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MODELLING PROPP AND LÉVI-STRAUSS  
IN A META-SYMBOLIC SIMULATION SYSTEM

by

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ABSTRACT

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Tests of the system include an automated generative model for a portion of Lévi-Strauss' The Raw and the Cooked, and an automated generative model for Propp's Morphology of the Folktale. Output presented includes fifty Russian folktales, generated at an average rate of 128 words per second (Univac 1110/1108), including computation of plot, generation of deep structure and generation of surface text.

The meta-symbolic simulation system includes a powerful behavioral simulation programming language that models, generates and manipulates events in the notation of a semantic network that changes through time, and a generalized, semantics-to-surface structure generation mechanism that can describe changes in the semantic universe in the syntax of any natural language for which a grammar is supplied.

The total system has the power of at least the 2nd order predicate calculus, and will facilitate the formulation of highly abstract meta-models of discourse, including logical quantification of such models. Other features include the ability to treat objects, characters and complex actions as manifestations of the same abstract semantic unit.

Extensions of the research to riddle, dream and myth generation and analysis are discussed, as well as the possibility of modelling more of the work of Lévi-Strauss.

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### 1.0 Introduction

We present here the results of constructing and executing an automated model of Propp's Morphology of the Folktale, for one more Russian folktales. We include a complete listing of the encoded model, with references to the 2nd edition of the English translation of this work (Propp, 1968), together with the printed, computer output text of 50 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 "meta-symbolic simulation system". This system is capable of modelling a variety of behavioral models in combination with a variety of semantic/grammatical models.

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\* Presented at the 1974 Annual Meeting of the American Folklore Society, Oct. 31 - Nov. 3, Portland. A portion of the Lévi-Strauss model was presented at the VI Congress of the International Society for Folk-Narrative Research, June 16-21, 1974, Helsinki (late contribution). Portions of this research were sponsored by the Wisconsin Alumni Research Foundation.

The models offered as data for this paper constitute a testing of but a portion of the capabilities and range of application of the meta-symbolic 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 meta-symbolic 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-automised and Automised Text Processing Systems," held at the Center for Interdisciplinary Research, University of Bielefeld, Germany, February 18-22, 1974. The conference was organized by János 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 Kóngás-Maranda, Dimitri Segal, Mihaly Hoppal, and Michel de Virville. Jason, Segal and Kóngás Maranda were especially successful in persuading us to begin work immediately on constructing automated folklore models. We owe a special debt of gratitude to the work of Pierre Maranda & Elli Kóngás-Maranda, "A Sketch of the Okanagan Myth Automaton," which Kóngás-Maranda presented at this conference, and also to a paper by Michel de Virville on an automated Cinderella story model, "Cinderella Goes to the Ball." 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, (Kahn, 1973) reviewed the murder mystery model (Klein et al, 1973, AUTOMATIC NOVEL WRITING: A Status Report) 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 & 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 Grammatician movement presented in Dascal & 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, Appelbaum, Kamin and Lee are responsible for major system programming additions to the meta-symbolic 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 (1971), and its lineal ancestors include Klein & Simmons (1963), Klein (1965a & b), Klein et al (1966). A non-exhaustive list of related work by other researchers includes (automated semantic networks): Quillian (1966), Schank (1969, 1972), Schank & Rieger (1973), Mel'chuk & Zholkovskij (1970); (variants of the 1st order predicate calculus as part of the semantic base component in natural language generative models): Mc Cawley (1968), Bach & Harms (1968), Lakoff (1969), Green & Raphael (1968), Coles (1968), & Petofi (1973); (natural language compiling into semantic representations, inference languages, or simulation languages): Kellogg (1968), Heidorn (1972), Simmons (in preparation). Green & Raphael (1968) and Coles (1968).

### 3.0 The Meta-symbolic Simulation System

The meta-symbolic simulation system can be viewed as consisting of three components: a behavioral simulation, programming language that models, generates and manipulates events in the domain of discourse in the notation of the second component, a semantic network consisting of connected abstract objects and relations. The third component is 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 action that will be described later. The test conditions may be logical queries about the existence or non-existence 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 object or relations, and representation of unitary semantic relations as multi-word 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, remember, 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

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

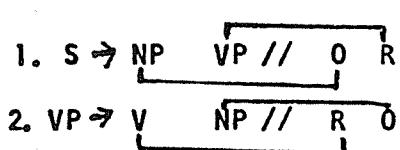
The system also has classes whose membership may be modified by actions of the rules. These are of two types: object classes and relation classes. Each class name may be associated with or function as a semantic object or relation. Subscripted classes may also be defined, where the subscripts must consist 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 non-terminal 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 encode 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 the phrase structure rule, e.g.



#### Change Stack

$O_a - R_b - O_c$

#### Dictionary

NP    VP

eat    1

fish    1

man    1

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 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 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 non-terminal nodes appear. The references to the committed lexical items are transmitted to the descendants of the non-terminal 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 non-terminal 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 possible 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 modelling 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?' The other 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 folk tales and myths a relatively easy task if one already has automated generative models.

#### 4.0 A 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 meta-symbolic simulation system devices. The first is a quantification of functions through the use of subscripted classes, and 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 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 listing 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 an addition of scenario sequences. The rule SOULNEST is only reached if class REVENGE(1) is first selected.

| <u>Classes</u> |                     |                 |                   |                     |
|----------------|---------------------|-----------------|-------------------|---------------------|
| <u>Myth</u>    | <u>PROCURER</u>     | <u>COLLECT</u>  | <u>EXPEDITION</u> | <u>RAPIST</u>       |
| 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             | ---                 |
| <u>Myth</u>    | <u>VICTIM</u>       | <u>OBSERVER</u> | <u>REVENGE</u>    | <u>HERO</u>         |
| 1              | MOTHER OF HERO      | ---             | SOULNEST          | HERO                |
| 2              | WIFE OF BAITOGOGO   | SON             | KILLSWIFE         | BAITOGOGO           |
| 12             | ---                 | ---             | ---               | HERO                |
| 124            | MOTHER OF HERO      | ASARE           | THRASH            | ASARE               |
| 125            | ---                 | ---             | ---               | BEPKOROROTI         |
| <u>Myth</u>    | <u>TAPIR</u>        | <u>SPEED</u>    | <u>DEPRIVED</u>   | <u>DEPRIVATION</u>  |
| 1              | ---                 | ---             | FATHER            | MOTHER              |
| 2              | MAN FROM TAPIR CLAN | SLOWLY          | SON               | MOTHER              |
| 12             | ---                 | ---             | HERO              | WATER               |
| 124            | ---                 | ---             | ASARE             | WATER               |
| 125            | TAPIR               | QUICKLY         | SON               | FOOD                |
| <u>Myth</u>    | <u>VERTICAL</u>     | <u>RELATION</u> | <u>LIE</u>        | <u>ANIMAL</u>       |
| 1              | BIRDNESTING         | FATHER          | ---               | VULTURE             |
| 2              | TREE                | ---             | ---               | ---                 |
| 12             | BIRDNESTING         | BROTHER-IN-LAW  | LIE               | JAGUAR              |
| 124            | FALCONS             | ---             | ---               | ---                 |
| 125            | MOUNTAIN            | ---             | ---               | ---                 |

| <u>Myth</u> | <u>WANDERER</u>    | <u>CREATION</u> | <u>Classes for SOULNEST</u> |                    |               |
|-------------|--------------------|-----------------|-----------------------------|--------------------|---------------|
|             |                    |                 | <u>K</u>                    | <u>OBJECT</u>      | <u>HELPER</u> |
| 1           | HERO               | RAIN            |                             |                    |               |
| 2           | BAITOGOGO          | LAKE            | K                           | OBJECT             | HELPER        |
| 12          | HERO AND JAGUAR    | FIRE            |                             |                    |               |
| 124         | ASARE AND BROTHERS | SEA             | 1                           | GREAT DANCE RATTLE | HUMMINGBIRD   |
| 125         | ---                | RAIN            | 2                           | SMALL RATTLE       | DOVE          |
|             |                    |                 | 3                           | BELLS              | 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 selectef for M equal 1 or 125.

#### Stylized Program

M is a variable used to select the desired myth

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: OBSEVER(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). Number 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 M1, M2, M12, M124 and M125 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.

|    |         |   |
|----|---------|---|
| 1  | SLIMITS | START=0,END=68!                                   |
| 2  | S       | THIS PROGRAM MAPS TIME AND MYTH SO THAT THE MYTHS |
| 3  | S       | WILL BE GENERATED IN DISTINCT TIME FRAMES         |
| 4  | S       | I.E. MYTH 1 AT TIME 1, MYTH 2 AT TIME 2, ETC.     |
| 5  | S       |   |
| 6  | S       | NODES   |
| 7  | S       |   |
| 8  | S       | INDEXES   |
| 9  | S       |   |
| 10 | S       | NODES!  |
| 11 | S       |   |
| 12 | S       | THAT O= 'THAT'!                                   |
| 13 | S       | ULST O= 1   |
| 14 | S       | LST O= 1  |
| 15 | S       | MX O= 1   |
| 16 | S       |   |
| 17 | S       | INDEXES   |
| 18 | S       |   |
| 19 | S       | 11 0 = 1  |
| 20 | S       | 12 0 = 1  |
| 21 | S       | 13 0 = 1  |
| 22 | S       | 14 0 = 1  |
| 23 | S       | HYTH IDENTIFIER/INDICES                           |
| 24 | S       |   |
| 25 | S       | H1 0=1  |
| 26 | S       | H2 0=1  |
| 27 | S       | H12 0=1   |
| 28 | S       | H124 0=1  |
| 29 | S       | H125 0=1  |
| 30 | S       | POTHEROFHERO 2=1                                  |
| 31 | S       | HANFROMTAPIRCLAN O = 1                            |
| 32 | S       | HOPENOFTRIBE 3 = 1                                |
| 33 | S       | PFOFTRIBE 3 = 1                                   |
| 34 | S       | WOFEN 3 = 'WOMAN' !                               |
| 35 | S       | MEN 1 = 'MAN' !                                   |
| 36 | S       | MAN O = 'MAN' !                                   |
| 37 | S       | TAPIRCLAN 2 = 'TAPIR CLAN' !                      |
| 38 | S       | KIFE 2 = 'KIFE' !                                 |
| 39 | S       | GRANDMOTHER 2= 'GRANDMOTHER' !                    |
| 40 | S       | NEST 2= 'NEST' !                                  |
| 41 | S       | SOULS 3= 'SOUL' !                                 |
| 42 | S       | MACAH 1= 'HACAH' !                                |
| 43 | S       | WIFEOFBAITOGOGO 2= !                              |
| 44 | S       | FATHER 2= 'FATHER' !                              |
| 45 | S       | SON O = 'SON' !                                   |
| 46 | S       | ASRE 0= 'ASARE' !                                 |
| 47 | S       | HERO 2= 'HERO' !                                  |
| 48 | S       | VULTURE O = 'VULTURE' !                           |
| 49 | S       | JAGUAR O = 'JAGUAR' !                             |
| 50 | S       | MOTHER 2= 'MOTHER' !                              |

