many times a dragon is mentioned would totally obscure the relative meaning these two elements may have had in the tale.

2.4. The Meaning of an Element in the Folktale

The fourth premise is that a word appearing in the tale has exactly the same meaning and connotation there as it has in everyday speech which, characteristically, is nonartistically organized; also, that any item mentioned in the tale is exactly the same as in contemporary reality. (For instance, the sword discussed above is obviously a marvelous weapon, as the dragon can only be killed by this particular sword. Yet, a word such as "marvelous" is not mentioned at all in the text.) In the same manner, a semantic field is thought to be similar in the tale text and in nonartistically organized speech.

Our objection brings us once again back to the concept of oral literature as a work of art. As such, this literature has among other things an artistic intention and an artistic literary structure. As we saw in the previous paragraph, every element in a tale, object or action, gets its meaning only in the framework of the tale's structure and intention. Moreover, the very same element may have different meanings according to the positions it occupies when it appears in various texts.

As with every literature, oral literature realizes itself in literary genres. Each oral literature text belongs to an oral literature genre. These genres are little investigated to date. It seems to be quite clear that genre is a culture-bound phenomenon, and each culture, or at least each broad culture area, will have its own genres. So far most of the work has been done on European oral literature — although even in this realm, far more is obscure than clear — and it would be a mistake to transfer these concepts (such as fairy tale, legend, anecdote, epic, ballad) directly to non-European oral literature. Yet not every tale found in a preliterate society is immediately a myth. To complicate the issue, the same tale content may be realized in different genres. As an example, let us quote the tale about the "carefree abbot," whom the king asks under pain of death to answer certain questions. The tale is known as a popular anecdote all over the Western world (see AT 922), and as a popular Jewish sacred legend (see the bibliography in Jason 1965: Numbers 922, 922A, 922 *C; also Jason 1975: Section 9C).

Each genre has its own artistic means. It has its own world view or set of morals, which may be directly opposite to the morals of some other genre in the very same culture. For example, in the Jewish sacred legends, certain sins and crimes are punished severely (Jason 1965: Numbers 705-799; Jason 1975: Section 9B), while in the fairy tale genre of the same culture, the one who commits the very same crimes is most generously awarded a kingdom and a princess (Jason 1965: Numbers 950, 1525ff.). This means that different values are

attached to the same deed (the crime) according to differences in genres of oral literature.

To comb a sample of texts of different genres by a word list and, still worse, to comb by the same word list texts from different cultures — in which the words have different meanings and values — can only preclude any possibility of making sense from the results.

2.5. *The Relation Between Oral Literature and Society*

The fifth premise is about the nature of the relation between oral literature and society. It is a commonly held opinion that oral literature is a kind of “reflection” (or “native ethnography”) of its society. This means that a direct relationship between society and its oral literature is assumed, society being the primary factor in the relationship and oral literature the secondary. If so, it may be possible to get fairly direct information about a society from its oral literature.

According to this opinion, which feeds on the Boasian school of thought,⁴ a folktale is a “text” which may “reflect the modal or typical mental content of the people in a society”; these are “data that deal . . . directly with states of mind” (Kalin et al. 1966:570). The “thematic content of folktales” is the “thought system of society,” and can be compared to “ethnographic ratings” which are the “description of the action or reality system” (Kalin et al. 1966:584-586). This means that the natives describe ideal behavior in their folktales.

Colby regards the folktale from two aspects: (a) the “behavior-model” approach of Roberts and Sutton-Smith (1962; also Roberts et al. 1963); and (b) the psychological (psychoanalytic) approach. Under the former, says Colby, “folktales may describe sanctions and prohibited behavior . . . or describe various types of useful behavior and strategies” (1966a:381). In this approach, which is also similar to Kalin’s view described above, folktales are made up by the natives of the culture to present the ideal system of norms. They are a “model for behavior” and as such will be more structured than actual behavior (Colby 1966b:798). The notion of this difference between real and ideal behavior is what Colby and Kalin added to Boas’ original idea that tales are a reflection of the native society. The “behavior-model” or “ideal-behavior-model” view simplifies the phenomenon, as does every generalization, in that it exaggerates a quality which may be a secondary or chance aspect altogether.

⁴ See for instance: “. . . we may expect that the dominant cultural interests are reflected in them [i.e. myths]. The incidents mirror the life of the people and their occupations and social life may in part be reconstructed from these tales” (Boas 1938:622).

As an example of how tales, by and large, are not a "model for behavior" let us take folktales in Jewish Near Eastern culture. One group of tales, certain sacred legends, depicts man's conflict with God, another group tells about the miraculous deeds of saints, while a third group, certain fairy tales of this culture, awards high prizes for the commission of crimes. The role such tales play in the society is hardly one of a didactic model either for children or for adults. The ordinary man in this culture is not expected to behave as a saint, to work miracles, and still less to quarrel with God; there is as well no normative expectation of a prize for committing crimes. The sacred legends play, in this case, a certain function in relating the culture's value system to the social structure and in strengthening the stability of the existing social order by supporting the official norms and their representatives—the saints. (For a detailed analysis see Jason 1975; the role of the kind of fairy tales mentioned has not yet been investigated.)

The other standpoint from which to approach the folktale as noted above is psychological. To Colby, a folktale "may function as a catharsis . . . it may liberate one from the immediacy of his own situation . . ." (1966a:381). The same Boasian idea of a direct relationship between oral tale and society is at the basis of the psychoanalytic approach. If the stories are to be psychoanalytic confessions of a whole society, the two, tales and society, have to have a direct relationship, that of a subject and his own fantasies which obviously have to be contemporary to each other. Thus the society is regarded as having directly produced, or at least remodeled, the oral literature now found in it. The society will in the future have other tales, just as it had other tales in the past.

Let us see whether we may accept this assumption. As we said, this assumption ties the tales close to their contemporary society. In the case of preliterate societies we do not know, of course, how their tales looked a thousand, or even five hundred years ago, nor do we know how the respective society looked then. But there definitely do exist societies where it is possible to find out how both society and stories looked thousands of years ago, and how both of them look today. We do possess a number of stories from the ancient Near East, classical antiquity, and from old India, some of which are still being told orally in the whole of the Near East, the Mediterranean, most of Europe, Russia, India, and even in the Far East (in the latter case presumably brought in from India by Buddhism). Such is the tale about the clever thief who stole from Pharaoh Rhampsinitus and finally got his daughter as a wife. This tale is reported by Herodotus (Greece, fifth century B.C., Book 2, 121; for a bibliography of medieval texts and modern oral recordings, see AT 950, 1525ff., and regional supple-

ments of the indexes). Another such tale, most singularly widespread, is the tale told by Apuleius (second-century Rome) about Psyche who had to wander all over the world to find her beloved Cupid (for a bibliography of texts see AT 425).

Over the period of time elapsed since these tales were written down, at least twenty-five centuries, there have been many changes on the huge territory over which the two tales are now spread, in regard to ethnic composition of the population, languages spoken, social structure, religions embraced, world view, styles of art, and many other factors. And yet the popular tales going from mouth to ear did not change. There is no greater difference between the version of Herodotus and any present-day oral version of the Rhampsinitus tale than there is between the present-day versions themselves, be they from Egypt, Yemen, or India. If we now take a couple of tales from, say, an Egyptian village, translate them from the colloquial, fellahin Arabic into English, normalize them (according to Maranda's precept [1967b:9-10]) and let them run through a "General Inquirer" program, could we expect to get specific, reliable information on modern Egypt?

When one takes these facts into consideration, it does not seem possible to hold up this Boasian hypothesis about a kind of one-to-one relation of the tales to the society which underlies most work anthropologists and psychoanalysts do on oral literature. The phrase used by Maranda with which he labels folktales and myths as being "traditional messages" (1967a:78) is a label being applied nowadays to so many aspects of culture that it is thus becoming rather meaningless.

In such a complex phenomenon as oral literature one has to ask what element — if any — in the literature plays the role of a "message"? What kind of message? Message of WHAT delivered by WHOM to WHOM? For example, if a great number of Jewish Near Eastern sacred tales speak about treasures that the virtuous receive, should we conclude that the tales reflect a great concern about wealth in this society? Or maybe the tales bear the "message of wealth." (What would "message of wealth" mean?) Who wants to deliver this message? To what kind of society should this message be brought? For what reason?

Before we know where to look for answers to such questions, we cannot find much sense in the statement that oral literature is a traditional message. (See Jason 1969, 1975, about possible messages a certain genre of oral literature carries. In this case there can be found a message in support of the existing social order. The message is delivered in the name of this social order and addressed to all its members. This message is a certain quality of the tale, but it should not be equated with the tale as a whole.)

However, let us say that oral literature is on the whole a "message," whatever this means. Once it has become a "message," it would seem that oral literature could no longer be, at the same time, a direct reflection of the culture it belongs to but must be a functioning part of this culture. In this case, we could not obtain, from the qualities of the semantic fields found in the wording of the tales, direct information about the respective culture. The opinion that oral literature is a functioning part of the society has been well known since Malinowski introduced it (1926); it was restated on a slightly more refined level by Eisenstadt (1965:18-20) and Jason (1975; see also above, paragraph 1.4). If so, oral literature cannot possibly be at the same time a description of the ideal order of the society of which it is a part.

Let us close the discussion by offering an example of a Boasian kind of reasoning about the relation between oral literature and society, and the denial of this reasoning. Paul Radin analyzed one of the Winnebago stories he published. As the details of the tale did not correspond exactly to the reality of the known contemporary Winnebago society, Radin assumed that there was a time in the past when the society matched the description in this tale. He had, however, no confirmation for his hypothesis (Radin 1949:74-77). Sometime afterwards, Lévi-Strauss analyzed the same tale and explained the same details in another way: he explained them as being a necessary part of a complex structural scheme underlying the meaning of the tale in the frame of Winnebago mythology in general. The details discussed were included in the tale to demonstrate this structural scheme and did not necessarily have anything to do with the realities in contemporary or past society (Lévi-Strauss 1960:357-359).

2.6. *The "General Inquirer" as an Etic Tool*

The sixth premise is that a general word list, based on semantic fields, made by members of a Western society in a Western language is a valid etic tool with which to measure all other cultures. Content analysis as a technical method is well enough known not to require an additional exposition (see Berelson 1962; Pool 1959; Stone et al. 1966; Gerbner et al. 1969; Holsti 1969). Some of the content analysts who worked on oral literature used Stone's "General Inquirer" lists for all cultures dealt with (Colby, and Kalin et al.); others have preferred to make their own search lists on the basis of their specific materials (such as Maranda and Sebeok).