|     |  |
|-----|--|
| 51  | WATER 1= 'WATER' !                         |
| 52  | FOOD 1= 'FOOD' !                           |
| 53  | BAITOGOGO O = 'BAITOGOGO' !                |
| 54  | BROTHERS J= 'BROTHER' !                    |
| 55  | PALMS 1= 'PALM' !                          |
| 56  | WILDFRUIT 1= 'WILD FRUIT' !                |
| 57  | GAME 1= 'GAME' !                           |
| 58  | TAPIR O= 'TAPIR' !                         |
| 59  | BEPKOROB1 O= 'BEPKOROB1' !                 |
| 60  | BIRDNESTING O= 1                           |
| 61  | TREE O= 'TREE' !                           |
| 62  | FALCONS 1= 'FALCON' !                      |
| 63  | MOUNTAIN O= 'MOUNTAIN' !                   |
| 64  | RAIN 2= 'RAIN' !                           |
| 65  | LAKE O= 'LAKE' !                           |
| 66  | FIRE 1= 'FIRE' !                           |
| 67  | SEA O= 'SEA' !                             |
| 68  | BROTHERINLAW 2= 'BROTHER IN LAW' !         |
| 69  | GREATDANCERATTLE 2= 'GREAT DANCE RATTLE' ! |
| 70  | SHALLRATTLE 2= 'SHALL RATTLE' !            |
| 71  | BELLS 3= 'BELL' !                          |
| 72  | HUMMINGBIRD 2= 'HUMMINGBIRD' !             |
| 73  | DOVE 2= 'DOVE' !                           |
| 74  | GRASSHOPPER 2= 'GRASSHOPPER' !             |
| 75  | COUNTRY 2= 'COUNTRY' !                     |
| 76  | HELP O= 'HELP' !                           |
| 77  | TRIBE O= 'TRIBE' !                         |
| 78  | SOULNEST O! !                              |
| 79  | KILLSWIFE O! !                             |
| 80  | THRASH O! !                                |
| 81  | LIE O= 'LIE' !                             |
| 82  | BIRD O= 'BIRD' !                           |
| 83  | EXCREMENT 1= 'EXCREMENT' !                 |
| 84  | PARENTS J= 'PARENT' !                      |
| 85  | HOUSE 2= 'HOUSE' !                         |
| 86  | POLE O= 'POLE' !                           |
| 87  | SHOULDER 2= 'SHOULDER' !                   |
| 88  | WELL O= 'WELL' !                           |
| 89  | NESCAPE O= 'ESCAPE' !                      |
| 90  | ALL O= 'ALL' !                             |
| 91  | S  |
| 92  | S  |
| 93  | S  |
| 94  | GATHER O = 1                               |
| 95  | RAPE 2 = 'RAPE' !                          |
| 96  | OBSERVE O = 1                              |
| 97  | DISCOVERY O = 'REVENGE' !                  |
| 98  | REVENGE O = 'REVENGE' !                    |
| 99  | CRIME O = 1                                |
| 100 | DEPRIVES O = 1                             |
| 101 | VERTICAL O = 1                             |
| 102 | HORIZONTAL O = 1                           |
| 103 | CREATION O = 1                             |
| 104 | 1  |
| 105 | 6  |

| <u>RELATIONS</u>   |                                      |   |
|--|--------------------------------------|---|
|  |                                      | <u>CLASSES</u>                                |
| 106 S  |                                      |   |
| 107 S  |                                      |   |
| 108 BREVIATIONS!   | 165 S                                |   |
| 109 SHRINKS A 3 0 "SHRINK!"                                  | 166 S                                |   |
| 110 THIRSTY A 2 0 "THIRSTY!"                                 | 167 S                                | SCLASSES!                                     |
| 111 DIG 1 3 0 "DIG!"   | 168 PROCURER(H1) = WOMENOFTRIBE!     |   |
| 112 DRINK 1 3 0 "DRINK!"                                     | 169 PROCURER(H2) = WIFEOFBAITOGEN!   |   |
| 113 PRODUCES 1 3 0 "PRODUCE!"                                | 170 PROCURER(H1) = WOMENOFTRIBE!     |   |
| 114 GIVES 1 3 0 "GIVE!"                                      | 171 PROCURER(H2) = WIFEOFBAITOGEN!   |   |
| 115 APPEARS A 3 0 "APPEAR!"                                  | 172 PROCURER(H1) = FATHER!           |   |
| 116 STOPS A 3 1 "STOP!"                                      | 173 PROCURER(H2) = MENOFTRIBE!       |   |
| 117 SENDS 1 3 0 "SEND!"                                      | 174 OBSERVER(H1) = SON!              |   |
| 118 GATHERS 1 2 0 "GATHER!"                                  | 175 OBSERVER(H2) = SON!              |   |
| 119 PICKING 1 2 0 "PICK!"                                    | 176 OBSERVER(H1) = SON!              |   |
| 120 HUNTING 1 2 0 "HUNT!"                                    | 177 OBSERVER(H2) = SON!              |   |
| 121 RAPE 1 3 0 "RAPE!"                                       | 178 OBSERVER(H1) = SON!              |   |
| 122 OBSERVES 1 3 0 "OBSERVE!"                                | 179 DEPRIVED(H1) = FATHER!           |   |
| 123 TELLS 1 3 0 "TELL!"                                      | 180 DEPRIVED(H2) = SON!              |   |
| 124 DISCOVRS 1 3 0 "DISCOVER!"                               | 181 DEPRIVED(H1) = HERO!             |   |
| 125 THRASHES 1 3 0 "THRASH!"                                 | 182 DEPRIVED(H2) = ASARE!            |   |
| 126 STRANGLES 1 3 0 "STRANGLE!"                              | 183 DEPRIVED(H1) = SON!              |   |
| 127 ASKS 1 3 0 "ASK!"  | 184 ANIMAL(H1) = VULTURE!            |   |
| 128 ADVISES 1 3 0 "ADVISE!"                                  | 185 ANIMAL(H2) = VULTURE!            |   |
| 129 OBTAINS 1 3 0 "OBTAIN!"                                  | 186 ANIMAL(H1) = JAGUAR!             |   |
| 130 DEPRIVE 1 3 0 "!"  | 187 ANIMAL(H2) = JAGUAR!             |   |
| 131 BECOMES 1 3 0 "BECOME!"                                  | 188 ANIMAL(H1) = JAGUAR!             |   |
| 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) = !               |   |
| 135 SET 1 3 0 "SET!"   | 192 3 COLLECT(H2) = HUNTING!         |   |
| 136 MAKES 1 3 0 "MAKE!"                                      | 193 3 COLLECT(H125) = HUNTING!       |   |
| 137 REMOVES 1 3 0 "REMOVE!"                                  | 194 CREVENGE(H1) = SOULNEST!         |   |
| 138 HELPS 1 3 0 "HELP!"                                      | 195 CREVENGE(H2) = KILLSWIFE!        |   |
| 139 WANDER A 3 0 "WANDER!"                                   | 196 CREVENGE(H12) = !                |   |
| 140 TO 1 4 0 "DO!"   | 197 CREVENGE(H124) = THRASH!         |   |
| 141 ESCAPE 1 3 0 "ESCAPE!"                                   | 198 CREVENGE(H125) = !               |   |
| 142 CLIMB 1 3 0 "CLIMB!"                                     | 199 DEPRIVATION(H1) = MOTHER!        |   |
| 143 DESCEND A 3 0 "DESCEND!"                                 | 200 DEPRIVATION(H2) = MOTHER!        |   |
| 144 ON 1 4 0 "ON!"   | 201 DEPRIVATION(H12) = WATER!        |   |
| 145 WHERE 1 4 0 "WHERE!"                                     | 202 DEPRIVATION(H125) = FOOD!        |   |
| 146 CANNOT A 3 2 "COULD NOT!"                                | 203 DEPRIVATION(H1) = HERO!          |   |
| 147 SLOWLY A 6 0 "SLOW!"                                     | 204 WANDERER(H1) = HERO!             |   |
| 148 QUICKLY A 6 0 "QUICK!"                                   | 205 WANDERER(H2) = BAITOGENGO!       |   |
| 149 OR 1 4 0 "OF!"   | 206 WANDERER(H12) = HERO JAGUAR!     |   |
| 150 KILL 1 3 0 "KILL!"                                       | 207 WANDERER(H124) = ASARE BROTHERS! |   |
| 151 FOR 1 4 0 "FOR!"   | 208 WANDERER(H125) = !               |   |
| 152 CAPTURE 1 3 0 "CAPTURE!"                                 | 209 EXPEDITION(H1) = PALMS!          |   |
| 153 LEAVING 1 3 0 "LEAVE!"                                   | 210 EXPEDITION(H2) = WILDFRUIT!      |   |
| 154 STRANDED A 2 0 "STRAND!"                                 | 211 EXPEDITION(H12) = !              |   |
| 155 FOR A 4 0 "FOR!"   | 212 EXPEDITION(H124) = GAME!         |   |
| 156 WALKING A 3 0 "WALK!"                                    | 213 EXPEDITION(H25) = TAPIRI         |   |
| 157 THROUGH 1 4 0 "THROUGH!"                                 | 214 CHERO(H1) = HERO!                |   |
| 158 SEARCH 1 3 0 "SEARCH!"                                   | 215 CHERO(H2) = BAITOGENGO!          |   |
| 159 EMPTY A 2 0 "EMPTY!"                                     | 216 CHERO(H12) = HERO!               |   |
| 160 FROM 1 4 0 "DEPRIVE!"                                    | 217 CHERO(H124) = ASARE!             |   |
| 161 DAPRIVED A 2 0 "DEPRIVE!"                                | 218 CHERO(H25) = BEPKOROROINI!       |   |
| 162 ESCAPE A 3 0 "ESCAPE!"                                   | 219 CVERTICAL(H1) = BIRDNESTING!     |   |
| 163 HELPN A 3 0 "HELP!"                                      | 220 CVERTICAL(H2) = TREE!            |   |
| 164 SEARCHFOR 1 3 0 "!"                                      | 221 CVERTICAL(H12) = BIRDNESTING!    |   |
|  |                                      | CLASSES USED FOR SEQUENCING MYTHS AND CONTROL |
|  |                                      |   |
| 222 CVERTICAL(H124) = FALCONSI                               | 223 CVERTICAL(H125) = MOUNTAINI      |   |
| 224 CCREATION(H1) = RAIN!                                    | 225 CCREATION(H2) = LAKE!            |   |
| 226 CCREATION(H121) = FIRE!                                  | 227 CCREATION(H124) = SEA!           |   |
| 228 CCREATION(H25) = TRAIN!                                  | 229 RAPIST(H1) = HERO!               |   |
| 230 RAPIST(H2) = MANFRONTAPIRCLAN!                           | 231 RAPIST(H12) = !                  |   |
| 232 RAPIST(H24) = BROTHERS!                                  | 233 RAPIST(H125) = !                 |   |
| 234 CTAIR(H1) = !  | 235 CTAIR(H2) = MANFRONTAPIRCLAN!    |   |
| 236 CTAIR(H121) = !  | 237 CTAIR(H124) = !                  |   |
| 238 CTAIR(H125) = TAPIRI                                     | 239 RELATION(H1) = FATHER!           |   |
| 240 RELATION(H12) = !  | 241 RELATION(H12) = BROTHERINLAW!    |   |
| 242 RELATION(H124) = !                                       | 243 RELATION(H125) = !               |   |
| 244 VICTIM(H1) = MOTHEROFHERO!                               | 245 VICTIM(H2) = WIFEOFBAITOGENGO!   |   |
| 246 VICTIM(H12) = !  | 247 VICTIM(H124) = MOTHEROFHERO!     |   |
| 248 VICTIM(H15) = !  | 249 2 SPEED(H1) = !                  |   |
| 250 2 SPEED(H2) = !  | 251 2 SPEED(H12) = !                 |   |
| 252 2 SPEED(H124) = !  | 252 OBJECT(H12) = SMALLRATTLE!       |   |
| 253 253 INDEX = 1 1 12 131                                   | 254 CLIE(H1) = !                     |   |
| 254 CLIE(H2) = !   | 255 CLIE(H12) = !                    |   |
| 255 CLIE(H124) = !   | 256 CLIE(H12) = LIE!                 |   |
| 257 CLIE(H125) = !   |                                      |   |
| 258 CLIE(H125) = !   |                                      |   |
| 259 CLIE(H1) = !   |                                      |   |
| 260 OBJECT(H12) = BELLSI!                                    |                                      |   |
| 261 262 HELPER(H1) = BUMMINGRARDI!                           |                                      |   |
| 263 HELPER(H2) = DOVE!                                       |                                      |   |
| 264 HELPER(H13) = GRASSHOPPER!                               |                                      |   |
| 265 CNTRL = !  |                                      |   |
| 266 CNTRL = !  |                                      |   |
| 267 267 MYTH = !   |                                      |   |
| 268 268 SNETWORK! = !  |                                      |   |
| 269 269 HYTHEQ = H1 H2 H12 H124 H125                         |                                      |   |
| 270 270 OLEXTRIP(H1) = GATHER RAGE OBSERVE DISCOVERY REVENGE |                                      |   |
| 271 271 CONTROLSEQ = GATHER RAGE OBSERVE DISCOVERY REVENGE   |                                      |   |
| 272 272 CRIME DEPRIVES VERTICAL HORIZONTAL CREATION!         |                                      |   |
| 273 273 MYTH = !   |                                      |   |
| 274 274 OLEXTRIP(H2) = MOTHER OF HERO TO MOTHER HERO!        |                                      |   |
| 275 275 OLEXTRIP(HMAN FROM TAPIRCLAN) TO MANFRONTAPIRCLAN !  |                                      |   |
| 276 276 OLEXTRIP(WOMEN OF TRIBE) TO WOMEN OF TRIBE !         |                                      |   |
| 277 277 OLEXTRIP(DAPRIVED OF TRIBE) TO DEPRIVE !             |                                      |   |
| 278 278 OLEXTRIP(SEARCH FOR) TO SEARCH FOR !                 |                                      |   |
| 279 279 OLEXTRIP(SEARCH FOR) TO SEARCH FOR !                 |                                      |   |
| 280 280 OLEXTRIP(SEARCH FOR) TO SEARCH FOR !                 |                                      |   |
| 281 281 OLEXTRIP(SEARCH FOR) TO SEARCH FOR !                 |                                      |   |