Etic qualities are physical and psychical universals; in contrast, semantic fields are human concepts, and like all concepts, culture-

bound, i.e. emic. Any ethnoscienitific piece of work will show this culture-boundedness (see, for example, Metzger and Williams 1966). A glance at any piece of ethnoscienitific work shows that a semantic field, even if found in several cultures, has a different content (i.e. different member words) in every language-society. (As a semantic field is only measurable in language, we have to identify for our purposes here the realm of a language and the realm of the society whose members speak this language.) This emic quality of the semantic field precludes a cross-cultural comparability of even the "same" semantic fields as closed units. Consequently, the "General Inquirer" list is emic for the English language and its semantic fields, and not etic. The "General Inquirer" is emic not only in regard to folktales but in regard to anthropological data in general, at least according to the lines along which the "General Inquirer" has been used up to now. Sebeok's work was done before the "General Inquirer" was designed. He worked on one culture only and did not engage in comparative analysis, and consequently he made lists and programs for this one culture only. These lists are emic and the investigator treats them accordingly.

Maranda's dictionary is again an attempt at an etic tool. True, Maranda also makes his own dictionary, but he makes ONE dictionary for FOUR cultures which, however similar they may be, are somehow different in some way from each other. It is exactly these differences Maranda wants to find. In regard to these particular four cultures, Maranda's word list needs to be an etic tool. In this case the word list is a kind of average entity among four emic systems, a thing which could be compared to a dictionary purporting to be simultaneously the dictionary of four languages which, although related, are nevertheless distinct.

In both cases, however, whether using the "General Inquirer" lists or private lists, the method is inductive and statistical and aims at broad comparative analysis (except in the work of Sebeok, which is statistical but not comparative). Statistical comparative analysis needs comparable, well-defined units. The dictionaries of content analysts could be built of such units if they were etic. As we pointed out, however, the dictionaries are not etic but emic for the English language, and thus no cross-cultural analysis is possible with this tool.

2.7. *The Inductive and the Deductive Analysis*

The seventh premise is that frequency counts can reveal patterns of some kind or other including structural relationships. Frequency counts are used in statistical analyses. These are intended to show

relations between the counted elements, these relations belonging to some frame of reference. The result may be a “statistical model” which is inductive (after Lévi-Strauss 1967:275–281; the success of content analysts in building statistical models is discussed below in paragraph 3.3.4). This procedure is valid in itself; however, the validity of the application of the statistical method to Propp’s (1928) and Lévi-Strauss’ (1958) analyses is questionable (Colby 1966b:793; Maranda 1967a:83).

Both Propp’s and Lévi-Strauss’ models are deductive constructs.⁵ While Lévi-Strauss is consciously working with deductive theoretical constructs superimposed upon reality (see discussion in Nutini 1970), Propp sees his model as a product of an inductive process. However, in reality Propp’s model is part of a “generative grammar” of the narrative structure of folktales and comprises its surface structure (see Lakoff 1972, after Chomsky 1957; and Jason 1967, 1971b). Taken in isolation, the description of the surface structure alone creates the illusion of being inductive and empirical. To be sure, Propp borrowed his tools — units and relations — from a predecessor’s deductive model, without taking over the whole model (see Nikiforov 1927; Jason 1971b).

It does not seem that any quantity of frequency counts, statistical analyses, or statistical models can lead from an inductive analysis to a deductive construct. (See Lévi-Strauss 1967:275–281; other objections to testing Propp’s and Lévi-Strauss’ models by content analysis method are discussed below, paragraph 3.3.4).

3. THE GOALS AND THE RESULTS

Let us examine the goals of content analysis as stated by the proponents of the method and see to what extent the results of their work have met their expectations.

3.1. *The Rhetoric Approach*

Sebeok, one of the first to use computerized research and content analysis in the study of oral literature, stated in a programmatic paper the following problem for computerized work: “The first problem is

⁵ Nutini called models reached by deduction “modelic structures” (1968:11–14; 1970: 1185–1186) or “grammatical models” (n.d.: Section 3) while inductive statistical analysis yields “statistical models” (after Lévi-Strauss 1967:275–281) or “paradigmatic structure” (Nutini 1968:11–14; 1970:1185–1186). Lévi-Strauss’ “mechanical models” may be, it seems, inductive as well as deductive.

to ascertain the numerical rules which govern the distribution of sounds within relevant syntactic frames" (Sebeok 1965:257, also 265-270 for similar additional problems). The problem stated lies in the realm of poetics and linguistics. The purely linguistic aspects of the problem presumably belong to the discipline of linguistics; in its poetic aspects, the problem forms a part of literary studies, and insofar as oral literature is considered literature, this problem is a very important field of inquiry. Sebeok considers it to be the first step in any study of oral literature (Sebeok and Ingemann 1956:261-268). To be sure, such work relates to the texture only and not the content of oral literature. Texture can, of course, only be investigated on texts in the native language, and thus did Sebeok proceed. Regrettably, however, this trend of texture investigation did not find many followers.

3.2. The Culturological Approach

While the above-described approach is linguistic and literary, the formulation of the problem by Kalin et al., on the other extreme, is focused on the overall culture. This formulation, moreover, leaves the realm of oral literature. The question stated by Kalin et al. is: "Why do people drink alcoholic beverages in moderate and excessive amounts?" (1966:569-570). Oral literature texts are not looked upon as literature but, rather, as a type of data — one kind of data among many others — and are regarded as being on the same level as the rest of the data. While the stated question is in itself, of course, legitimate, we did not learn much through this approach about oral literature itself and the work has no bearing on the theory of oral literature. The question of whether such a use of oral literature can stand criticism and help serve the problem Kalin et al. posed was examined above (paragraphs 2.1 and 2.5). Our conclusion was in the negative: such utilization of oral literature is not a good way to answer the question Kalin et al. are interested in.

3.3. The Semantic Approach

We found Colby and Maranda approaching two kinds of problems through their analysis. The first group of problems (see below, paragraphs 3.3.1 through 3.3.3) is akin to the basic approach of Kalin et al. (1966): What can I learn about the society I am interested in from its oral literature? In the second group of problems (see below, paragraph 3.3.4), Colby and Maranda ask questions about the oral

literature itself. Both groups of problems are approached through exploration of semantic fields. (We may note, by the way, that both Colby and Maranda list the goals of their analyses not at the beginning of their papers but in the conclusions [Colby 1966a:386; Maranda 1967a:83]. This is significant. It turns out that their main interest is concentrated on the method of content analysis. The problem which this technical method should help in solving is pushed somewhat into the background.)

3.3.1. THE TRIVIAL. Colby tries to learn about society (1966a:386; 1966c) through exploring semantic fields. Semantic fields, labeled "themes," and their statistical relations are explored in order to find "values, motivation and cultural foci of attention [in order to see] the way cultures conceptually organize the world around them" (Colby et al. 1963:318) and the "investigation [of] the more abstract aspects of culture with methods less subjective than methods customarily used" (Colby 1966b:794) is intended. We will find Sebeok considering that the "matrix analysis [will] yield some understanding of the pattern of associations in the source, reflecting, presumably, patterns of the culture" (Sebeok and Ingemann 1956:267).

As was said while discussing the culturological approach (see paragraph 3.2 above), it seems doubtful whether such problems can be solved with the help of content analysis of folktales. The results Colby describes are in part rather trivial and in part misjudgments. Let us view several examples of the two cases. We start with the trivial. Colby let Eskimo tales be searched by the "General Inquirer" list. In Eskimo tales the plot consists often, Colby says, of a search for people or game. Accordingly, Colby found words belonging to the semantic field "search" to appear in the tales with great frequency until the object sought after is found. After that point these words cease (1966b:794). Would one normally expect "search" words to appear following the episode in which the object sought after has been found?

In another case Colby did find that Japanese tales are more concerned with "external, usually social situations, while Eskimo [tales] are more oriented toward . . . abilities and capabilities [mainly physical] of the individual" (1966b:794). Would it be reasonable to expect Eskimos to tell about complex social situations, of say, a courtier's life? Colby finds, furthermore, that "in Eskimo stories, words in the category 'tired' . . . are used in connection with 'sleep' or 'rest' to restore physical strength" (1966b:796). Would it be feasible to expect as characteristic for a culture combinations such as "tired" and "growing water buffaloes" or "sleep" and "green clothes?"

3.3.2. THE MISJUDGMENT. A result which is trivial is not very useful. The making of doubtful connections seems less innocent. As an example of such a connection, let us cite the conclusion that in Japanese culture the parents show "great pride and love for children, even children who are not normal or are physically incapable of helping their parents" (Colby 1966b:796). This conclusion is based on the evidence of "one [Japanese] story [in which] a boy is only one inch tall. In another he is a snail" (1966b:796), yet both children are nevertheless cherished by their parents. Is the drawing of such a conclusion valid? If these two tales were a special creation of Japanese culture, and very popular in Japan, and in Japan alone, the case would merit an investigation. This is, however, not the case. Both tales are known world-wide (information on their distribution was even provided by Seki 1963, Colby's source). One is the story about Tom Thumb who is one inch tall; in many versions of the tale, he proves to be rather helpful to his parents, as he brings home treasures (see AT 700). The other tale is a form of the story about Cupid and Psyche, known to us from classical antiquity (Purser 1910), and one of the most popular tales the world over (see AT 425ff., mentioned above in paragraph 2.5). In this case too, the hero — the nonnormal son in the form of a snail or other animal — brings fortune to his parents. With the help of his magical abilities he obtains a princess as a wife, turns out to be a bewitched handsome youth, and in due time inherits the throne of his father-in-law. Both son-personages are born to their parents after prolonged barrenness in a marvelous way, and are supernatural beings of some sort. (There are such supernatural daughters, too, in fairy tales.)

The personages of these tales do not seem to have much to do with real parents and children and their interrelationships. The meanings of the personages and of their interrelations are rather obscure to date. The fact of their being so popular in diverse cultures does not simplify the task, and we would not like to engage in unfounded speculation. As to the way the Japanese value their children or as to the emotional relationship of Japanese parents with their children, we may remark that only extremely bad conditions of harsh natural or social environment can make normal parents disregard those among their children who are unfortunately handicapped in some way. Why should we be surprised that the Japanese do not do this, even in their tales?