## Levi-Strauss Program

(comments are prefaced by | )

262 S BEGIN PROGRAM  
263 S | GROUP MASTER  
264 S THIS GROUP MAPS TIME onto MYTH SEQUENCE  
265 S AND IS THE DRIVER OF THIS GENERATOR  
266 S | SRULE: \*MOVE Y TO MYTHSEQ!  
267 S | THIS GROUP OBSERVE!  
268 S | SRULE: 10H/OFF!  
269 S | GROUP OBSERVER! 1H/ON!  
270 S | SRULE: \*MOVE X TO MYTHSEQ!  
271 S | SRULE: \*MOVE X FROM MYTHSEQ!  
272 S | SRULE: \*MOVE X TO MYTH,  
273 S | CALL CONTROL!  
274 S | SENDLOOP!  
275 S | SRULE: \*ENDI  
276 S | 10-10 : NUM(MYTHSEQ) EQ 0!  
277 S | SRULE: \*REMOVE X FROM MYTHSEQ!  
278 S | SRULE: \*MOVE X TO MYTH,  
279 S | CALL CONTROL!  
280 S | SENDGROUP!  
281 S | SRULE: \*MOVE Y TO MYTH SEQ!  
282 S | SRULE: \*MOVE Y TO MYTH SEQ!  
283 S | SRULE: \*MOVE Y TO MYTH SEQ!  
284 S | SRULE: \*MOVE Y TO MYTH SEQ!  
285 S | SRULE: \*MOVE Y TO MYTH SEQ!  
286 S | SRULE: \*MOVE Y TO MYTH SEQ!  
287 S | SRULE: \*MOVE Y TO MYTH SEQ!

288 S | SRULE: \*MOVE Y TO MYTH SEQ!  
289 S | SRULE: \*MOVE Y TO MYTH SEQ!  
290 S | SRULE: \*MOVE Y TO MYTH SEQ!  
291 S | SRULE: \*MOVE Y TO MYTH SEQ!  
292 S | SRULE: \*MOVE Y TO MYTH SEQ!  
293 S | SRULE: \*MOVE Y TO MYTH SEQ!  
294 S | SRULE: \*MOVE Y TO MYTH SEQ!  
295 S | SRULE: \*MOVE Y TO MYTH SEQ!  
296 S | SRULE: \*MOVE Y TO MYTH SEQ!  
297 S | SRULE: \*MOVE Y TO MYTH SEQ!  
298 S | SRULE: \*MOVE Y TO MYTH SEQ!  
299 S | SRULE: \*MOVE Y TO MYTH SEQ!  
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318 S | SRULE: \*MOVE Y TO MYTH SEQ!  
319 S | SRULE: \*MOVE Y TO MYTH SEQ!  
320 S | SRULE: \*MOVE Y TO MYTH SEQ!  
321 S | SRULE: \*MOVE Y TO MYTH SEQ!  
322 S | SRULE: \*MOVE Y TO MYTH SEQ!  
323 S | SRULE: \*MOVE Y TO MYTH SEQ!

324 S | SRULE: \*MOVE Y TO MYTH SEQ!  
325 S | SRULE: \*MOVE Y TO MYTH SEQ!  
326 S | SRULE: \*MOVE Y TO MYTH SEQ!  
327 S | SRULE: \*MOVE Y TO MYTH SEQ!  
328 S | SRULE: \*MOVE Y TO MYTH SEQ!  
329 S | SRULE: \*MOVE Y TO MYTH SEQ!

330 S | GROUP RAPE!  
331 S | GROUP RAPE!  
332 S | GROUP RAPE!  
333 S | GROUP RAPE!  
334 S | GROUP RAPE!  
335 S | GROUP RAPE!

336 SRULE: RAPIST(H) RAPES VICTIM(H)  
337 10-10: NUM(RAPIST(H)) GT 0!  
338 SENDLOOP!  
339 SRULE: \*RETURN!  
340 SENDGROUP!  
341 S | GROUP OBSERVE!  
342 S | GROUP OBSERVE!  
343 S | GROUP OBSERVE!  
344 S | GROUP OBSERVE!  
345 S | GROUP OBSERVE!  
346 SLOOP: H.MYTH!  
347 SRULE: OBSERVER(H) OBSERVES RAPE!  
348 10-10: NUM(OBSERVER(H)) GT 0!  
349 SENDLOOP!  
350 SRULE: \*RETURN!  
351 SENDGROUP!  
352 S | GROUP DISCOVERY!  
353 S | GROUP DISCOVERY!  
354 S | GROUP DISCOVERY!  
355 S | GROUP DISCOVERY!  
356 S | GROUP DISCOVERY!  
357 SLOOP: H.MYTH!  
358 SRULE: T(SNEXT H) \*INSERT(OBSERVER(H)) TELLS FATHER)(TELLS OF RAPE)  
359 SRULE: T(SNEXT H) \*INSERT(OBSERVER(H)) GT 0!  
360 10-10: NUM(OBSERVER(H)) GT 0!  
361 SRULE: FATHER DISCOURS RAPE!  
362 10-10: NUM(OBSERVER(H)) EQ 0 AND NUM(RAPIST(H)) GT 0!  
363 SENDLOOP!  
364 SRULE: \*RETURN!  
365 SENDGROUP!

366 S | GROUP REVENGE!  
367 S | GROUP REVENGE!  
368 S | GROUP REVENGE!  
369 S | GROUP REVENGE!  
370 S | GROUP REVENGE!  
371 SLOOP: H.MYTH!  
372 S | GROUP REVENGE!  
373 SRULE: \*CALL(CREVENGE(H))!  
374 10-10: NUM(CREVENGE(H)) GT 0!  
375 SENDLOOP!

376 SRULE: \*RETURN!  
377 SENDGROUP!

378 S | GROUP CRIME!  
379 S | GROUP CRIME!

380 S | GROUP CRIME!  
381 S | GROUP CRIME!  
382 S | GROUP CRIME!  
383 SLOOP: H.MYTH!

384 SRULE: CTAPIR(H) KILLS CTAPIR(H)  
385 SRULE: CTAPIR(H) KILLS CTAPIR(H) GT 0!  
386 10-10: NUM(SPEED(H)) EQ 0 AND NUM(CTAPIR(H)) GT 0!  
387 SRULE: \*INSERT(CTAPIR(H)) KILLS CTAPIR(H) GT 0 AND NUM(SPEED(H)) GT 0!  
388 10-10: NUM(CTAPIR(H)) GT 0 AND NUM(SPEED(H)) GT 0!  
389 SENDLOOP!

390 SENDGROUP!

391 S | GROUP DEPRIVES!  
392 S | GROUP DEPRIVES!

17

|     |   |   |          |          |     |   |  |          |
|-----|---|---|----------|----------|-----|---|--|----------|
| 393 | S | GROUP DEPRIVES:   |          |          |     |   |  |          |
| 394 | S |   | 10M/OFF! |          | 450 | S | GROUP KILLSWIFE!   | 10M/OFF! |
| 395 | S |   |          |          | 451 | S |  |          |
| 396 | S | SLOOP ! H.MYTH!   |          |          | 452 | S |  |          |
| 397 | S |   |          |          | 453 | S | SLOOP ! H.MYTH!  |          |
| 398 | S | SRULE! DEPRIVED(H) DEPRIVE DEPRIVATION(H)                 |          |          | 454 | S | SRULE! BAITOGOGO STRANGLES VIRGOFORBAITOGOGO!                                  |          |
| 399 | S |   |          |          | 455 | S |  |          |
| 400 | S | SENDLOOP!   |          |          | 456 | S | SENDLOOP!  |          |
| 401 | S | SRULE! *RETURN!   |          |          | 457 | S | SRULE! *RETURN!  |          |
| 402 | S |   |          |          | 458 | S | SENDGROUP!   |          |
| 403 | S |   |          |          | 459 | S |  |          |
| 404 | S |   |          |          | 460 | S |  |          |
| 405 | S | GROUP VERTICAL:   |          | 10M/OFF! | 461 | S |  |          |
| 406 | S |   |          |          | 462 | S | GROUP SOULNEST!  | 10M/OFF! |
| 407 | S | SLOOP ! H.MYTH!   |          |          | 463 | S |  |          |
| 408 | S |   |          |          | 464 | S |  |          |
| 409 | S | SRULE! *CALL CVERTICAL(H)                                 |          |          | 465 | S | SLOOP! K. INDEX!   |          |
| 410 | S |   |          |          | 466 | S | SRULE! INSERT(FATHER SENDS HERO)(SENDS FOR OBJECT(K))                          |          |
| 411 | S | SRULE! *RETURN!   |          |          | 467 | S | (SENDS TO NEST)(NEST OR SULS)  |          |
| 412 | S |   |          |          | 468 | S | *INSERT(HERO ASKS GRANDMOTHER)(ASKS HELPN)                                     |          |
| 413 | S |   |          |          | 469 | S | *INSERT(GRANDMOTHER ADVISES HERO)(ADVISSES HERO)(HELPS HERO)(OBTAINS FOR HERO) |          |
| 414 | S |   |          |          | 470 | S |  |          |
| 415 | S | GROUP HORIZONTAL:   |          | 10M/OFF! | 471 | S |  |          |
| 416 | S |   |          |          | 472 | S | SENDLOOP!  |          |
| 417 | S | SLOOP ! H.MYTH!   |          |          | 473 | S | SRULE! *RETURN!  |          |
| 418 | S |   |          |          | 474 | S | SENDGROUP!   |          |
| 419 | S |   |          |          | 475 | S |  |          |
| 420 | S | SRULE! INSERT(WANDERER(H) WANDER)(WANDER THROUGH COUNTRY) |          | 10M/OFF! | 476 | S | *****VERTICAL SUBRIN*****  |          |
| 421 | S | 10,10,10, NUH(WANDERER(H)) GT 0!                          |          |          | 477 | S |  |          |
| 422 | S |   |          |          | 478 | S |  |          |
| 423 | S | SENDLOOP!   |          |          | 479 | S |  |          |
| 424 | S | SRULE! *RETURN!   |          |          | 480 | S | GROUP TREE! 10M/OFF!   |          |
| 425 | S |   |          |          | 481 | S | SRULE! SON BECOMES BIRD,   |          |
| 426 | S |   |          |          | 482 | S | BIRD SEARCHFOR MOTHER,   |          |
| 427 | S |   |          |          | 483 | S | *INSERT(BIRD DROPS EXCREMENT)(DROPS ON BAITOGOGO).                             |          |
| 428 | S | GROUP CREATION!   |          | 10M/OFF! | 484 | S | EXCREMENT BECOMES TREE!  |          |
| 429 | S |   |          |          | 485 | S | SRULE! *RETURN!  |          |
| 430 | S | SLOOP ! H.MYTH!   |          |          | 486 | S | SENDGROUP!   |          |
| 431 | S |   |          |          | 487 | S |  |          |
| 432 | S | SRULE! *CALL CREATION(H)                                  |          |          | 488 | S |  |          |
| 433 | S |   |          |          | 489 | S |  |          |
| 434 | S | SENDLOOP!   |          |          | 490 | S | GROUP FALCONS!   | 10M/OFF! |
| 435 | S | SRULE! *RETURN!   |          |          | 491 | S |  |          |
| 436 | S |   |          |          | 492 | S | SRULE! *INSERT(BROTHERS SET FIRE(BET TO HOUSE)(HOUSE OF PARENTS))              |          |
| 437 | S |   |          |          | 493 | S | *INSERT(PARENTS BECOMES FALCONS)(BECOMES ESCAPE)!                              |          |
| 438 | S |   |          |          | 494 | S | SRULE! *RETURN!  |          |
| 439 | S |   |          |          | 495 | S | SENDGROUP!   |          |
| 440 | S |   |          |          | 496 | S |  |          |
| 441 | S |   |          |          | 497 | S |  |          |
| 442 | S | GROUP THRASH! 10M/OFF!                                    |          |          | 498 | S |  |          |
| 443 | S |   |          |          | 499 | S | GROUP MOUNTAIN!  | 10M/OFF! |
| 444 | S |   |          |          | 500 | S |  |          |
| 445 | S | SRULE! FATHER THRASH'S BROTHER!                           |          |          | 501 | S | SRULE! BEPKOROTI ASCENDS MOUNTAIN!   |          |
| 446 | S |   |          |          | 502 | S | SRULE! *RETURN!  |          |
| 447 | S | SENDGROUP!  |          |          | 503 | S | SENDGROUP!   |          |
| 448 | S |   |          |          | 504 | S |  |          |
| 449 | S |   |          |          | 505 | S |  |          |
|     |   |   |          |          | 506 | S |  |          |
|     |   |   |          |          |     |   | GROUP BIRDNESTING  |          |