Another questionable conclusion which Colby seems to draw is that while the similarities are great in tales from India and China, tales from India and Egypt are quite different (Colby et al. 1963:322). This conclusion sounds somewhat surprising. Egypt and India belong to the same general cultural area which encompasses Europe, the Islamic world, and India; even a cursory acquaintance with the oral literature

of these countries will show that Egyptian oral literature (as part of general Islamic oral literature) and Indian (nontribal) oral literature are rather close in themes, acting personages, realities, literary devices, basic values, and similar elements. Chinese oral literature, however, is different from both Indian and Islamic oral literature. (Although Buddhism introduced Indian literary materials into China, these did not become integrated into the oral literature to the extent of reshaping it, but remained a minor influence.) If Colby had found similarities in another direction and if nothing else could be said about his methods, this one case alone would show their unreliability. (See the tale indexes of Thompson and Roberts 1960 for India, and Eberhard 1937 for China; there are to date no indexes for Egyptian or Islamic materials. The above reasoning is based on personal acquaintance with the material and on the survey of Jewish materials from the Islamic cultural area — see Jason 1965.)

Colby states that before undertaking the quantitative computer analysis, he did a “qualitative study of values and themes . . . for these same folktale samples” and that “the results of the computer analysis tend . . . to support” the results of the qualitative study (Colby et al. 1963:320). Unfortunately, we could not find a report of this qualitative study, so that we do not know the methods employed and therefore cannot discuss the work. In any case, the results do not seem to correspond with the facts.

One of the features of oral literature Colby assumes to have found is that “one would expect that . . . the frequency with which its [the tale’s] elements are repeated within the tale and the degree of patterning of these elements indicate the importance of the topics [semantic fields] treated in the folktale to the people of the culture” (1966b:797). As has been known long since (Olrik 1909), the repetition of elements in the narrative (“degree of patterning”) happens on all levels: (a) on the level of texture a certain number of synonyms and parallelisms are used; (b) among the common features of the narrative structure are the appearance of a certain number of heroes, who may be parallels or opposites (such as the three sons of the king, of whom only the youngest succeeds in overcoming the dragon); and (c) episodes are repeated a certain number of times in various combinations. The number of repetitions will be determined by the formulaic number used in the particular culture. In Indo-European culture, the formulaic number is the number three; in Semitic culture, the numbers are three and seven; and in certain African tribes the numbers are two and four. Invariably in these cultures, certain tale elements will be repeated a number of times, and a certain range of words and semantic fields will be more frequently used than others. Shklovskij (1919) showed how such repetitions serve as literary-aesthetic devices

in the overall structure of the tale. The function of the repetition was explained on another level by Lévi-Strauss: "Repetition has as its function to make the structure of the myth apparent" (1958:105). Thus, it is the literary or the logical mythical structure of the tale which will be expressed through repetition and not the interest in the topics (semantic fields) of, say, dragon fights, marriages, or relations between brothers, if three of them are described in the same tale.

3.3.3. THE QUEST FOR THE SIGNIFICANT. How far did Maranda succeed in finding significant results in the work which he describes in detail (1967b), based on what he had outlined in an earlier study (1967a)? He is much more careful with his reporting than Colby and presents his results with much statistical sophistication but, nevertheless, these results do not seem to be very significant either. A few examples will demonstrate what we mean.

Maranda cites two texts (4106 and 5106 by his code) in which he found that the main actor belongs to the category of supernatural or celestial (1967b:16,18). There are two actors in these texts who belong to this category: Sun and Moon. Which of them is the main actor? An analysis of the texts using Propp's (1928) and Jason's (1967) narrative structure analytical methods will show that Moon seems to be the main actor, at least in the upper layer of the structure. A little beneath the upper layer, Sun will be the main actor and, somewhere along the way deeper down, we will have to assign a tale role to the being to whom it may matter whether the steppe burns out or not, although this being does not appear on the surface of the tale at all. This being is a "deleted" element, if we may be allowed to use such an analogy. Computerized content analysis could hardly bring about this discovery.

A second instance of a result whose significance is doubtful is the conclusion about the role the jaguar and the tapir play in the tales. We are told that the jaguar appears in 0.0324 percent of the sentences in the whole material including all four tribes investigated; and further, that "the Apinaye are . . . interested in his [the tapir's] monstrous appearance in one sentence unit and in his strength in seven sentences" (Maranda 1967b:15). A diagram is given showing that the jaguar appears in so many hundredths of a percent of sentence units in tales from this tribe, and in so many hundredths from that tribe. Let us remember what was said above about the difficulties of recording, translation, and publication (Section 1), and then the reader may judge for himself the meaningfulness of these numbers.

But let us suppose the tale was recorded according to all the rules and analyzed in the native language. What would then be the meaning of the fact that in so many sentences the jaguar is mentioned? Does

the frequency of occurrence of jaguars say something about their importance for this culture? Or does the frequency say something about the tale structure (structure on which level of the tale)? A tale is always phrased in the individual style of the narrator, so that the frequency of word occurrence says something about this individual's style, although not very much. Style is not a product of mere word frequencies, but rather of relations between words.

But suppose that we have been able to eliminate the difficulty of individual style and now have a neutral text. What would then be the meaning of the fact that the tapir is mentioned so and so many times in the corpus of the tales? For the sake of discussion, let us compare the case of the tapir, a real animal from the natural environment of the narrating society, to the case of a fictitious being from the European culture, the dragon. The dragon is pictured as a kind of animal — a winged reptile with several heads. The same things may be said of the dragon as Maranda has said of the tapir: his monstrous appearance is described; he has several heads, spits fire, stinks, and eats humans; he is enormously big and strong; he is regarded as a possible spouse for a human female (a stolen princess). We may rephrase this information in Maranda's words (1967b:15): people are "interested" in the dragon's monstrous appearance in X sentence units and in his being a spouse to human females in Y sentence units.

What is the significance of this statistical information? In the case of the tapir, an item from the real natural environment, the statement that "the Apinaye . . . are interested in . . ." (1967b:15) such and such aspects of this animal may create the illusion of indicating some meaningfulness of the tapir in the culture of Apinaye. The tapir is obviously an important part of their natural environment with which they have to establish some relationship. The same procedure applied to another culture with a parallel but fictitious being shows that something is wrong with the above reasoning. People talking about a dragon's strength and monstrosity are not thereby "interested" in dragons. Dragons are neither an element in their real environment nor in their world of belief. We know that dragons do not play a role either in the official religion (Christianity) or in the folk religion of Europe. (The representation of St. George's adversary on medieval paintings seems to have been inspired by images of satanic beings. The fairy tale dragon that we are dealing with, however, has no relation to the religious world.) In European culture dragons belong to only one genre of oral literature, namely, the fairy tale. In this frame dragons act basically in the tale role of the main hero's adversary (see Propp 1928). All their frightening qualities are a literary device which serves to mark off more emphatically the hero's victory over them. The dragon appears only in certain scenes in the tale, namely, in the scene

of the dragon fight (see paragraph 1.9), and thus it has a certain expected frequency of appearance in the fairy tale.

Returning to the Apinaye tales, one would like to know in which genres of oral literature the tapir appears and in which tale roles. This information may help us to understand the meaning that appearance of the tapir has in the tales of this culture; it may even help us to calculate in advance the expected frequency of its appearance in the tales.

As was mentioned, Maranda is more careful in drawing conclusions. Let us quote one such conclusion which is proposed as a possibility and see whether it is advisable to assume the kind of relation he proposes. Maranda asks the following question: "Implements of travel have the lowest count in the corpus [of Eastern Timbira tales] as does interest in other tribes — should it be concluded that the Eastern Timbira are the most sedentary tribe of the four?" (1967b:32).

Let us consider an analogous case: an investigation of a sample of Scottish ballads from the eighteenth century showed that 50 percent of them deal with illicit love affairs of some sort, all of which end tragically for at least the female partner (Jason 1966b). Should one conclude that in eighteenth-century Scotland, with its patriarchal clans, 50 percent of the women got pregnant out of wedlock, or were caught in adulterous relations and consequently punished by their families? An alternative explication of the meaning of these ballads may be suggested along the lines of Gluckman's concept (1963) of "rituals of rebellion": it was pleasant to sing about emotions which could not be realized in real life. The ballad could play the role of a ritual of rebellion in spite of the fact that in order to conform to the accepted social norms the ballad hero who dared to violate them found a tragic end in the ballad. Thus, the ballad fulfilled a certain function in keeping up the emotional balance of the society's members and was not a direct reflection of the social conditions.

Similarly, one may try to explain the Eastern Timbira interest or lack of interest in travel or in some other topic only on the basis of a thorough knowledge of their culture. Let us just remember that the fairy tale, whose heroes are constantly on the move looking for adventures, is told by the most definitely sedentary peasants of Eurasia.

3.3.4. THE PATTERN. Let us turn to the second group of problems, the questions about the structure of oral literature content. Both Colby and Maranda envisage that this content has some "pattern" or "structure" (Colby 1966b:794, 797; Maranda 1967a, 1967b:16) and consider the goal of content analysis to be the exploration of these

qualities. Let us discuss the proposed units, relations, and schemes.

Colby seems to differentiate between two layers of regularities: an overt layer which he would label "pattern," and a deep layer consisting of "templates" and "schemata." The use of the term "pattern" seems appropriate to Colby for designating the overt regularities of both folktales and behavior (Colby 1966b:797). Pattern includes "themes" (Colby et al. 1963:318) which seem to be semantic fields and to be thought of as units. It is not, however, clear how the themes appear as units in the folktale. The rules by which one could compose a more complex whole from simple units, i.e. a pattern from the semantic fields, are not indicated by Colby. We do not assume that Colby considers frequency counts to be rules of composition, or the diagrams (1966b:795) to be patterns.

Beneath the overt surface, Colby postulates a deeper layer which is patterned as well. This layer consists of units labeled "templates" and rules of composition labeled "schemata" (Colby 1966b:794, 797). The rules — schemata — are not described. A template is said to be a "pattern component" ("pattern" is here apparently used in the very general sense of any regularity — 1966b:794); in another place template is a "part . . . rather than . . . a whole . . ." (1966b:797), or "template is used here in the sense of a cognitive element for producing folktales and controlling behavior in general" (1966b:797). As an example of a template, Colby cites "parental role," this being part of the culture in general and not specifically a folktale element (1966b: 797). A template should then be, it seems, a very general unit underlying the culture as a whole, folktales being part of the culture. Such a definition of the template is much too vague and too general to be of analytical value. Colby does not indicate what, in his opinion, would be the connection between his "theme" (surface layer) and the system of "templates and schemata" (deep layer). (The reader will notice that we are not using the terms familiar from transformational grammar, "surface structure" and "deep structure," because Colby's description of his terms is not precise enough to allow such an analogy.)