|     |   |                            |  |
|-----|---|----------------------------|--|
| 507 | SGROUP BIRDNESTING!   | I0H/OFF!                   |  |
| 508 | \$ SLOOP ! H.MYTH!  |                            |  |
| 509 |   |                            |  |
| 510 |   |                            |  |
| 511 | SRULE: *INSERT(RELATION(H)) MAKES HERO(H) MAKES CAPTURE HAÇANSI<br>(MAKES CLIMB POLE)!  |                            |  |
| 512 |   |                            |  |
| 513 | SRULE: *INSERT(HERO(H)) TELLS THAT(NEST EMPTY)<br>(TELLS TO RELATION(H))!   |                            |  |
| 514 | 10,-10: NUMCLIE(H) GT 0!  |                            |  |
| 515 |   |                            |  |
| 516 | SRULE: RELATION(H) REMOVES POLE,  |                            |  |
| 517 | (HERO(H)) STRANDED,<br>*INSERT(ANIMAL(H)) HELPS HERO(H)) HELPS DESCEND()!   |                            |  |
| 518 |   |                            |  |
| 519 | SENDLOOP!   |                            |  |
| 520 | SRULE: *RETURN!   |                            |  |
| 521 | SENDGROUP!  |                            |  |
| 522 | \$  |                            |  |
| 523 |   | *****CREATION SUBRTHS***** |  |
| 524 | \$  |                            |  |
| 525 | \$  |                            |  |
| 526 | \$  | GROUP RAIN                 |  |
| 527 | \$  |                            |  |
| 528 | SGROUP RAIN! I0H/OFF!   |                            |  |
| 529 | \$ SLOOP ! H.MYTH!  |                            |  |
| 530 |   |                            |  |
| 531 | \$  |                            |  |
| 532 | SRULE: *INSERT(HERO(H)) SENDS RAIN!<br>(SENDS FOR REVENGE) SENDS ON TRIBE()!  |                            |  |
| 533 |   |                            |  |
| 534 | SENDLOOP  |                            |  |
| 535 | SRULE: *RETURN!   |                            |  |
| 536 | SENDGROUP!  |                            |  |
| 537 | \$  |                            |  |
| 538 | \$  | GROUP LAKE                 |  |
| 539 | \$  |                            |  |
| 540 | SGROUP LAKE ! I0H/OFF!  |                            |  |
| 541 | \$  |                            |  |
| 542 | SRULE: *INSERT(BAITOGOGO STOPS) STOP(S WALKING),<br>LAKE APPEARS,<br>*INSERT(TREE SHRINKS) TREE ON SHOULDR(H) SHOULDER OF BAITOGOGO() |                            |  |
| 543 |   |                            |  |
| 544 | SRULE: *RETURN!   |                            |  |
| 545 | SENDGROUP!  |                            |  |
| 546 | \$  |                            |  |
| 547 | \$  | GROUP SEA                  |  |
| 548 | \$  |                            |  |
| 549 | SGROUP SEA ! I0H/OFF!   |                            |  |
| 550 |   |                            |  |
| 551 | \$  |                            |  |
| 552 | SRULE: ASARE THIRSTY,<br>BROTHERS DIG WELL,   |                            |  |
| 553 | *INSERT(AWARE CANNOT) CANNOT DRINK A WELL OF WATER.   |                            |  |
| 554 |   |                            |  |
| 555 | WELL PRODUCES SEA   |                            |  |
| 556 | SRULE: *RETURN!   |                            |  |
| 557 | SENDGROUP!  |                            |  |
| 558 | \$  |                            |  |
| 559 | \$  | GROUP FIRE                 |  |
| 560 | SGROUP FIRE! I0H/OFF!   |                            |  |
| 561 | \$  |                            |  |
| 562 | SRULE: *INSERT(JAGUAR GIVES FIRE) GIVES TO HERO()   |                            |  |
| 563 | SRULE: *RETURN!   |                            |  |

| GRAMMAR |       | P TYPE  |       | PHAP  |    | PSUB |   | PTTRANS |   |
|---------|-------|---------|-------|-------|----|------|---|---------|---|
| 1       | S     | ---> NP | VP    | 0     | RV | 1    | 2 | 0       | 0 |
| 2       | S     | ---> NP | AP    | 0     | R  | 1    | 2 | 0       | 2 |
| 3       | NP    | --->    | NAME2 | 0     |    | 1    | 0 | 0       | 0 |
| 4       | NP    | --->    | ART   | NPP   | 0  | 1    | 0 | 0       | 1 |
| 5       | NAME2 | --->    | NPP   | 0     |    | 2    | 0 | 0       | 2 |
| 6       | NPP   | --->    | NAME  | 0     |    | 0    | 0 | 0       | 0 |
| 7       | NPP   | --->    | N     |       |    | 1    | 0 | 0       | 0 |
| 8       | NPP   | --->    | NPP   | HOD   | 0  | 1    | 0 | 0       | 0 |
| 9       | NPP   | --->    | NPP   | HOD   | 0  | 1    | 2 | 0       | 0 |
| 10      | NPP   | --->    | NPP   | ADJ   | 0  | RA   | 1 | 2       | 0 |
| 11      | NPP   | --->    | ADJ   | NPP   | 0  | RA   | 0 | 0       | 0 |
| 12      | VP    | --->    | V     |       |    | 2    | 1 | 0       | 0 |
| 13      | VP    | --->    | VP    | VP    | RV | RV   | 1 | 0       | 0 |
| 14      | VP    | --->    | VP    | VP    | RV | RV   | 1 | 2       | 0 |
| 15      | VP    | --->    | VP    | VP2   | RV | RV   | 1 | 2       | 0 |
| 16      | VP    | --->    | VP    | THAT2 | RV | 0    | 1 | 2       | 0 |
| 17      | VP    | --->    | VP    | NP    | RV | 0    | 2 | 0       | 0 |
| 18      | VP    | --->    | VP    | HOD   | RV | RA   | 1 | 2       | 0 |
| 19      | VP    | --->    | VP    | HOD   | RV | RP   | 1 | 2       | 0 |
| 20      | VP    | --->    | VP    | ADV   | RV | RADV | 1 | 2       | 0 |
| 21      | VP    | --->    | ADV   | VP    | RV | RADV | 2 | 1       | 0 |
| 22      | HOD   | --->    | VP    |       | RV |      | 1 | 0       | 0 |
| 23      | HOD   | --->    | ADJ   |       | RA |      | 1 | 0       | 0 |
| 24      | HOD   | --->    | PREP  |       | RP |      | 1 | 0       | 0 |
| 25      | HOD   | --->    | ADJ   | THAT2 | RP |      | 1 | 0       | 0 |
| 26      | HOD   | --->    | HOD   | NP    | RA | 0    | 1 | 2       | 0 |
| 27      | HOD   | --->    | ADV   | ADJ   | RA | RADV | 2 | 1       | 0 |
| 28      | HOD   | --->    | PREP  | NP    | RP | 0    | 2 | 1       | 0 |
| 29      | HOD   | --->    | ADJ   | VP2   | RA | RV   | 1 | 2       | 0 |
| 30      | HOD   | --->    | ADJ   | VP2   | RA | RP   | 1 | 2       | 0 |
| 31      | AP    | --->    | IS    | HOD   | R  |      | 1 | 2       | 0 |
| 32      | VP2   | --->    | T0    | VP    | RV |      | 2 | 0       | 0 |
| 33      | VP2   | --->    | PREP  | NP    | RP | 0    | 2 | 0       | 0 |
| 34      | VP2   | --->    | PREP  | NP    | RP | 0    | 1 | 0       | 0 |
| 35      | VP2   | --->    | VP2   | NP    | RV | 0    | 1 | 2       | 0 |
| 36      | VP2   | --->    | PREP  | HOD   | RP | RV   | 1 | 2       | 0 |
| 37      | THAT2 | --->    | THAT  | S     | 0  |      | 1 | 0       | 0 |

## MYTH 1

## CHANGE STACK FOR TIME ON

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

## MYTH 2

### CHANGE STACK FOR TIME 1H

|     |   |           |
|-----|---|-----------|
| 1:  | (WIFE OF BA<br>I MANFRONT RAPES WIFE OF BA) | SET AT 1H |
| 2:  | (SON OBSERVES RAPES)                        | SET AT 1H |
| 3:  | (SON TELLS FATHER)                          | SET AT 1H |
| 4:  | (TELLS OF RAPE)                             | SET AT 1H |
| 5:  | (BAITOGOG STRANGLE WIFE OF BA)              | SET AT 1H |
| 6:  | (BAITOGOG KILL MANFRONT)                    | SET AT 1H |
| 7:  | (KILL SLOWLY)                               | SET AT 1H |
| 8:  | (SON BECOMES BIRD)                          | SET AT 1H |
| 9:  | (BIRD SEARCHES MOTHER)                      | SET AT 1H |
| 10: | (BIRD DROPS EXCREMENT)                      | SET AT 1H |
| 11: | (BIRD DROPS EXCREMENT)                      | SET AT 1H |
| 12: | (DROPS ON BAITOGOG)                         | SET AT 1H |
| 13: | (EXCREMENT BECOMES TREE)                    | SET AT 1H |
| 14: | (BAITOGOG WANDER)                           | SET AT 1H |
| 15: | (WANDER THROUGH COUNTRY)                    | SET AT 1H |
| 16: | (BAITOGOG STOPS)                            | SET AT 1H |
| 17: | (BAITOGOG WALKING)                          | SET AT 1H |
| 18: | (LAKE APPEARS)                              | SET AT 1H |
| 19: | (TREE SHRINKS)                              | SET AT 1H |
| 20: | (TREE ON SHOULDER)                          | SET AT 1H |
| 21: | (SHOULDER OF BAITOGOG)                      | SET AT 1H |
| 22: |   |           |

THE WIFE OF BAITOGOG WAS PICKING WILD FRUIT.

A MAN FROM THE TAIPIR CLAN TRAPPED THE WIFE OF BAITOGOG.

A SON OBSERVED THE RAPE.

THE SON TOLD THE FATHER OF THE RAPE.

BAITOGOG STRANGLED THE WIFE OF BAITOGOG.

BAITOGOG KILLED THE MAN FROM THE TAIPIR 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 BAITOGOG.

THE EXCREMENT BECAME A TREE.

BAITOGOG WANDERED THROUGH THE COUNTRY.

BAITOGOG STOPPED WALKING.

A LAKE APPEARED.