Maranda treats elements of various orders as units of the same level: we find single items, sets of items, conceptual categories, and semantic fields (see a list of them in Maranda 1967b:18). Besides units, Maranda differentiates levels as well. These levels are of statistical significance and are arbitrarily set. Elements appearing within a certain range of frequency are grouped together as a level. Elements which appear on the same level are the heterogeneous units enumerated above. So we find, for example, on the second level elements such as "intransitive motion," "bird," and "posterity" (Maranda 1967b:17-18, 20). "Intransitive motion" is a physical pro-

cess which presumably is realized as a kind of action performed in the tale; "bird" is an item which may be either the actor who performs an action in the tale or the object towards whom the action is directed, or it may belong to the decor of the tale; and "posteriority" is a quality which describes relations between two or more elements and which may or may not be expressed as an action in the tale. Grouping all these categories together on the basis of their frequency of appearance alone does not seem to add much to our understanding either of the tale or of the culture. Each of the elements counted which are subsumed under a heading such as "intransitive motion" has a different place in the tale and gets its meaning precisely from this position (see above, paragraph 2.3). If it is torn out of this position and subsumed under some other heading, the element becomes meaningless.

We may note that Maranda does not attempt to find the meaning either of the items or of the headings. No structure nor even a kind of regular pattern can be seen to emerge from the division into levels. The diagrams (Maranda 1967b:18, 20) serve only as graphic representations of the frequencies of elements. The "profiles" of a tale or of a corpus of tales, which Maranda works out (1967b:30-33), seem to be mere summaries of word frequencies. We did not find these frequencies to be very meaningful in themselves; their summaries do not seem to bring us nearer to structural analysis. Neither "paradigmatic sets" nor "syntagms" (Maranda 1967a:82) can be found in the frequencies. What is missing in Maranda's work is a frame of reference which would allow one to order the items into "statistical-paradigmatic models" (after Nutini 1968, n.d.; see also Note 5, this paper).

Maranda aims at finding units beyond the texture, i.e. units of content. These he compares to Lévi-Strauss' "mythemes" (Lévi-Strauss 1958; Maranda 1967b:9). Can such units be established by content analysis methods, i.e. by frequency counts of words? Let us quote Lévi-Strauss' own words on this problem: "We know that they [units of mythical structure] cannot be found among phonemes, morphemes or semantemes, but only on a higher level; otherwise myth would become confused with any other kind of speech" (1958:86).

Maranda seems to equate his "analytic propositions" to Lévi-Strauss' "mythemes": ". . . mark atomistic units of mythical discourse — mythemes . . . or analytic propositions . . ." (1967a:78; 1967b:9). "Analytic propositions" seem to be normalized sentences and in reality lie on the level of texture, which is the "phonological component" of the tale "grammar." The act of recasting tale texts into "analytic propositions" destroys, of course, the original literary-artistic structure of the texture and retains semantically impoverished language material. This normalizing does not touch Propp's units of narrative structure which form the "syntactic component" of the tale

"grammar" (may we be excused for using so freely Chomsky's [1964:81-82] phraseology?). Therefore, exploration of "phonemes, morphemes and semantemes" of the language cannot result in the discovery of "mythemes" of the tale.

Both Colby and Maranda try to link their work to Propp's and Lévi-Strauss' analyses as a whole. Maranda tells us that he has already tested by methods of content analysis Propp's *Morphology* (1928) and substantiated Lévi-Strauss' (1960) and Bremond's (1964) criticisms of it. He found that he was able to point out structural shifts in some narratives with the heuristic power of Propp's model. Maranda promised that the work would be published shortly (1967a: 83). But he did not explicitly say by what method he tested Propp's analysis. May we conclude from the context that it was the computerized word retrieval method which was used?

One cannot judge a work one has not seen. In any case, the above-mentioned method — if it was used — seems in principle to be a little strange for the purpose. The objection is that, as we said above, content analysis works on the level of the texture, i.e. the wording, whereas Propp was working on the level of the content, which is related to the level of texture in the same way that phonology is related to the grammar of a language. Propp's morphology is basically an attempt at a syntax; it was even restated in terms of 1957 Chomskian transformational grammar (Lakoff 1972). If we may be allowed the analogy, the idea of testing Propp's model by the method of content analysis may be compared to testing the syntax of a generative grammar by examining frequencies of phonemes.

Colby has so far only proposed that content analysis be used to test both Propp's model for the fairy tale and Lévi-Strauss' structural analysis of the mythical way of thinking, but he had not mentioned having tried to do such a test (Colby 1966b:793). Returning to our analogy above: the act of testing Lévi-Strauss' work by the method of content analysis may be compared to testing a semantic theory by frequency counts of phonemes.

3.4. Quasi-Problems

Finally, let us mention some quasi-problems which have arisen from the manner in which content analysts have been working. Colby lists problems for future work such as "analyses of effects arising out of the data-collecting situation, and out of translation distortion" (1966a:386). The use of proper data solves such "problems" rather easily (see Section 1).

4. IN FINE

Let us reiterate some points we raised in the discussion.

Content analysis is an empirical, inductive enterprise which may lead to a superficial description, but will not lead to either inductive statistical paradigmatic models or to deductive structural models. Paradigmatic models need a relevant frame of reference. A word list based on semantic fields may have relevance on the level of language. The textural level of a tale organizes linguistic material into an artistic poetic product, a subject to which content analysis, as carried out by Colby, Kalin, and Maranda, does not address itself. The content of narrative oral literature is independent of a specific language; it can be translated into another language while preserving its surface narrative structure; and it can even be translated into nonverbal media (such as visual arts) and complex theatrical performances. This fact would preclude altogether any possibility of treating the content on the basis of linguistic features. The next level up, i.e. the structure of meaning and the logic of mythical thinking, is a level which, in addition to not depending upon verbal materials alone, crosses concrete tale-plots and even whole cultures; it is thus unreachable by investigations based on language.

What, then, is done in content analysis? Paradoxically, it is not the content that is examined but the wording of the oral literature work. (We let stand here the illusion that the text of the tales on which the work was done was valid.) The same is the case with content analysis of other kinds of literature. Let us quote the judgment of another disputant: "Research can be done using the 'General Inquirer' not to analyze content, to make inferences and get 'results', but rather to achieve a clarification of the syntactic, semantic and linguistic structures which underlie our understanding of how people talk or how meanings are conveyed" (Psathas 1969).

Let the tool do the work for which it was designed.

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COMMENT by Benjamin N. Colby (Irvine, California)

The capabilities of computer analysis have advanced so dramatically since the work Jason speaks of that there is little point in discussing those aspects of earlier studies that relate to computer processing itself. I do have some brief comments to make about where we now stand with respect to computer-aided narrative analysis. But first there are some points to be made which have nothing to do with computer analysis.

Jason's remarks about my own work are directed at studies of a very different type than those problems on which I am currently working (discussed elsewhere in Colby 1973a, 1973b, i.p.); she speaks of the earlier work by Maranda, Kalin, and me as though we all had the same investigative purpose. Any criticism of the use of translation, of sample selection, or of any other aspect of research design should be accompanied by a demonstration of why the particular action mentioned would invalidate an investigator's results. Needless to say, the critic should show a thorough familiarity with the theory being tested and the investigator's rationale. That Jason has done only a superficial reading of the work she criticizes is shown in her incorrect statement that Kalin and I used Stone's "General Inquirer" dictionary rather than dictionaries we especially constructed for our respective analyses.

That she misunderstands my theoretical position is shown in her misuse of the emic analogy. By emic she means simply any analysis using categories developed to deal with a single culture; while by etic she means any analysis that uses categories designed for cross-cultural application. A phoneme has a number of different properties (some of them varying with the linguistic approach being used) but two of the most important ones are that any single phoneme is part of a SYSTEM of phonemes and that these phonemes are derived from native materials through the analysis of contrastive differences. Just because an investigator dreams up a number of categories that he thinks apply only to one set of folktales is no reason to label them emic. A set of emic categories should be exhaustive of the phenomenon they deal with, should be subject to combinatorial rules, and should be empirically derived.

As to sample choice, one must bear in mind that for some types of analysis the question of whether or not folktale items were diffused from some other society or were developed within the narrating group is of no concern. Questions of historical contact, linguistic affiliations, or geographical dispersion are highly important for some types of studies but of little or no

consequence for others. Sample size also is an important matter which must be carefully considered. If we are interested in the interplay of function words in folktale texts a relatively small sample is sufficient because function words are high-frequency words. If one is interested in words with high information content, obviously larger texts are necessary — how large depends on the specific word frequencies and their distributions. The question of genre and repertoire size of the narrators also can be either critical or can be relatively unimportant depending upon the aim of the study. In eidochronic analysis repertoire size is important because a large repertoire is probably the result of an extensive use of eidochronic rules while a limited repertoire might betray narrations that are irregular. As to the matter of translation, I have discussed elsewhere (Colby 1973a) where translation is important in analysis and where it is relatively unimportant. In the analysis of poetics it is very important. In the analysis of plot structure it is relatively unimportant. One of my few points of agreement with Lévi-Strauss is on this matter of translation.

Jason lists a number of premises which she says that our work is based on. None of these premises is correct for any of the three of us, as a careful reading of the work discussed will show. Further, when I said that "folktales may describe sanctions . . ." I meant this in the sense that some A's (folktales) are B's (include the description of sanctions). To find an A that is not a B is no disproof of the statement.

As to the charge of triviality, my main point in discussing the various findings of the Eskimo patterns was that most of these patterns did not exist in the Japanese stories. Thus it was an interesting contrast between the two different societies that could lead to interesting speculations about basic underlying cultural dispositions which could be tested in various ways. In fact this early work led to my later discovery of the eidochronic phenomena underlying the Eskimo folktales (Colby 1973a). Kalin's attempt to find causes of alcoholism certainly is not an idle pastime, nor was Maranda's quest for infrastructure.

With regard to the mixing of story types, I refer to the vast body of literature in existence on the study of *n-Ach* and other variables in narrative texts as made by Murray, McClelland, and many others. Some of these matters might be diagrammed as in Figure 1.

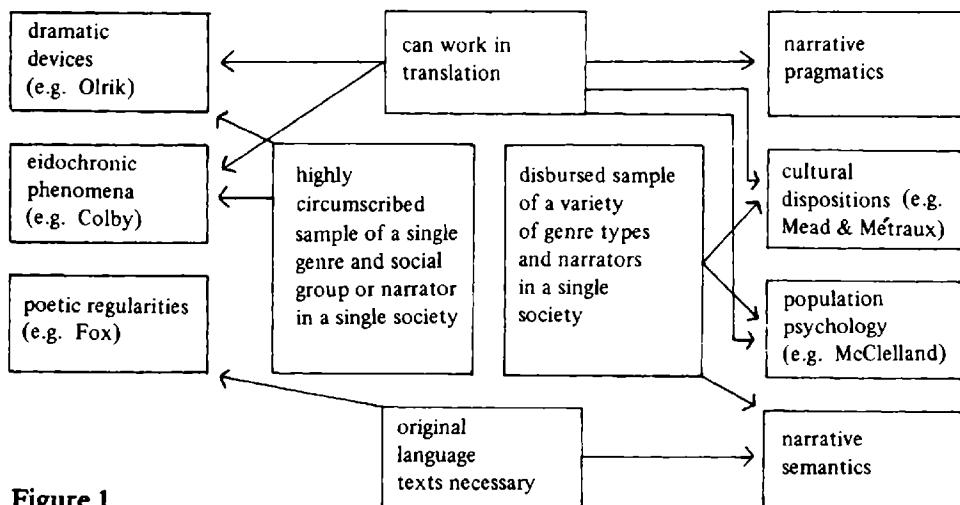


Figure 1.

Jason's criticisms make no mention of our recent work and apply almost exclusively to studies that Kalin, Maranda, and I did at the Harvard University Department of Social Relations, as graduate students or junior faculty members a little over a decade ago. In the early 1960's our computer instrument was extremely crude. For any particular analysis it was necessary to submit the data in batches, which for the particular kinds of studies Maranda and I were doing was a very slow process. Kalin's work was less hampered because he had a well-defined hypothesis to test which would be supported or not by the results of his sample. My own work, and to a certain extent Maranda's, was more exploratory. We sorely missed an interactive mode of analysis, where the investigator could sit at a terminal and change his variable definitions as he retrieved samples from his data. We now have this capability. It is a much faster and more accurate way to arrive at operational definitions.

The eidochronic analysis I have recently done on Eskimo folktales was made entirely without computers. Since making these eidochronic studies, I have attempted to automate some of the procedures required in eidochronic analysis. We have developed an interactive retrieval system called SAGE which allows us to define categories or themes, retrieve sentences or paragraphs which instance these themes, map their occurrence, and carry out various operations to measure relative information content and provide Markovian probabilities. In the process of developing this system I have decided that there is an important theoretical area of analysis which must be further developed before the more sophisticated types of folktale analysis I would now like to do can be done. This area has been variously identified as "interpretive semantics," "presuppositions," "belief systems," and "pragmatics."

Certain ideas which are a presupposition in one language might be explicitly coded in another language. Case in English is covert but in Latin is expressed by suffixes. In my study of Japanese folktales I discussed the frequency of the male pronoun and was careful to say, "in the English translations." In the Japanese stories gender might be covertly coded, but if we have an English translation this covert code is made explicit by the use of pronouns that have gender. Thus for certain types of questions that a computer program might be directed to answer, an English translation (or some other language translation) might actually be more desirable than the original language. This is a hard point to grasp but as more studies in pragmatics appear this type of phenomena and the conclusions one can draw from it will be an everyday experience in narrative semantics.

The capabilities of computer analyses are now far advanced over what they were ten years ago. The most interesting field in computer analysis now is artificial intelligence. The use of augmented transition networks to parse sentences, and the representation of belief structures and presuppositions and other activities which will be helpful in narrative study have been greatly facilitated by a recursive language, LISP, which was especially designed for dealing with verbal, as opposed to quantitative, material.

With all the new flexibility now available in computer programming, the major advantage of using a computer still remains what it was at the beginning: operability. Whatever is done by computer can be replicated by other investigators on other data using the same program. This is an important part of the scientific endeavor.

COLBY, BENJAMIN N.

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COMMENT by Robert A. Georges (Los Angeles, California)

In general, I find Heda Jason's characterizations and assessments of the writings of selected "content analysts" to be perceptive and defensible. Beginning with a discussion of the problems involved in selecting data for study and determining what constitutes a reliable and representative "data-corpus" (problems which tend to be ignored completely by most students of "folktales" or "oral narratives," incidentally, not just those whose works are considered in the paper), Jason then turns her attention to the kinds of procedures that are being employed by those with an interest in "content." Her comprehensive characterizations and systematic analyses of the work of such researchers as Colby and Maranda clearly reveal the limitations of studies which focus upon arbitrarily selected aspects of narrative data and illustrate how and why inferences about behavior which are made on the basis of such investigations can be not only misleading, but even completely erroneous. Jason implies (and I concur) that conceptual problems cannot be solved by computers, but only by those who use them, and that questions tend to be begged, not answered, by substituting "relevant sounding" words for existing terms (e.g. Maranda's employing "traditional messages" rather than "folktales" or "myths") or by giving old concepts new names (e.g. Colby's "eidochronic analysis" — see Colby's comment).

Although Jason's principal concern in her paper is with what she calls "content analysis" (and, unfortunately, the conceptual distinction which she implicitly makes between "content" and other aspects of narrative data is never made clear or explicit), it is obvious that the issues with which she deals are not unique to "content studies." Implicit throughout the paper is the notion that analyses of "oral literature" (and, by implication, of any kind of "data") are only as valid or defensible as are the presuppositions and assumptions of the analysts. Hence, while Jason's criticisms of the work of Colby, Maranda, and Kalin et al. appear to be based upon an assessment and rejection of the procedures which they employ, it is what these investigators

presuppose or assume that Jason ultimately finds to be indefensible: (1) that there is always necessarily a significant correlation between the "content" of the stories that people tell and other aspects of the "cultures" of which they are conceived to be "members," and (2) that one can draw defensible inferences about the nature of "cultural behavior" from the study and analysis of recorded texts of the stories that people tell. Jason presents evidence which convincingly demonstrates the inadequacy of "conceptual schemes" or "cognitive models" which are rooted in such notions; as a meaningful alternative, she suggests an analytical framework which has as its basic premise the notion that "oral literature" is "art" which, by definition, transcends temporal, linguistic, and "cultural" boundaries.

Since procedures which are employed in the analysis of any kind of "data" — and in the analysis of any aspect of "data" of a particular kind — are always manifestations of what an investigator presupposes or assumes, then the presuppositions and assumptions that are the bases for inquiry must constantly be evaluated if inquiry is to progress. It is her awareness of, and concern with, these matters — not with "the state of content analysis" — that makes Jason's essay a significant one to me.

COMMENT by Pierre Maranda (Vancouver, British Columbia)

Jason's review of content analysis in folkloristics is useful. It develops some points contained germinally in her earlier survey of folklore studies (Jason 1969). I shall restrict here my comments to two broad issues, (1) folklore as art, and (2) levels of folklore, before taking up a few more specific points related to my own work. The second part, on levels, will be more elaborate than the other two and will contain six laws of what I call verbodynamics.

The theoretical framework Jason adopts is that (1) folklore is art and (2) there are two main levels in tales — "at least two literary levels . . . textural structure . . . and narrative plot structure" (paragraph 2.3; see also paragraph 2.1). As an epistemological backdrop and for different theoretical approaches, I recommend Gardin's comprehensive discussions (1969, 1973).

FOLKLORE AS ART

Jason's conception of folklore is based on performance (paragraph 1.7). Folkloric items "depend on the censorship of the society for their very survival" (Jason 1969: 414) and without performance, there could be no censorship. Her position is widespread in the field (cf. König Maranda and Maranda 1971: Section 0). But her aesthetic bias seems to lead her to privilege style which, to me, is only one among the several and equally important levels of folklore. She writes, ". . . may we remark that the latter [ritual instruction texts] are presumably NOT ARTISTICALLY SHAPED TEXTS, i.e. NOT FOLKTALES AT ALL" (paragraph 1.4, emphasis added; see also Jason 1969: 414). Then, the following assumption, "A story is told by a raconteur who is a GIFTED INDIVIDUAL, AN ARTIST" (paragraph 1.7, emphasis added; see also paragraphs 2.1 and 2.4).

I do not accept this assumption without qualification. The perusal of folklore archives reveals that there are not only bad collectors but also bad raconteurs. A badly told folktale, however, is still a folktale. While it is true that many raconteurs are aware of and pay attention to the resources of the

language they use, not all are equally talented. I have collected items from raconteurs whose performances were drab according to "emic" criteria; they were also inarticulate; their versions were poorly constructed and contained gaps, inaccuracies, etc. But some were in no way handicapped by their own lack of style. Others would perform only in front of audiences that would not be highly critical, such as their own families or groups of social peers; they would perform in front of larger and/or more demanding audiences only when no other raconteur was available who would have knowledge of the REQUESTED INFORMATION. Information contents may thus often outweigh stylistic considerations.

LEVELS OF FOLKLORE

Information content is my focus. I have proposed elsewhere (Maranda 1972, 1974a: Introduction and Chapter 4) the thesis that "myth" (or folklore in general, as systems of collective representations) underlies language as language underlies speech acts. In other words, culture-specific semantic systems shared by the speakers of a language are a prerequisite for speech acts. The level of *la langue*, in de Saussure's terms, is deeper than that of *la parole*; but this is not enough. Beyond *la langue*, which makes it possible as *la langue* makes *la parole* possible, there is myth. In brief, myth:*langue*:*langue*:*parole*. (For a review of some recent developments in this direction in linguistics, see Gardin 1973.)

I shall now briefly examine the elements of Jason's own model. I invert the procedure she follows in her own review of content analysis, i.e. I abstract from her criticisms the points that underlie her arguments.

Jason's Proposition 1. "A work of oral literature is a work of art. In assuming this we disagree with the content analysts who make no distinction between oral literature and other types of verbal materials" (paragraph 2.1).

COMMENT. I have stated my disagreement on empirical grounds. But I agree that there is an important distinction between oral literature and other types of verbal materials and have emphasized the point elsewhere (Maranda 1968a, 1971c). But the difference is not of an aesthetic order, it is of a formal one, namely, the degree of what I would call "verbodynamics," by which I mean that discourse acquires some specific formal properties, and not necessarily "artistic" ones, in folklore. In effect, a streamlining process is observable when a piece of discourse becomes established as an item of oral tradition. Distortions to fit a culture-specific pattern are one streamlining mechanism; the use of stereotypes and verbal economy are other ones (Köngäs Maranda and Maranda 1971: 22-23), as well as emphasis on action more than on psychological states. The function of this streamlining process could be to overcome "noise" in the communication system and at the same time to reinforce the encoding rules specific to each culture (see below, law 5). On the level of *la parole*, streamlining is a stylistic phenomenon. On the level of *la langue*, streamlining works out and/or refurbishes clichés (see Permiakov's study [1970] of this important component of oral literature). Streamlining is analogous with the dragging of streams: it ensures that associations will flow smoothly along what I have called cultural grooves (Maranda 1972). To be more precise, streamlining in folklore is the reinforcement of expectations; it is definable as a stochastic process, i.e. as a partly redundant expression of

strings of elementary components where the transition probabilities from one component to the next are denumerable (for details, see Maranda 1973).