THE TREE ON THE SHOULDER OF BAITOGOG SHRANK.

## MYTH 12

### CHANGE STACK FOR TIME 2H

|     |                          |           |
|-----|--------------------------|-----------|
| 1:  | (HERO DEPRIVE WATER)     | SET AT 2H |
| 2:  | (BROTHER MAKES HERO)     | SET AT 2H |
| 3:  | (MAKES CAPTURE MACAWS)   | 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 HAD THE HERO TO CUTTING THE POLE TO CAPTURE THE MACAWS.

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 MOTHER) 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 BECOME FALCONS) SET AT 3H   |
| 12: | (BECOMES ESCAPEN) 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 DRINK ALL) SET AT 3H   |
| 20: | (CANNOT DRINK ALL) SET AT 3H         |
| 21: | (ALL OF WATER) SET AT 3H             |
| 22: | (HELL PRODUCES SEAT) SET AT 3H       |

MYTH 125

CHANGE STACK FOR TIME 4H

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

## 5.0 Propp

### 5.1 Automating Propp's One Move Tales

A complete listing of the program and grammar is contained in the appendix. We present the complete text of 50 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 48 tales are in the appendix. 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 functions. That is, the coherent selection of compatible characters, objects and functions. Propp suggests a greater freedom that 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. 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 1H

11 (BORISIEV LIVEIN DISTANTPROVINCE) SET AT IM  
 21 (N FATHER IS EMELYA) SET AT IM  
 31 (SON IS BORISI) SET AT IM  
 41 (SON ONLY) SET AT IM  
 51 (MARTHA IS DAUGHTER) SET AT IM  
 61 (DAUGHTER ONLY) SET AT IM  
 71 (EMELYA HAVE SHEEP) SET AT IM  
 81 (BORIS RAND SHEEP) SET AT IM  
 91 (BORIS RAND MARTHA) SET AT IM  
 101 (SHEEP IN WOODS) SET AT IM  
 111 (BORIS SAY2 INTERDICT) SET AT IM  
 121 (MARTHA NOLEAVE WOODS) SET AT IM  
 131 (BORIS LEAVE) SET AT IM  
 141 (LEAVE GOBERRYG) SET AT IM  
 151 (MARTHA LEAVE) WOODS1 SET AT IM  
 161 (WOLF APPEARIN DISTANTPROVINCE) SET AT IM  
 171 (EMELYA ASK1 WOLF) SET AT IM  
 181 (ASK1 WHEREIS YOURWISDOM1) SET AT IM  
 191 (WOLF SAY2 THAT1) SET AT IM  
 201 (HWISDOM IN HEGGI) SET AT IM  
 211 (WOLF PLUNDER SHEEP1) SET AT IM  
 221 (EMELYA SEND MARTHA) SET AT IM  
 231 (SEND SEARCH1) SET AT IM  
 241 (SEARCH1 FOR WOLF1) SET AT IM  
 251 (MARTHA DECIDE1) SET AT IM  
 261 (DECIDE SEARCH1) SET AT IM  
 271 (SEARCH1 FOR WOLF1) SET AT IM  
 281 (MARTHA LEAVE) SET AT IM  
 291 (LEAVE ON SEARCH1) SET AT IM

## Commentary on Change Stack for 1H

Before 1 GROUP ALPHA called, which sets up the classes:  
 FAHHAM = BORISIEVICHES; STORYLOC = DISTANTPROVINCE; FATHER = EMELYAS;  
 SON = BORIS; DAUGHTER = MARTHA; and FAMILY, OLDDEN, 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 (VLLOC). Interdiction sequence chosen to occur. BORIS picked as ABSENTOR so form 3 of BETA will be used. Form 1 of GAHHA picked. Inverted form of Interdiction constructed.

Before 9 EMELYA, INTERDICT is a predicate node.

Before 10 MARTHA made DISPATCHER. Form 2 of BETA will be used. Form 1 of GAHHA picked.

11-12 GROUP GAHHA. INTERDICT is a predicate node.

13-14 GROUP BETA

15 GROUP DELTA

16 GROUP VILLARIV

17 Before 17 Reconnaissance sequence. Form 2 of EPSILON picked. SUBJECT is YOURWISDOM, QLOC is HAGGG.

18 GROUP EPSILON

19-20 GROUP PSI

21 GROUP A

22-24 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.

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.

TALE 1

## CHANGE STACK FOR TIME 10

|     |                                      |
|-----|--------------------------------------|
| 1:  | (LIST XXX) SET AT ID                 |
| 2:  | (MARTHA LISTEN) SET AT ID            |
| 3:  | (WITHOUT FALLASLE) SET AT ID         |
| 4:  | (LISTEN TO GUSLAI) SET AT ID         |
| 5:  | (LISTEN WITHOUTU) SET AT ID          |
| 6:  | (MARTHA STAY) SET AT ID              |
| 7:  | (LISTEN TO GUSLA) SET AT ID          |
| 8:  | (WHILEI LISTEN) SET AT ID            |
| 9:  | (STAY AWAKE) SET AT ID               |
| 10: | (STAY WHILEI) SET AT ID              |
| 11: | (LIST XXX) 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 WITHOUTU) SET AT ID          |
| 17: | (LISTEN TO GUSLA) SET AT ID          |
| 18: | (WITHOUTU FALLASLE) SET AT ID        |
| 19: | (MARTHA PRESPOND TRESP) SET AT ID    |
| 20: | (MARTHA STAY) SET AT ID              |
| 21: | (STAY AWKEI) SET AT ID               |
| 22: | (STAY AWKEI) SET AT ID               |
| 23: | (WHILEI LISTEN) SET AT ID            |
| 24: | (LISTEN TO GUSLA) SET AT ID          |
| 25: | (MAGWAFER 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: | (LOCATION 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       |

Commentary on Change Stack for 10

- Before 1 Donor Sequence. SUPERSTRENGTH picked as the one magical agent to be acquired (MAGHELP). It must come from a food (MAGHELQ=MAGWAFER). Form 1 of D and form 7 of F must be used. Since form 1 of D is used, a DONOR (WITCH) is picked based on that form. Then GROUP WITCH is called to set up a task and a response.
- GROUP WITCH. Two predicate nodes constructed.
- GROUP D. TASK is a predicate node.
- Before 19 Trebling chosen not to occur.
- GROUP E. TRESP is a predicate node.
- GROUP F. Already set as Form 7. Basic rule and one additional rule executed.
- There is no magical agent. Form 4 picked for G and HEDGEHOG chosen as GHELP.
- GROUP G
- Combat Sequence will be used
- Before 27 There is no magical agent, and form 1 of H (and I) will be used.
- 25-26,
- GROUP H
- Before 34 There is no magical agent, and form 1 of H (and I) will be used.
- 27-32
- GROUP J
- Before 33 Combat Sequence will be used
- 34-36
- GROUP K
- Before 41 There is no magical agent, so form 7 of K picked, based on form of A.
- 37
- GROUP L
- Before 45 Pursuit and Rescue are not chosen to occur.
- GROUP END

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## TALE 1 (cont.)

- 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 DEFATS THE WOLF WITH THE AID OF SUPER-HUMAN STRENGTH.  
THE WOLF IS CAUGHT BY MARTHA.  
MARTHA STARTS BACK HOME.  
MARTHA RETURNS HOME.

## CHANGE STACK FOR TIME 1H

|    |                                    |           |
|----|------------------------------------|-----------|
| 1  | (MOREVNAS LIVEIN DISTANTP)         | SET AT 1M |
| 2  | (NFATHER IS EREMA) SET AT 1M       |           |
| 3  | (NMOTHER 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 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 LIVEIN LAND) SET AT 1M   |           |
| 17 | (LIVEIN ALSO) SET AT 1M            |           |
| 18 | (LAND SAME) SET AT 1M              |           |
| 19 | (NICHOLAS_OF_BIRTH) SET AT 1M      |           |
| 20 | (BIRTH MIRACULO) SET AT 1M         |           |
| 21 | (BALDAK HAVE MAGSTEED) SET AT 1M   |           |
| 22 | (BEAR APPEARIN DISTANTP) 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 | (SEARCH1 FOR MAGSTEED) SET AT 1M   |           |
| 29 | (NICHOLAS LEAVE) SET AT 1M         |           |
| 30 | (LEAVE ON SEARCH) SET AT 1M        |           |

## Commentary on Change Stack for 1H

- 1 Before 1 GROUP ALPHA called, which sets up the classes: FANNAH MOREVNAS; STORYLOC= DISTANTPROVINCE; FATHER= EREMA; MOTHER= VASILISA;
- 2 Before 15 Master Group, following call on GROUP ALPHA.
- 3 Before 16 Form 4 of A picked.
- 4 HERO(NICHOLAS) PICKED from outside family and Introduced.
- 5 Before 21 Form of A and HERO not in FAMILY forces a VILLAIN(BEAR) from outside FAMILY, and a non-human (HAGSTEED) object of villainy (OBJECT). BALDAK chosen as OWNER and VICTIM since HERO not in FAMILY.
- 6 Before 22 NICHOLAS made a SEEKER-HERO.  
No Interdiction because the HERO and VICTIM are not both in FAMILY.
- 7 Before 22 GROUP VILLARIV
- 8 Before 23 Reconnaissance not chosen. Trickery prevented because HERO not in FAMILY.
- 9 Before 24 HAGSTEED becomes sought after object (OBJECT). BALDAK made DISPATCHER. Form 1 of B picked since OWNER and HERO not both in FAMILY and there is a SEEKER-HERO.
- 10 Before 25 GROUP A
- 11 Before 26 GROUP B
- 12 Before 28 GROUP C
- 13 Before 30 GROUP DEPART

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 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.

TALE 2

CHANGE STACK FOR TIME ID

|    |  |
|----|--|
| 1  | (NICHOLAS MEET JUG), SET AT ID         |
| 2  | (MEET ALONG WAY) SET AT ID             |
| 3  | (JUG FIGHTING ELENA) SET AT ID         |
| 4  | (FIGHTING OVER MAGBOW) SET AT ID       |
| 5  | (JUG ASK NICHOLAS) SET AT ID           |
| 6  | (ASKI DIVIDE MAGBOW) SET AT ID         |
| 7  | (NICHOLAS TRICKY DISPUTANT) SET AT ID  |
| 8  | (TRICKY INTO LEAV MAGBOW) SET AT ID    |
| 9  | (MAGBOW UNPROJECT) SET AT ID           |
| 10 | (MAGBOW RAND MAGBOX) SET AT ID         |
| 11 | (MAGBOW RAND MAGCARPE) SET AT ID       |
| 12 | (MAGBOW SEIZEDBY NICHOLAS) SET AT ID   |
| 13 | (NICHOLAS TRAVEL) SET AT ID            |
| 14 | (TRAVEL TO LOCATID) SET AT ID          |
| 15 | (LOCATION OF MAGSTEED) SET AT ID       |
| 16 | (MAGSTEED IN KINGDOM) SET AT ID        |
| 17 | (KINGDOM OTHER) SET AT ID              |
| 18 | (NICHOLAS TRAVELBY MAGCARPE) SET AT ID |
| 19 | (NICHOLAS FIND BEARI) SET AT ID        |
| 20 | (NICHOLAS SURPRISE BEARI) SET AT ID    |
| 21 | (NICHOLAS KILLI BEARI) SET AT ID       |
| 22 | (KILLI) WITH AIDI) SET AT ID           |
| 23 | (LAID OF MAGBOW) SET AT ID             |
| 24 | (MAGSTEED APPEAR) SET AT ID            |
| 25 | (APPEAR FROM MAGBOX) SET AT ID         |
| 26 | (NICHOLAS START) SET AT ID             |
| 27 | (START BACK HOME) SET AT ID            |
| 28 | (BEARSFAT CHASE) SET AT ID             |
| 29 | (CHASE AFTER NICHOLASI SET AT ID       |
| 30 | (NICHOLAS ESCAPE) SET AT ID            |
| 31 | (ESCAPE_BY) SET AT ID                  |
| 32 | (BYI_FLY) SET AT ID                    |
| 33 | (FLY ON FALCON) SET AT ID              |
| 34 | (NICHOLAS RETURN HOME) SET AT ID       |

Commentary on Change Stack for ID

- Before 1 Donor Sequence. Three magical agents chosen to be acquired:  
HACHELPI = MAGBOW; MAGHELP2 = MAGCARPET; MAGHELP3 = MAGBOX.  
Form 6 of D and DONOR (JUG) picked.
- 1-6 GROUP D. A magical agent (HAGBOW) is made the object of the dispute (DISTTYPE).
- Before 7 Form of D doesn't allow trebling In E.
- 7-9 GROUP E. Because of magical DISTTYPE, second rule of form 6 used.  
F must use form 8.
- 10-12 GROUP F SUBJECT not acquired yet, nor VICTIM-HERO, so will use G.  
There is a magical agent (GHELP=HAGCARPET) and form I must be used.
- Before 13 GROUP G
- 19 Combat Sequence will be used.
- Before 20 There is a magical agent, and form S of I is picked.
- 13-18 GROUP I
- Before 24 There is a magical agent (MAGHELPQ=MAGBOX) so form S 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 30 There is no magical agent so form 1 of RS is picked based on PR.
- 30-33 GROUP RS
- 34 GROUP END

27

- 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.  
NICHOLAS STARTS BACK HOME.  
THE BEAR'S FATHER CHASES AFTER NICHOLAS.  
NICHOLAS ESCAPES BY FLYING ON A FALCON.  
NICHOLAS RETURNS HOME.