The general theory summarized above can be reformulated into what I would call verbodynamic laws, described below. Their common function would be to insure the economic and adequate culture conditioning necessary for individuals to participate in a semantic system and therefore be able to communicate whenever they use the same language (see Althusser 1970).

1. POLARIZATION. Polarization consists of partial overlaps (incomplete redundancy) that emphasize the components of a message; it is a process of affirmation by accretion of positive statement and double negation. It underlies structure as a system of contrasting paradigmatic sets. Polarization axes can be restated as the membership rules of the different paradigmatic sets concatenated in the syntagms of narrative structure (Köngäs Maranda and Maranda 1971: 24-30, 57-63; Meletinskij et al. 1969, 1971: Section 13; Maranda et al. n.d.; Gardin 1973: 148 [c]).

2. CULTURAL MATRICES. The sets of semantically permissible combinations within a culture are finite (Maranda 1972, 1973, 1974a: Chapter 4).

3. ASYMMETRY OF OPPOSITIONS. Oppositions are asymmetric and thus create a disequilibrium which launches the tale mechanism. Asymmetry is defined first on the level of paradigmatic sets and generates, by rules of expansion, the narrative structure itself (Lévi-Strauss 1955; Köngäs Maranda and Maranda 1971: Parts I and II; Maranda 1963: Appendices I and II).

4. SPAN. The lengths of syntagmatic strings, like the size of paradigmatic sets, are finite and culture-specific for each class of strings and sets (Buchler and Selby 1968; Maranda 1969).

5. COMPUTABILITY. The transition probabilities that form expansion rules within paradigmatic sets and from one tale-state to another are computable (Maranda 1973).

6. STYLE. A performer's stylistic freedom operates within strict limitations to be defined by a stylistic calculus. Examples: the cadenza in a concerto for orchestra and a solo instrument; improvisations of a theme both in classical music and in jazz.

SUMMARY OF THE LAWS: The interplay of tradition and evolution is a dialectic process which is structured stochastically.

Jason's Proposition 2. "A semantic field is thought [wrongly by content analysts] to be similar in the tale text and in nonartistically organized speech" (paragraph 2.4).

COMMENT. Contrary to Jason's position, I argue that if knowledge of the ethnographic context is absolutely necessary, it is precisely to assess to what extent semantic fields are isomorphic in folklore and in other forms of "organized speech." Neither genre commensurability nor genre incomensurability can be taken for granted.

Jason's Proposition 3. Recording, editing, and translating are distorting processes (paragraph 1.5).

COMMENT. Jason quotes an experiment, "Several investigators noted down manually the same narrating performance. It turned out that the differences in the resulting texts were great," etc. I conducted a few experiments that are the inverse of the one she reports. Informants or students were given normalized texts (computer outputs consisting of strings of metalinguistic — see below — categories) and were asked to reconstruct the original narrative plot. The rate of success was very high (Maranda 1971a).

Jason's Proposition 4. "The narrative plot is preserved in the free translation" of the text quoted (paragraph 1.7).

COMMENT. "A remark can be introduced at this point which will help to show the originality of myth in relation to other linguistic phenomena. Myth is the part of language where the formula *traduttore, traditore* reaches its lowest truth value. . . . Poetry is a kind of speech which cannot be translated except at the cost of serious distortions; whereas the mythical value of the myth is preserved even through the worst translation. . . . Myth is language functioning on an especially high level where meaning succeeds practically at 'taking off' from the linguistic ground on which it keeps on rolling" (Lévi-Strauss 1955: 210; on the pitfalls of natural languages and the inappropriateness of even the most sophisticated linguistic and grammatical analyses, and on the need to get rid of "language" to analyze content, see Gardin 1973; Maranda 1967b, 1967c; see also van Dijk 1972; Ihwe 1972; Petöfi 1972).

Myth — narrative plots — is independent of the speech and language in which it is told. On this level, the task of the analyst is therefore to get rid of natural language and its attributes (style, texture, etc.). And as already shown by Propp, folkloristics — like any other type of analysis — needs a metalanguage to handle its data. This metalanguage is also called by content analysts "descriptive language" and "normalization." It is a notation system whose terms and syntax are defined univocally. Of course, there are better and not so good notation systems; that of Leibnitz, in mathematics, proved better than that of Newton (Maranda 1974a: Chapter 3). Likewise, there are more and less adequate content analysis "dictionaries" or lists of categories. And I agree completely with Jason (end of paragraph 2.4) that a "universal," i.e. culture-free, content analysis dictionary is invalid by anthropological definition.

Let us reread Jason's statement in the light of the preceding paragraph. "A 'normalization' procedure destroys the very raw material of the envisaged analysis" (paragraph 1.8). Far from being so, it is the prerequisite without which analysis remains inextricably enmeshed in the ambiguities and noise of natural language and will become hopelessly intuitive and inconsistent, shifting as it will in an uncontrollable way from one level to another. It seems therefore that Jason's focus on style misleads her to privilege unduly the texture of natural language. Her object would be what I would leave out deliberately for analytic purposes. I find it legitimate for her to question the validity of my object but she should not condemn my procedure because it is not appropriate to HER object. I agree with her — in her view, negative — comment that "such a procedure . . . destroys any artistic poetic structure there may have been in the tale text" etc. (end of paragraph 1.8). Speech and language, i.e. "subtler semantic connotations," are what the analyst must reach beyond in order to have access to semantics; and there he may find, on this deeper level, NARRATIVE art and poetry precisely because he refuses to be seduced by the frills raconteurs display before his eyes.

I shall not repeat here what I have written elsewhere on the care with which metalinguistic categories should be defined (Maranda 1967a, 1967b, 1967c, 1968a, 1968b; see also the publications of the Amsterdam group at the Institute for General Literary Studies).

Content analysis, as I use it, works mainly on the level of myth as such. But it can also be used on that of texture. It would then operate on the level of natural language rather than on analytic categories and propositions. However, even in work done metalinguistically, it is possible to have access to style. Thus, number and types of connectors — as defined in content analysis

dictionaries — vary in some societies with the status of the teller: the greater his responsibilities, the more complex the system of connectors he uses.

Jason's Proposition 5. "A general word list, based on semantic fields, made by members of a Western society in a Western language is [not] a valid etic tool with which to measure all other cultures" (paragraph 2.6).

COMMENT. I agree and I have made the same observation in another publication (Maranda 1967c). In defense of some content analysts whose practice is different, it may be said that the function of such dictionaries is only to ensure descriptive consistency, like the International Phonetic Alphabet in linguistics. (Many linguists cannot reproduce vocally IPA transcriptions of languages they do not know and they argue as well over the accuracy of IPA transcriptions by other linguists of languages they do know.) I could add that English could be a useful if elementary metalanguage to analyze texts in other languages.

SOME RESIDUES

I have reacted so far to the points that interested me most in Jason's discussion. In conclusion, I should reply briefly to some of the detailed comments and/or criticisms addressed by Jason to my two 1967 papers to which she refers (1967a, 1967b).

These two papers were only the description of preliminary steps, as indicated at the end of the second one (1967b). Unfortunately, Jason either does not know or did not take into account the publications that followed in this domain and in which I developed my approach in the direction of qualitative analysis (Maranda 1968a, 1968b, 1970, 1971a, 1971b, 1971c, 1972).

In her paragraph 2.3, Jason states correctly that I have established levels of significance on the basis of frequency counts. But it should not be inferred from this that "importance" is strictly a quantitative affair in the sense that is implied in sections preceding her paragraph 3.3.4 and explicit in the latter. With respect to the "importance of jaguars" and the analogy she proposes between tapirs and dragons, the point is not their "real" importance but their CONCEPTUAL importance (for a related point, see Propp 1928).

In connection with what is lacking in my 1967 papers, namely, a "frame of reference," see what I wrote above in my comments on Jason's proposition 1 and the titles I give there.

Finally, a partial report on the test of Propp's theories will be found in a forthcoming paper (Maranda, Taylor, and Flynn n.d.). Briefly, it shows that distributional analyses corroborate Propp's point that *dramatis personae* and not functions discriminate between texts.

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REPLY by Heda Jason

I am glad that the discussion contributed to the clarification of issues which were not clear at the outset, as I remarked in the beginning of my paper. My paper analyzes an approach which has since been mostly abandoned, yet, to the best of my knowledge it has not been thought over for its implications. In the years which have passed since my paper was originally written (1968) the authors have, of course, developed their ideas and to a great extent now work on different problems and use different approaches than those discussed here. Yet the written word has a life of its own, and therefore I decided that my discussion might still be useful, however outdated it may be. The opinions of Georges support my feeling that the views raised in the paper are still worth

printing. The concept of a more or less direct relationship between the stories and their society, a relationship which is readily observable on the surface of ethnopoetic work, is still held by most anthropologists, and impedes in certain respects our understanding of the nature of both ethnopoetry and culture.

Maranda sketches in his comment the frame of reference in which his earlier work has to be understood. This frame of reference was apparently published (developed?) after the work discussed in my paper had been published. (The new publications are from the years 1969-74 and in part forthcoming only now just as these lines are being written, i.e. they were not available to me; the works discussed by me were published in 1967.) Yet this frame of reference does not show through in the content analysis papers, not even now, by hindsight.

There are many points on which Maranda and I agree. Therefore, let me mention the points on which we disagree.

The first deals with his comment to my proposition 4. Although myth can be translated and still stay a myth, there is a problem hidden in this fact. "Myth — narrative plot . . ." says Maranda. Does that mean that "myth" is equal to a narrative plot? Or is "myth" a special genre of ethnopoetry, one genre among many others, some of them narrative (such as fairy tale, epic, legend), others nonnarrative (such as proverb, lyric song)? In addition, myth has religious significance of a high order; it is part of religious practice, an aspect which has to be taken into account somewhere in the analysis. For example, I am not at all sure whether the shape in which the Oedipus narrative reached us is that of a myth, whether the plot of the tale functioned as a myth at the time when the versions which came to us were formed in the society, or whether it has ever functioned in the past as a myth. We have no data against which these suppositions could be tested. And when Lévi-Strauss maintains that all the versions of the Oedipus story (AT 931), including Freud's use of it as parable, form the Oedipus myth, then I guess we disagree on the definition of what a "myth" is. (My definitions can be found in Jason 1973 and i.p.b.). I would maintain exactly the opposite view: it is not the plot which makes a narrative belong to a certain genre such as "myth" but several other qualities which have not yet been finally defined (such as "mode" — Jason i.p.b.). The problems of genre specification are among the most difficult in ethnopoetics, as well as in general poetics (see paragraph 2.4 in my paper under discussion; see also Lüthi 1953-1954, for a juxtaposition of similar plots in legend, fairy tale, and epic. Much ink has been spilled over this problem; among others Propp also worked on this subject (Propp 1964).