TALE 2 (cont.)

## 5.2 Modelling 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, 1964). 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, non-clumsy 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 meta-symbolic simulation system offers two possibilites 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 ~~future calls~~ an embedded tale, to obtain information for quantification of the remainder of the outer tale. The second device is the use of natural language meta-compiling. 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 that 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 requantification of already existing scenarios in other domains. From this point of view, one may think of a number of experiments using the meta-symbolic simulation system. Kōngäs Maranda's paper on Lau riddles of modernization (1973) 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 to the proper class from the precontact rules, and formulating the riddle by selecting not the name of the new class item and not 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 postcontact 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 Kōngäs Maranda in "The Logic of Riddles" (1971) and in "Theory and Practice of Riddle Analysis" (1971).

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 meta-compiler 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 Modelling 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 meta-symbolic 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 meta-compiling new myth models; and also the possibility of inferring the class requantifications and the meta-compiling rules themselves, through automated text analysis, so that one might approach the possibility of modelling the analytic processes of Lévi-Strauss, himself, as well as modelling 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--and hence automatable system.

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10.0 Appendix: 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 *I*, 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.

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% faster than that in the Murder Mystery program (Klein et al, 1973).

## 10.1 Nodes and Relations

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|        |     |                |   |                 |
|--------|-----|----------------|---|-----------------|
| 000044 | 000 | DISPOSOF       | 0 | "DISPOSAL"      |
| 000045 | 000 | DISPOSAL       | 2 | "DISPOSAL"      |
| 000046 | 000 | DISPOSE        | 0 | "DISPOSE"       |
| 000047 | 000 | DISANTPROVINCE | 0 | "DISPUTANT"     |
| 000048 | 000 | DISPATAN       | 3 | "DISPUTANT"     |
| 000049 | 000 | DISPUTE        | 0 | "DISPUTE"       |
| 000050 | 000 | DRAGON         | 3 | "DRAGON"        |
| 000051 | 000 | DRAGONWIFE     | 3 | "DRAGONWIFE"    |
| 000052 | 000 | DUNIA          | 0 | "DUNIA"         |
| 000053 | 000 | EATEN          | 0 | "EATEN"         |
| 000054 | 000 | EGGODEATH      | 2 | "EGG OF DEATH"  |
| 000055 | 000 | ELENA          | 0 | "ELENA"         |
| 000056 | 000 | EMELYA         | 0 | "EMELYA"        |
| 000057 | 000 | EREMA          | 0 | "EREMA"         |
| 000058 | 000 | EXCHANGE       | 0 | "EXCHANGE"      |
| 000059 | 000 | EYE            | 0 | "EYE"           |
| 000060 | 000 | FI             | 0 | "FI"            |
| 000061 | 000 | F2             | 0 | "F2"            |
| 000062 | 000 | F3             | 0 | "F3"            |
| 000063 | 000 | F4             | 0 | "F4"            |
| 000064 | 000 | F5             | 0 | "F5"            |
| 000065 | 000 | F6             | 0 | "F6"            |
| 000066 | 000 | F7             | 0 | "F7"            |
| 000067 | 000 | F8             | 0 | "F8"            |
| 000068 | 000 | F9             | 0 | "F9"            |
| 000069 | 000 | F10            | 0 | "F10"           |
| 000070 | 000 | F11            | 0 | "F11"           |
| 000071 | 000 | F12            | 0 | "F12"           |
| 000072 | 000 | F13            | 0 | "F13"           |
| 000073 | 000 | F14            | 0 | "F14"           |
| 000074 | 000 | F15            | 0 | "F15"           |
| 000075 | 000 | F16            | 0 | "F16"           |
| 000076 | 000 | F17            | 0 | "F17"           |
| 000077 | 000 | F18            | 0 | "F18"           |
| 000078 | 000 | F19            | 0 | "F19"           |
| 000079 | 000 | FALCON         | 0 | "FALCON"        |
| 000080 | 000 | FIELD          | 4 | "FIELD"         |
| 000081 | 000 | FIELDS         | 3 | "FIELDS"        |
| 000082 | 000 | FIREBIRD       | 2 | "FIREBIRD"      |
| 000083 | 000 | FLIGHT         | 2 | "FLIGHT"        |
| 000084 | 000 | FOMA           | 0 | "FOMA"          |
| 000085 | 000 | FOREST         | 2 | "FOREST"        |
| 000086 | 000 | FORESTHUT      | 0 | "FOREST HUT"    |
| 000087 | 000 | FORESTKN       | 0 | "FOREST KNIGHT" |
| 000088 | 000 | FOX            | 0 | "FOX"           |
| 000089 | 000 | GARDEN         | 2 | "GARDEN"        |
| 000090 | 000 | GIANT          | 0 | "GIANT"         |
| 000091 | 000 | GOLD           | 0 | "GOLD"          |
| 000092 | 000 | GOLDDUCK       | 0 | "GOLDDUCK"      |
| 000093 | 000 | GOOSE          | 0 | "GOOSE"         |
| 000094 | 000 | GRAVE          | 0 | "GRAVE"         |
| 000095 | 000 | GUSLA          | 0 | "GUSLA"         |
| 000096 | 000 | HEART          | 2 | "HEART"         |
| 000097 | 000 | HEDGEHOG       | 0 | "HEDGEHOG"      |
| 000098 | 000 | HELP           | 0 | "HELP"          |
| 000099 | 000 | HIDING         | 0 | "HIDING"        |
| 000100 | 000 | HIMSELF        | 0 | "HIMSELF"       |
| 000101 | 000 | DISAPPEARANCE  | 2 | "DISAPPEARANCE" |

|     |     |               |   |                 |   |  |     |                  |   |                        |   |
|-----|-----|---------------|---|-----------------|---|--|-----|------------------|---|------------------------|---|
| 101 | 000 | HERSELF       | 0 | "HERSELF"       | 1 |  | 000 | MURDER           | 2 | "MURDER"               | 1 |
| 102 | 000 | HOME          | 2 | "HOME"          | 1 |  | 000 | OBJECT           | 0 | "OBJECT"               | 1 |
| 103 | 000 | MOUSE         | 0 | "MOUSE"         | 1 |  | 000 | OLDLADY          | 4 | "OLDLADY"              | 1 |
| 104 | 000 | HOUSE         | 2 | "HOUSE"         | 1 |  | 000 | OLDMAN           | 0 | "OLD MAN"              | 1 |
| 105 | 000 | HUSBAND       | 4 | "HUSBAND"       | 1 |  | 000 | OTHERFEE         | 0 | "OTHERFEE"             | 1 |
| 106 | 000 | HUT           | 2 | "HUT"           | 1 |  | 000 | PARANOIS         | 3 | "PARANOIS"             | 1 |
| 107 | 000 | INSTRUCTIONS  | 3 | "INSTRUCTION"   | 1 |  | 000 | PERMISSION       | 0 | "PERMISSION"           | 1 |
| 108 | 000 | INTERDICT     | 0 | "INTERDICT"     | 1 |  | 000 | PLACE            | 2 | "PLACE"                | 1 |
| 109 | 000 | IT            | 0 | "IT"            | 1 |  | 000 | POPOVICH         | 3 | "POPOVICH"             | 1 |
| 110 | 000 | IVAN          | 0 | "IVAN"          | 1 |  | 000 | PRISONER         | 0 | "PRISONER"             | 1 |
| 111 | 000 | JUG           | 0 | "JUG"           | 1 |  | 000 | PROVINCE         | 0 | "PROVINCE"             | 1 |
| 112 | 000 | KATRINA       | 0 | "KATRINA"       | 1 |  | 000 | QUESTION         | 0 | "QUESTION"             | 1 |
| 113 | 000 | KILLED        | 0 | "KILLED"        | 1 |  | 000 | RATS             | 5 | "RAT"                  | 1 |
| 114 | 000 | KINGDOM       | 0 | "KINGDOM"       | 1 |  | 000 | REPLACEMENT      | 0 | "REPLACEMENT"          | 1 |
| 115 | 000 | LADY          | 4 | "LADY"          | 1 |  | 000 | REVIVED          | 0 | "REVIVED"              | 1 |
| 116 | 000 | LAKE          | 0 | "LAKE"          | 1 |  | 000 | RIVER            | 1 | "RIVER"                | 1 |
| 117 | 000 | LAMENT        | 0 | "LAMENT"        | 1 |  | 000 | ROCK             | 0 | "ROCK"                 | 1 |
| 118 | 000 | LAND          | 2 | "LAND"          | 1 |  | 000 | SEA              | 2 | "SEA"                  | 1 |
| 119 | 000 | LEATHERSTRAPS | 5 | "LEATHER STRAP" | 1 |  | 000 | SEARCH           | 0 | "SEARCH"               | 1 |
| 120 | 000 | LEG           | 0 | "LEG"           | 1 |  | 000 | SEED             | 0 | "SEED"                 | 1 |
| 121 | 000 | LOCATION      | 2 | "LOCATION"      | 1 |  | 000 | SHEEP            | 3 | "SHEEP"                | 1 |
| 122 | 000 | MAGBIRD       | 0 | "MAGIC BIRD"    | 1 |  | 000 | SHIP             | 1 | "SHIP"                 | 1 |
| 123 | 000 | MAGBOW        | 0 | "MAGIC BOW"     | 1 |  | 000 | SLEEPINGPOTION   | 0 | "SLEEPING POTION"      | 1 |
| 124 | 000 | MAGBOX        | 0 | "MAGIC BOX"     | 1 |  | 000 | SONE             | 2 | "SON"                  | 1 |
| 125 | 000 | MAGCARPET     | 0 | "MAGIC CARPET"  | 1 |  | 000 | SPELL            | 0 | "SPELL"                | 1 |
| 126 | 000 | MAGCOW        | 0 | "MAGIC COW"     | 1 |  | 000 | SELLON           | 0 | "SELLON"               | 1 |
| 127 | 000 | MAGEGEG       | 0 | "MAGIC EGG"     | 1 |  | 000 | STAIRWAY         | 1 | "STAIRWAY"             | 1 |
| 128 | 000 | MAGFLINT      | 0 | "MAGIC FLINT"   | 1 |  | 000 | STEAMBATH        | 1 | "STEAMBATH"            | 1 |
| 129 | 000 | MAGHEN        | 0 | "MAGIC HEN"     | 1 |  | 000 | STOVE            | 1 | "STOVE"                | 1 |
| 130 | 000 | MAGICPIN      | 0 | "MAGIC PIN"     | 1 |  | 000 | SUPERSPEED       | 0 | "INCREDIBLE SPEED"     | 1 |
| 131 | 000 | MAGKEY        | 0 | "MAGIC KEY"     | 1 |  | 000 | SUPSTREN         | 0 | "SUPER-HUMAN STRENGTH" | 1 |
| 132 | 000 | MAGPTION      | 0 | "MAGIC POTION"  | 1 |  | 000 | SWEETOLLADY      | 4 | "SWEETOLLADY"          | 1 |
| 133 | 000 | MAGRING       | 0 | "MAGIC RING"    | 1 |  | 000 | SMITH            | 4 | "SMITH"                | 1 |
| 134 | 000 | MAGRING2      | 0 | "MAGIC RING2"   | 1 |  | 000 | TASK             | 0 | "TASK"                 | 1 |
| 135 | 000 | MAGSTEED      | 0 | "MAGIC STEED"   | 1 |  | 000 | TEMPTATION       | 2 | "TEMPTATION"           | 1 |
| 136 | 000 | MAGSTORD      | 0 | "MAGIC SWORD"   | 1 |  | 000 | THEY             | 5 | "THEY"                 | 1 |
| 137 | 000 | MAGWAFFER     | 0 | "MAGIC WAFFER"  | 1 |  | 000 | THREAD           | 0 | "THREAD"               | 1 |
| 138 | 000 | MAGWODS       | 0 | "MAGIC WORD"    | 1 |  | 000 | TIME             | 2 | "TIME"                 | 1 |
| 139 | 000 | MAN           | 0 | "MAN"           | 1 |  | 000 | TOWN             | 2 | "TOWN"                 | 1 |
| 140 | 000 | MARCO         | 0 | "MARCO"         | 1 |  | 000 | TRACK            | 3 | "TRACK"                | 1 |
| 141 | 000 | MARIA         | 0 | "MARIA"         | 1 |  | 000 | TRANSFORMABILITY | 0 | "TRANSFORMABILITY"     | 1 |
| 142 | 000 | MARTHA        | 0 | "MARTHA"        | 1 |  | 000 | TREE             | 0 | "TREE"                 | 1 |
| 143 | 000 | MEAL          | 0 | "MEAL"          | 1 |  | 000 | TRESP            | 0 | "TRESP"                | 1 |
| 144 | 000 | MEAT          | 0 | "MEAT"          | 1 |  | 000 | TUNNEL           | 0 | "TUNNEL"               | 1 |
| 145 | 000 | MERCY         | 0 | "MERCY"         | 1 |  | 000 | VASILIS          | 2 | "VASILIS"              | 1 |
| 146 | 000 | MOREVNAS      | 3 | "MOREVNAS"      | 1 |  | 000 | VLADIMIR         | 0 | "VLADIMIR"             | 1 |
| 147 | 000 | MOUNTAIN      | 0 | "MOUNTAIN"      | 1 |  | 000 | WAR              | 0 | "WAR"                  | 1 |
| 148 | 000 | MURDEROFF     | 0 | "MURDEROFF"     | 1 |  | 000 | WARON            | 0 | "WARON"                | 1 |
| 149 | 000 | MYOCATH       | 0 | "MYOCATH"       | 1 |  | 000 | WEARY            | 2 | "WEARY"                | 1 |
| 150 | 000 | MYWISDOM      | 0 | "MYWISDOM"      | 1 |  | 000 | WEALTH           | 0 | "WEALTH"               | 1 |
| 151 | 000 | NEAMILY       | 2 | "NEAMILY"       | 1 |  | 000 | WELL             | 0 | "WELL"                 | 1 |
| 152 | 000 | NFATHER       | 2 | "NFATHER"       | 1 |  | 000 | WISDOM           | 0 | "WISDOM"               | 1 |
| 153 | 000 | NIGHT         | 4 | "NIGHT"         | 1 |  | 000 | WITCH            | 0 | "WITCH"                | 1 |
| 154 | 000 | NICHOLAS      | 0 | "NICHOLAS"      | 1 |  | 000 | WIFE             | 1 | "WIFE"                 | 1 |
| 155 | 000 | NIGHTS        | 0 | "NIGHT"         | 1 |  | 000 | WOLF             | 0 | "WOLF"                 | 1 |
| 156 | 000 | NIGHTS        | 5 | "NIGHT"         | 1 |  | 000 | WOLFPACK         | 2 | "WOLFPACK"             | 1 |
| 157 | 000 | NMOTHER       | 2 | "NMOTHER"       | 1 |  | 000 | WOODS            | 3 | "WOODS"                | 1 |