That is one reason that I would not agree with Maranda's opinion that "the task of the analyst is . . . to get rid of natural language and its attributes (style, texture, etc.)" (p. 305) and remain with the bare plot. Another reason in favor of sticking to our data as they are and trying to account for them in our description as fully as possible is the fact that in careful analysis of the narrative structure (such as is done in my paper "Model . . ." in this volume), the upper layers of the narrative structure are closely enmeshed in the texture (and style as part of the texture). This circumstance shows up especially when similar plots are analyzed, be they recorded several times from the same narrator, or from different narrators: while the deeper layers of the narrative structure are identical, the upper (surface) layers diverge more and more as we move "upwards," until they enmesh in the texture. (See examples of six parallel texts in Jason i.p.a.).

The next argument in favor of paying attention to the wording of the text,

the "frills raconteurs display before his [the analyst's] eyes" (Maranda's remark, p. 305) is the very symbolic and semantic loads which words carry for the native, who of course knows his culture presumably more intimately than any analyst can ever hope to be able to. If we "get rid" of these, what are we analyzing? If we stop checking our work by the demand to account for all data, are we not analyzing to a great extent our own constructs? (See Jason 1976.)

My major reaction to Colby's comment would be to disagree on the role of computers in the advancement of investigation. In my opinion, better computer facilities will not help us without better theories; the computer is only a tool, albeit a sophisticated one. The computer should not be blamed when an experiment does not lead to the expected result.

The question which interests me mostly in Colby's comment is his remark: "In fact this early work [the content analysis studies] led to my later discovery of the eidochronic phenomena underlying the Eskimo folktales" (p. 299). How did this happen? Colby's eidochronic analysis works with units akin to Propp's functions, only on a lower level of abstraction nearer to the immediate content of the tale. How do these units come from computerized content analysis? The question is not a rhetorical show-off. The main impediment to more exact studies of narrative structure is that most of the work so far is based on intuition. Once we are able to "teach" the computer to recognize a function or a tale role, then we will really know whether our concepts are workable at all.

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APPENDICES

The Problem of “Tale Role” and “Character” in Propp’s Work

APPENDIX 1

Unfortunately, the 1958 English translation blurred the difference between the abstract concept “tale role” and the concrete concept “character” in the book. As this translation served as the first introduction to Propp’s work, failure to distinguish these notions has been carried on in the work which followed Propp’s methodology. Therefore, the models of Dundes (1964), Colby (1973a, 1973b), Horner (1970), and Ben-Amos (1967) do not feature the tale role/character at all as a unit in their model. Tale role and character reappear in the models of Greimas (1966) and Jason (1967 and this volume). Among Propp’s reviewers it was Drobis (1970) who paid attention to the concepts of tale role and character.

The Russian original uses two terms: (a) *dejstvuiushchee lico* (acting person); (b) [*skazochnyj*] *personazh* ([folktale] personage). The English translation uses three terms interchangeably, regardless of which term Propp uses: (a) *dramatis persona*; (b) personage; (c) character.

We present here the text of the English translation of Propp’s book in its original form (second edition 1968: 20, 21, 79, 80, 87, 88) side by side with the corrected text of the translation, in which the terms are exchanged as follows:

dejstvuiushchee lico = tale role

[*skazochnyj*] *personazh* = character

The pages of the English translation are given in parentheses and the pages of the Russian original (first edition 1928) are given in brackets.

Published Text

"(20) . . . [29] . . . Both constants and variables are present in the preceding instances. The NAMES of the DRAMATIS PERSONAE change (as well as the attributes of each), but neither their actions nor functions change. From this we can draw the inference that a tale often attributes identical actions to various PERSONAGES. This makes possible the study of the tale according to the functions of its DRAMATIS PERSONAE.

We shall have to determine to what extent these functions actually represent recurrent constants of the tale. The formulation of all other questions will depend upon the solution of this primary question: how many functions are known to the tale?

Investigation will reveal that the recurrence of functions is astounding. Thus Baba Jaga, Morozko the bear, the forest spirit, and the mare's head test and reward the stepdaughter. Going further, it is possible to establish that CHARACTERS of a tale, however varied they may be, often perform the same action. The actual means of the realization of functions can vary, and as such, it is a variable. Morozko behaves differently than Baba Jaga. But the function as such is constant. The question of what a tale's DRAMATIS PERSONAE do is an important one for the study of the tale, but the question of who does it and how it is done already fall within the province of accessory study. The functions of CHARACTERS are those components which could replace

Corrected Text

"(20) . . . [29] . . . Both constants and variables are present in the preceding instances. The NAMES of the TALE ROLES change (as well as the attributes of each), but neither their actions nor functions change. From this we can draw the inference that a tale often attributes identical actions to various CHARACTERS. This makes possible the study of the tale according to the functions of its TALE ROLES.

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Investigation will reveal that the recurrence of functions is astounding. Thus Baba Jaga, Morozko the bear, the forest spirit, and the mare's head test and reward the stepdaughter. Going further, it is possible to establish that CHARACTERS of a tale, however varied they may be, often perform the same action. The actual means of the realization of functions can vary, and as such, it is a variable. Morozko behaves differently than Baba Jaga. But the function as such is constant. The question of what a tale's CHARACTERS do is an important one for the study of the tale, but the question of who does it and how it is done already fall within the province of accessory study. The functions of TALE ROLES are those components which could replace

Veselovskij's "motifs," or Bedier's "elements." We are aware of the fact that the repetition of the functions by various CHARACTERS was long ago observed in myths and beliefs by historians of religion, but it was not observed by historians [30] of the tale. [. . .]

Just as the characteristics and functions of deities are transferred from one to another, and, finally, are even carried over to Christian saints, the functions of certain tale PERSONAGES are likewise transferred to other PERSONAGES. Running ahead, one may say that the number of functions is extremely small, whereas the number of PERSONAGES is extremely large. This explains the two-fold quality of a tale: its (21) amazing multiformity, pictur-esque ness, and color, and on the other hand, its no less striking uniformity, its repetition. Thus the functions of the DRAMATIS PERSONAE are basic components of the tale, and we must first of all extract them. In order to extract the functions we must define them. Definition must proceed from two points of view. First of all, definition should in no case depend on the PERSONAGE who carries out the function. Definition of a function will most often be given in the form of a noun expressing an action (interdiction, interrogation, flight, etc.). Secondly, an action cannot be defined apart from its place in the course of narration. The meaning which a given function has in the course of action must be considered. For example, if Ivan marries a tsar's

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daughter, this is something entirely different than the marriage of a father to a widow with two daughters. A second example: if, in one instance, a hero receives money from his father in the form of 100 rubles and subsequently buys a wise cat with this money, whereas in a second case, the hero is rewarded with a sum of money for an accomplished act of bravery (at which point the tale ends), we have before us two morphologically different elements —in spite of the identical action (the transference of money) in both cases. Thus, identical acts can have different meanings, and vice versa. Function is understood as an act of a [31] CHARACTER, defined from the point of view of its significance for the course of the action.

The observation cited may be briefly formulated in the following manner:

1. Functions of CHARACTERS serve as stable, constant elements in a tale, independent of how and by whom they are fulfilled. They constitute the fundamental components of a tale.
2. The number of functions known to the fairy tale is limited.

(79) . . . [88] . . . Although functions, as such are the subjects of the present study (and not their performers nor the objects dependent upon them), we nevertheless should examine the question of how functions are distributed among the DRAMATIS PERSONAE. Before

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2. The number of functions known to the fairy tale is limited.

(79) . . . [88] . . . Although functions, as such are the subjects of the present study (and not their performers nor the objects dependent upon them), we nevertheless should examine the question of how functions are distributed among the TALE ROLES. Before

answering this question in detail, one might note that many functions logically join together into certain spheres. These spheres in toto correspond to their respective performers. They are spheres of action. The following spheres of action are present in tale: [follow the 7 tale roles of the fairy tale.]

(80) . . . [89] . . . Consequently, the tale evidences seven DRAMATIS PERSONAE. The functions of the preparatory section [. . .] are also distributed among the same CHARACTERS, but the distribution here is unequal, making the definition of the CHARACTERS impossible by these functions. In addition, there exist special PERSONAGES for connections (complainers, informers, slanderers), and also special betrayers for function 5 (a looking glass, a chisel, a broom). CHARACTERS such as "One-Eye," and "Three-Eye" belong here also. The problem of the distribution of functions may be resolved on the plane of the problem concerning the distribution of the spheres of action among the CHARACTERS. How are the above-mentioned spheres of action distributed among individual tale CHARACTERS? There are three possibilities here:

1. The sphere of action exactly corresponds to the CHARACTER. The witch who tests and rewards the hero, and animals begging for mercy and giving Ivan a gift, are pure donors. The horse which brings Ivan to the princess, helps in abducting her, solves a difficult task, rescues the hero from pursuit etc., is a pure helper.
2. One CHARACTER is involved in several spheres of action.

answering this question in detail, one might note that many functions logically join together into certain spheres. These spheres in toto correspond to their respective performers. They are spheres of action. The following spheres of action are present in tale: [follow the 7 tale roles of the fairy tale.]

(80) . . . [89] . . . Consequently, the tale evidences seven TALES ROLES. The functions of the preparatory section [. . .] are also distributed among the same CHARACTERS, but the distribution here is unequal, making the definition of the DETERMINATION of the CHARACTERS impossible by these functions. In addition, there exist special CHARACTERS for connections (complainers, informers, slanderers), and also special betrayers for function 5 (a looking glass, a chisel, a broom). CHARACTERS such as "One-Eye," and "Three-Eye" belong here also. The problem of the distribution of functions may be resolved on the plane of the problem concerning the distribution of the spheres of action among the CHARACTERS. How are the above-mentioned spheres of action distributed among individual tale CHARACTERS? There are three possibilities here:

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2. One CHARACTER is involved in several spheres of action.

The little iron peasant who asks to be let out of a tower, thereupon rewarding Ivan with strength and a magic table-cloth, but who eventually also aids in killing [90] the dragon, is simultaneously both a donor and a helper.