|      |     |             |   |        |    |        |     |                |   |   |                  |
|------|-----|-------------|---|--------|----|--------|-----|----------------|---|---|------------------|
| b215 | 000 | YEARS       | 5 | 'YEAR' |    | 000172 | 000 | CHASE          | A | 3 | 'CHASE'          |
| D216 | 000 | YOUNGMAN    | 4 | '-     |    | 000273 | 000 | CHILDLESS      | A | 2 | 'CHILDLESS'      |
| C217 | 000 | YOUTHDEATH  | 0 | '-     |    | 000274 | 000 | CLIMB          | A | 3 | 'CLIMB'          |
| D218 | 000 | YOUTHSHOD   | 0 | '-     |    | 000275 | 000 | COME           | A | 3 | 'COME'           |
| D219 | 000 | SPELATIONS  | 1 | '-     |    | 000276 | 000 | CONSUME        | A | 3 | 'CONSUME'        |
| D220 | 000 | XX          | A | 2      | '- | 000277 | 000 | CONSUMEDBY     | A | 3 | 'CONSUMEDBY'     |
| D221 | 000 | ABDUCT      | 1 | 3      | 0  | '-     |     | CRAWL          | A | 3 | 'CRAWL'          |
| D222 | 000 | AFTER       | 1 | 4      | 0  | '-     |     | CRAWLTHROUGH   | A | 3 | 'CRAWLTHROUGH'   |
| D223 | 000 | AGAIN       | 1 | 6      | 1  | '-     |     | CUT            | A | 3 | 'CUT'            |
| D224 | 000 | AGREE       | A | 3      | 0  | '-     |     | CUTOFF         | A | 3 | 'CUTOFF'         |
| D225 | 000 | ALLURING    | A | 2      | 0  | '-     |     | CUTOFF         | A | 3 | 'CUTOFF'         |
| D226 | 000 | ALONE       | A | 2      | 0  | '-     |     | CUTOUT         | A | 3 | 'CUTOUT'         |
| D227 | 000 | ALONG       | A | 4      | 0  | '-     |     | DECIDE         | A | 3 | 'DECIDE'         |
| D228 | 000 | ALSO        | A | 6      | 0  | '-     |     | DECLARE        | A | 3 | 'DECLARE'        |
| D229 | 000 | ANNOUNCE    | A | 3      | 2  | '-     |     | DECLAREWARON   | A | 3 | 'DECLAREWARON'   |
| D230 | 000 | ANSWER      | A | 3      | 0  | '-     |     | DEFEAT         | A | 3 | 'DEFEAT'         |
| D231 | 000 | APPEAR      | A | 3      | 0  | '-     |     | DEFEATED       | A | 2 | 'DEFEATED'       |
| D232 | 000 | APPEARIN    | A | 3      | 0  | '-     |     | DEMAND         | A | 3 | 'DEMAND'         |
| D233 | 000 | APPEAR2     | A | 3      | 0  | '-     |     | DESCEND        | A | 3 | 'DESCEND'        |
| D234 | 000 | APPEARTO    | A | 3      | 0  | '-     |     | DESCENDBYUSING | A | 3 | 'DESCENDBYUSING' |
| D235 | 000 | AS          | A | 4      | 0  | '-     |     | DEVOUR         | A | 3 | 'DEVOUR'         |
| D236 | 000 | ASK         | A | 3      | 0  | '-     |     | DEFEAT         | A | 3 | 'DEFEAT'         |
| D237 | 000 | ASK1        | A | 3      | 0  | '-     |     | DIRECT         | A | 2 | 'DIRECT'         |
| D238 | 000 | ASKFOR      | A | 3      | 0  | '-     |     | DIRECTEDBY     | A | 2 | 'DIRECTEDBY'     |
| D239 | 000 | ASLEEP      | A | 2      | 0  | '-     |     | DISTANT        | A | 2 | 'DISTANT'        |
| D240 | 000 | AT          | A | 4      | 0  | '-     |     | DIVIDE         | A | 3 | 'DIVIDE'         |
| D241 | 000 | ATTEMPT     | A | 3      | 0  | '-     |     | DIVIDE1        | A | 3 | 'DIVIDE1'        |
| D242 | 000 | AVOID       | A | 3      | 1  | '-     |     | DISGUISE       | A | 3 | 'DISGUISE'       |
| D243 | 000 | AWAKE       | A | 6      | 1  | '-     |     | DONOT          | A | 3 | 'DO NOT'         |
| D244 | 000 | AWAY        | A | 6      | 1  | '-     |     | DROWNING       | A | 3 | 'DROWNING'       |
| D245 | 000 | AWAYFROM    | A | 3      | 0  | '-     |     | DYING          | A | 2 | 'DYING'          |
| D246 | 000 | BACK        | A | 4      | 0  | '-     |     | EAT            | A | 3 | 'EAT'            |
| D247 | 000 | BADLY       | A | 6      | 0  | '-     |     | EAT1           | A | 3 | 'EAT1'           |
| D248 | 000 | BE          | A | 3      | 0  | '-     |     | ENGAGE         | A | 3 | 'ENGAGE'         |
| D249 | 000 | BEI         | A | 3      | 0  | '-     |     | FALL           | A | 3 | 'FALL'           |
| D250 | 000 | BEHEADING   | A | 3      | 0  | '-     |     | ENTICE         | A | 2 | 'ENTICE'         |
| D251 | 000 | BEHIDDEN    | A | 2      | 0  | '-     |     | FALLASLEEP     | A | 3 | 'FALLASLEEP'     |
| D252 | 000 | BEING       | A | 3      | 0  | '-     |     | ENTICED        | A | 2 | 'ENTICED'        |
| D253 | 000 | BERRYGATHER | A | 3      | 4  | '-     |     | FEED           | A | 3 | 'FEED'           |
| D254 | 000 | BESIDE      | A | 4      | 0  | '-     |     | FEEDINGTORTAS  | A | 3 | 'FEEDINGTORTAS'  |
| D255 | 000 | BLOCK       | A | 3      | 0  | '-     |     | FAIL           | A | 3 | 'FAIL'           |
| D256 | 000 | BLOODY      | A | 2      | 0  | '-     |     | FARLY          | A | 4 | 'FARLY'          |
| D257 | 000 | BRAWL       | A | 3      | 0  | '-     |     | FIGHT          | A | 2 | 'FIGHT'          |
| D258 | 000 | BROKEN      | A | 2      | 0  | '-     |     | FIGHTING       | A | 2 | 'FIGHTING'       |
| D259 | 000 | BURY        | A | 3      | 0  | '-     |     | FIGHTINGWITH   | A | 2 | 'FIGHTINGWITH'   |
| D260 | 000 | BY          | A | 4      | 0  | '-     |     | FIND           | A | 3 | 'FIND'           |
| D261 | 000 | BY1         | A | 4      | 0  | '-     |     | FISH           | A | 3 | 'FISH'           |
| D262 | 000 | CALL        | A | 1      | 3  | '-     |     | FLY            | A | 3 | 'FLY'            |
| D263 | 000 | CALLFOR     | A | 3      | 0  | '-     |     | FLY2           | A | 2 | 'FLY2'           |
| D264 | 000 | CAST        | A | 3      | 0  | '-     |     | FLYINTO        | A | 3 | 'FLYINTO'        |
| D265 | 000 | CASTSPELLON | A | 3      | 0  | '-     |     | FOLLOW         | A | 3 | 'FOLLOW'         |
| D266 | 000 | CAUGHT      | A | 2      | 0  | '-     |     | FORGET         | A | 4 | 'FORGET'         |
| D267 | 000 | CAUSE       | A | 3      | 0  | '-     |     | FIND           | A | 2 | 'FIND'           |
| D268 | 000 | CAUSEDISOF  | A | 3      | 0  | '-     |     | FOUND          | A | 2 | 'FOUND'          |
| D269 | 000 | CERTAIN     | A | 2      | 0  | '-     |     | FOUND1         | A | 2 | 'FOUND1'         |
| D270 | 000 | CHANGE      | A | 3      | 0  | '-     |     | FREE           | A | 3 | 'FREE'           |
| D271 | 000 | CHANGE1     | A | 3      | 0  | '-     |     | FREE1          | A | 3 | 'FREE1'          |