(87) . . . [96] . . . The study of CHARACTERS according to their functions, their distribution into categories, and their forms of appearance inevitably leads us to the problem of tale CHARACTERS in general. Previously, we sharply separated the question of who acts in the tale from the question of the actions themselves. The nomenclature and attributes of CHARACTERS are variable quantities of the tale. By attributes we mean the totality of all the external qualities of the CHARACTERS: their age, sex, status, external appearance, peculiarities of this appearance and so forth. These attributes provide the tale with its brilliance, charm, and beauty. When one speaks of a tale, he first recalls, of course, Baba Jaga and her hut, many-headed dragons, Prince Ivan and the beautiful princess, magical flying horses, and many other things. We have seen, however, that one CHARACTER in a tale is easily replaced by another. These substitutions have their own, sometimes very complicated causes. Real life itself creates new, vivid images which supplant TALES PERSONAGES.

(88) . . . [97] . . . The study of a CHARACTER'S attributes

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(88) . . . [97] . . . The study of the attributes of the CHARACTER

establishes only the following particularities of introduction into the narrative, and dwelling place. To these are added a series of other, less significant auxiliary elements. Thus, characteristic peculiarities of Baba Jaga are: her name, her appearance (her bony leg, her "nose which has grown to the ceiling," etc.,) her hut turning on chicken legs, and the manner of her entrance: she flies down in a mortar accompanied by whistling noise. If a CHARACTER is defined from the viewpoint of his functions, for example, as a donor, helper, etc., and the heading in the table includes everything mentioned about him, then an exceedingly interesting picture is obtained."

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Let us reiterate those sentences from Propp's text which state most clearly what is meant by each term:

"(87) . . . The nomenclature and attributes of TALE ROLES are variable quantities [variables] of the tale. By attributes we mean the totality of all the external qualities of the CHARACTERS: their age, sex, status, external appearance . . ."

"(88) . . . a character is determined from the viewpoint of his functions, for example, as a donor, helper . . ." Donor and helper are TALE ROLES. The donor has no age, sex, status, etc. But the character who plays donor such as the witch Baba Jaga, is old, female, out of society, etc.

Thus, we have here two distinct concepts. It is hoped that a confusion is hereby cleared up.

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List of Propp's Functions

APPENDIX 2

Number Symbol Name

	α	initial situation
1	β	absentation
2	γ	interdiction
3	δ	violation
4	ϵ	reconnaissance
5	ζ	delivery
6	η	trickery
7	θ	complicity
8A	A	villainy
8a	a	lack
9	B	mediation, connective incident
10	C	beginning counteraction
11	\uparrow	departure
12	D	the first function of the donor
13	E	the hero's reaction
14	F	provision or receipt of a magical agent
15	G	spatial transference between two kingdoms, guidance
16	H	struggle
17	J	branding, marking
18	I	victory
19	K	the initial misfortune or lack is liquidated
20	\downarrow	return
21	Pr	pursuit, chase
22	Rs	rescue
23	o	unrecognized arrival
24	L	unfounded claims

Number Symbol Name

25	M	difficult task
26	N	solution
27	Q	recognition
28	Ex	exposure
29	T	transfiguration
30	U	punishment
31	W	wedding

Biographical Notes

JOHN F. AESCHLIMANN has an M.S. degree in Computer Sciences from the University of Wisconsin and an M.A. degree in Linguistics. He is currently working with Dr. Klein in Paris on automating the methodology of Lévi-Strauss' *Mythologique*.

MATTHEW A. APPELBAUM has an M.S. degree in Computer Sciences from the University of Wisconsin.

DAVID F. BALSIGER has an M.S. degree in Computer Sciences from the University of Wisconsin.

CLAUDE BREMOND (1929-) is Maître-Assistant at the École des Hautes Études en Sciences Sociales, Paris. He has been working on problems of structural analysis and semiotics of the narrative since 1964. Several of his major studies were published in his *Logique du récit* (1973).

BENJAMIN N. COLBY (1931-) received his A.B. from Princeton University in 1953 and his Ph.D. from Harvard University in 1960. He taught at Harvard and at the University of North Carolina, Chapel Hill, and is presently Professor of Anthropology at the School of Social Sciences, University of California, Irvine. He is primarily interested in the study of belief systems, cultural psychology, and theoretical anthropology and has published (with Pierre van den Berghe) *Ixil country: a pluralistic society in highland Guatemala* (University of California Press, 1969).

ELIZABETH J. CURTIS received her B.A. in Linguistics from the University of Wisconsin.

ILANA DAN (1949-) graduated from Tel Aviv University in the theory of literature. Her primary interest lies with the poetics of the cinema.

RINA DRORY (1947-) received her B.A. in Arabic Language and Litera-

ture at the Hebrew University in Jerusalem; she studied the theory of literature at Tel Aviv University, where she received her M.A. in 1976. Her primary field of interest is the poetics of classical Arabic literature; in her M.A. thesis she explored the rhyming system of classical Arabic poetry. She is currently Teaching Assistant in the Department of Arabic Language and Literature at Tel Aviv University.

MARK FOSTER has an M.S. degree in Computer Sciences and an M.A. degree in Linguistics from the University of Wisconsin.

MORRIS FREILICH (1928-) is Professor of Sociology and Anthropology at Northeastern University. He is primarily concerned with theory development in role analysis ("The natural triad in kinship and complex systems," *American Sociological Review*, 1964), in the conceptualization of "culture" (*The meaning of culture*, Xerox College Publishers, 1972) and in structuralism ("Myth, method and madness," *Current Anthropology*, 1975). He also maintains a continued interest in methodology (*Marginal natives: anthropologists at work*, 1970) and has done anthropological fieldwork in North America, the Caribbean, and Israel.

ROBERT A. GEORGES (1933-) is Professor of English and Folklore at the University of California, Los Angeles. He received his M.A. in English and American Literature from the University of Pennsylvania in 1961 and his Ph.D. in Folklore from Indiana University in 1964. Folk narrative, folk speech, and the conceptual foundations of folkloristics are the foci of his teaching, research, and publications.

ERHARDT GÜTTGEMANNS (1935-) studied Protestant theology in Wuppertal, Göttingen, and Bonn. He finished his studies in 1963. Since 1967 he has been interested in linguistic and literary studies and is the founder of a text-grammatical school in the exegesis of religious texts. In 1970 he received the degree of Dr. habil. and started editing the journal *Linguistica Biblica*. Since 1972 he has also edited the series Forum Theologiae Linguisticae. He became Dozent at the University of Bonn in 1973. His publications include *Offene Fragen zur Formgeschichte des Evangeliums* (1970); together with U. Gerber he edited "*Linguistische Theologie*" (1972, 2nd ed. 1975) and *Glauben und Grammatik* (1973, 2nd ed. 1974).

B. HOLBECK teaches at the Institute of Folklore, University of Copenhagen.

HEDA JASON (1932-) graduated from the Hebrew University (Jerusalem) in Jewish Studies and received her Ph.D. from Indiana University, Bloomington, in 1968 with a thesis on the sociological semantics of Jewish ethnopoetry. She is currently Senior Lecturer in the Department of Poetics and Theory of Literature at Tel Aviv University. Her interests include structural and semantic analysis of ethnopoetics, the use and function of folklore in culture and society, and Jewish and Near Eastern folklore and ethnography. She did fieldwork among the Jews of Yemen and Kurdistan. Recent publications include *Studies in Jewish ethnopoetry* (Taipei, 1975), *Types of oral tales in Israel* (Jerusalem, 1975), *Ethnopoetics: a multilingual terminology* (Jerusalem, 1975) and *Ethnopoetry: form, content, function* (Bonn, 1976).

S. DAVID KALISH received his M.S. degree in Computer Sciences from the University of Wisconsin.

SCOTT J. KAMIN has an M.S. degree in Computer Sciences from the University of Wisconsin.

SHELDON KLEIN (1935-) received his Ph.D. from the University of California at Berkeley in 1963, and is currently Chairman of the Linguistics Department, University of Wisconsin, Madison. His main research interests include computational linguistics, artificial intelligence, automatic inference of text grammars and generative semantic grammars, computer simulations of social and language behavior, and historical change in language. Some recent publications are: "Computer simulation of language contact models," in *Toward tomorrow's linguistics* (edited by R. Shuy and C. J. Bailey, Washington, D.C., 1974), "Metacompiling text grammars as a model for human behavior," in *Theoretical issues in natural language processing* (edited by R. Schank and B. Nash-Weber, Arlington, 1975).

YING-DA LEE has an M.S. degree in Computer Sciences from the University of Wisconsin.

PIERRE MARANDA (1930-) is currently with the Department of Anthropology and Sociology, University of British Columbia. His research interests include structuralism, semantics, social structure, mythology and folklore, and kinship patterns. He has done fieldwork in the Solomon Islands, Malaita, France, and the United States. His many publications include: *French kinship: structure and history* (1972), *Structural models in folklore and transformational essay* (with E. K. Köngäs Maranda, 1971), and (editor) *Mythology* (1972).

ELEAZAR M. MELETINSKIJ (1918-) studied at the University of Moscow from 1935 to 1940. He received the Candidat of Science (equivalent to a Ph.D.) in 1945 and Doctor of Science (equivalent to full professor) in 1966. From 1945 to 1955 he was Professor at the University of Tashkent and the University of Petrozavodsk, and has been, since 1956, Senior Research Associate at the Gorky Institute of World Literature in Moscow. His chief fields of interest are the poetics of folklore, the structural study of myth and folktale, and the study of the epic. His main publications in Russian are *The hero of the fairy tale* (1958), *The genesis of the heroic epic* (1961), *Edda and the early forms of the epic* (1968), and *The poetics of the myth* (1976). His works in English include "Scandinavian mythology as system" (in *Journal of Symbolic Anthropology*, 1973) and *Typological analysis of the paleo-Asiatic raven myths* (Semiotic Studies 6, 1973).

LYNNE A. PRICE has an M.S. degree in Computer Sciences from the University of Wisconsin.

DAVID F. SALSIEDER received his B.A. in Linguistics from the University of Wisconsin.

DIMITRI SEGAL (1938-) is Professor of Comparative and Slavic Literature

at the Hebrew University, Jerusalem. He has done work in Slavic linguistics, poetics, and folklore. His publications include "The connection between the semantics and the formal structure of a text," in *Mythology* (edited by P. Maranda, Penguin, 1972); "On the structure of the fairy tale" (with E. M. Meletinskij et al.), in *Texts of soviet structural folkloristics* (edited by P. Maranda, Mouton, 1974). He has also published a description of the Ket language (Siberia), on which he did fieldwork in 1962.

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