|      |     |               |       |              |        |     |               |         |              |
|------|-----|---------------|-------|--------------|--------|-----|---------------|---------|--------------|
| 5229 | 000 | FREED         | A 2 0 | 'FREE' ;     | 000386 | 000 | OLD           | A 2 0   | 'OLD' ;      |
| C330 | 000 | FROM          | A 1 0 | 'FROM'       | 000387 | 000 | OLDEST        | A 2 0   | 'OLDEST' ;   |
| C331 | 000 | GATHER        | A 3 0 | 'GATHER' ;   | 000388 | 000 | ON            | A 2 0   | 'ON'         |
| C332 | 000 | GIVEN         | A 2 0 | 'GIVE' ;     | 000389 | 000 | OPEN          | A 2 0   | 'ONLY'       |
| C333 | 000 | GIVENTO       | A 2 0 | 'GIVE TO'    | 000390 | 000 | ORDER         | A 2 0   | 'OPEN'       |
| C334 | 000 | GNAW          | A 1 0 | 'GNAW'       | 000391 | 000 | ORDERINTOSEA  | A 2 0   | 'ORDER'      |
| C335 | 000 | GOBERRYGATHER | A 3 0 |              | 000392 | 000 | ORDERMURDEROF | A 3 0   |              |
| C336 | 000 | GOFISH        | A 3 0 |              | 000393 | 000 | OTHER         | A 2 0   | 'OTHER'      |
| C337 | 000 | GO            | A 3 0 | 'GO'         | 000394 | 000 | OUT           | A 4 0   | 'OUT'        |
| C338 | 000 | GOTFOREST     | A 3 0 |              | 000395 | 000 | OVER          | A 4 0   | 'OVER'       |
| C339 | 000 | GOTGARD       | A 3 0 |              | 000396 | 000 | OWN           | A 3 0   | 'OWN'        |
| C340 | 000 | GOTTRADE      | A 3 0 |              | 000397 | 000 | PARTAKE       | A 3 0   | 'PARTAKE'    |
| C341 | 000 | GOVISIT       | A 3 0 |              | 000398 | 000 | PERSUADE      | A 3 0   | 'PERSUADE'   |
| C342 | 000 | GOWALK        | A 3 0 |              | 000399 | 000 | PERSUADE2     | A 3 0   | 'PERSUADE2'  |
| C343 | 000 | GOWORK        | A 3 0 |              | 000400 | 000 | PILLAGE       | A 3 0   | 'PILLAGE'    |
| C344 | 000 | GREET         | A 3 0 | 'GREET'      | 000401 | 000 | PLACEDATDISPO | A 2 0   | 'PLACE'      |
| C345 | 000 | HAVE          | A 1 0 | 'HAVE'       | 000402 | 000 | PLAY          | A 3 0   | 'PLAY'       |
| C346 | 000 | HAVEL         | A 3 0 | 'HAVE'       | 000403 | 000 | PLUCK         | A 3 0   | 'PLUCK'      |
| C347 | 000 | HER           | A 2 0 | 'HER'        | 000404 | 000 | PLUCKOUT      | A 3 0   | 'PLUNDER'    |
| C348 | 000 | HIDDEN        | A 2 0 | 'HIDE'       | 000405 | 000 | PREPARE       | A 2 0   | 'PREPARE'    |
| C349 | 000 | HIDE          | A 3 0 | 'HIDE'       | 000406 | 000 | PREPAREFOR    | A 2 0   | 'PREPAREFOR' |
| C350 | 000 | HIS           | A 2 0 | 'HIS'        | 000407 | 000 | PRODUCED      | A 2 0   | 'PRODUCE'    |
| C351 | 000 | HORRIBLY      | A 4 0 | 'HORRIBLE'   | 000408 | 000 | PROPOSE       | A 3 0   | 'PROPOSE'    |
| C352 | 000 | IMPRISON      | A 3 0 | 'IMPRISON'   | 000409 | 000 | PROSUADE      | A 2 0   | 'PERSUADE'   |
| C353 | 000 | IMPRISONED    | A 2 0 | 'IMPRISONED' | 000410 | 000 | PULL          | A 3 0   | 'PULL'       |
| C354 | 000 | IN            | A 1 0 | 'IN'         | 000411 | 000 | PULLOFF       | A 3 0   | 'PURSUE'     |
| C355 | 000 | INJURE        | A 3 0 | 'INJURE'     | 000412 | 000 | RAND          | A 3 0   | 'RAND'       |
| C356 | 000 | INTO          | A 4 0 | 'INTO'       | 000413 | 000 | REFCONCIL     | A 3 0   | 'REFCONCIL'  |
| C357 | 000 | INTOLEAVING   | A 4 0 |              | 000414 | 000 | REPLETE       | A 3 0   | 'REPLETE'    |
| C358 | 000 | IS            | A 3 0 | 'BE'         | 000415 | 000 | REPLACE       | A 2 0   | 'REPLACE'    |
| C359 | 000 | ISCHILDOF     | A 3 0 |              | 000416 | 000 | REQUEST       | A 3 0   | 'REQUEST'    |
| C360 | 000 | JUMP          | A 3 0 | 'JUMP'       | 000417 | 000 | RESPOND       | A 3 0   | 'RESPOND'    |
| C361 | 000 | KILL          | A 3 0 | 'KILL'       | 000418 | 000 | RETURN        | A 3 0   | 'RETURN'     |
| C362 | 000 | KILLI         | A 3 0 | 'KILLI'      | 000419 | 000 | RNULL         | A 7 0   | 'ROAST'      |
| C363 | 000 | LEAVE         | A 3 0 | 'LEAVE'      | 000420 | 000 | ROASTING      | A 3 0   | 'ROAST'      |
| C364 | 000 | LEAVEL        | A 3 0 | 'LEAVE'      | 000421 | 000 | RUDELY        | A 6 1   | 'RUDE'       |
| C365 | 000 | LED           | A 2 0 | 'LEAD'       | 000422 | 000 | SAME          | A 4 2 0 | 'SAME'       |
| C366 | 000 | LEDDY         | A 2 0 |              | 000423 | 000 | SAY           | A 3 0   | 'SAY'        |
| C367 | 000 | LISTEN        | A 3 0 | 'LISTEN'     | 000424 | 000 | SEARCH        | A 4 3 0 | 'SEARCH'     |
| C368 | 000 | LIVE          | A 3 0 | 'LIVE'       | 000425 | 000 | SEARCHFOR     | A 3 0   | 'SEARCHFOR'  |
| C369 | 000 | LIVEN         | A 3 0 |              | 000426 | 000 | SECRETLY      | A 4 6 0 | 'SECRET'     |
| C370 | 000 | HARRY         | A 3 0 | 'HARRY'      | 000427 | 000 | SEIZED        | A 2 0   | 'SEIZE'      |
| C371 | 000 | HEET          | A 3 0 | 'HEET'       | 000428 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C372 | 000 | MIRACULOUS    | A 2 0 | 'MIRACULOUS' | 000429 | 000 | SENDE         | A 3 0   | 'SEND'       |
| C373 | 000 | PUDGER        | A 3 0 | 'PUDGER'     | 000430 | 000 | SHOW          | A 3 0   | 'SHOW'       |
| C374 | 000 | MY            | A 2 0 | 'MY'         | 000431 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C375 | 000 | NEED          | A 3 0 | 'NEED'       | 000432 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C376 | 000 | NOGOTO        | A 3 0 |              | 000433 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C377 | 000 | NOLEAVE       | A 3 0 |              | 000434 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C378 | 000 | NOTI          | A 4 1 | 'NOTI'       | 000435 | 000 | SEIZING       | A 4 3 0 | 'SEIZING'    |
| C379 | 000 | OBTAINT       | A 3 0 | 'OBTAINT'    | 000436 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C380 | 000 | OBTAINED      | A 2 0 | 'OBTAINED'   | 000437 | 000 | SEIZING       | A 4 6 0 | 'SEIZING'    |
| C381 | 000 | OFF           | A 4 0 | 'OFF'        | 000438 | 000 | SEIZING       | A 2 0   | 'SEIZING'    |
| C382 | 000 | OFF           | A 4 0 | 'OFF'        | 000439 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C383 | 000 | OFFER         | A 3 0 | 'OFFER'      | 000440 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C384 | 000 | OFFERED       | A 2 0 | 'OFFERED'    | 000441 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |
| C385 | 000 | OFFEREDTO     | A 2 0 |              | 000442 | 000 | SEIZING       | A 3 0   | 'SEIZING'    |

|     |               |       |            |        |     |          |       |            |
|-----|---------------|-------|------------|--------|-----|----------|-------|------------|
| 000 | SHOWN         | 1 2 0 | 'SHOW' 1   | 000500 | 000 | WITH     | 1 4 0 | 'WITH'     |
| 000 | SHOWN THEREBY | 1 3 0 |            | 000501 | 000 | WITHOUT  | 1 4 0 | 'WITHOUT'  |
| 000 | SHOWN TO      | 1 3 0 |            | 000502 | 000 | WITHOUT  | 1 4 0 | 'WITHOUT'  |
| 000 | SIT           | 1 3 0 | 'SIT'      | 000503 | 000 | WORK     | 1 4 3 | 'WORK'     |
| 000 | SNEAK         | 1 3 0 | 'SNEAK'    | 000504 | 000 | WOUNDED  | 1 4 2 | 'WOUND'    |
| 000 | SNEAKINTO     | 1 3 0 |            | 000505 | 000 | YELL     | 1 4 3 | 'YELL'     |
| 000 | SOLD          | 1 2 0 | 'SELL'     | 000506 | 000 | YOUNG    | 1 4 2 | 'YOUNG'    |
| 000 | SOLDTO        | 1 3 0 |            | 000507 | 000 | YOUNGER  | 1 4 2 | 'YOUNGER'  |
| 000 | SPEND         | 1 3 0 | 'SPEND'    | 000508 | 000 | YOUNGEST | 1 4 2 | 'YOUNGEST' |
| 000 | START         | 1 3 0 | 'START'    | 000509 | 000 | YOUR     | 1 4 2 | 'YOUR'     |
| 000 | STAY          | 1 3 0 | 'STAY'     | 000510 | 000 | S        |       |            |
| 000 | SUDDENLY      | 1 6 0 | 'SUDDEN'   |        |     |          |       |            |
| 000 | SUNG          | 1 2 0 | 'SING'     |        |     |          |       |            |
| 000 | SURPRISE      | 1 3 0 | 'SURPRISE' |        |     |          |       |            |
| 000 | SWEET         | 1 6 0 | 'SWEET'    |        |     |          |       |            |
| 000 | SWEETOLD      | 1 4 2 | O          |        |     |          |       |            |
| 000 | TAKEAWAY      | 1 3 0 | O          |        |     |          |       |            |
| 000 | TAKE          | 1 3 0 | O          |        |     |          |       |            |
| 000 | TEMPT         | 1 3 0 | O          |        |     |          |       |            |
| 000 | THIRD         | 1 4 2 | O          |        |     |          |       |            |
| 000 | THREAT        | 1 3 0 | O          |        |     |          |       |            |
| 000 | THREATEN      | 1 3 0 | O          |        |     |          |       |            |
| 000 | THREATENED    | 1 4 2 | O          |        |     |          |       |            |
| 000 | THREATOMARRY  | 1 3 0 | O          |        |     |          |       |            |
| 000 | THREE         | 1 4 2 | O          |        |     |          |       |            |
| 000 | THROUGH       | 1 4 0 | O          |        |     |          |       |            |
| 000 | THROUGH       | 1 4 2 | O          |        |     |          |       |            |
| 000 | TO            | 1 4 2 | O          |        |     |          |       |            |
| 000 | TOIL          | 1 3 0 | O          |        |     |          |       |            |
| 000 | TORMENT       | 1 3 0 | O          |        |     |          |       |            |
| 000 | TORNADO       | 1 4 0 | O          |        |     |          |       |            |
| 000 | TRADE         | 1 3 0 | O          |        |     |          |       |            |
| 000 | TRAVEL        | 1 3 0 | O          |        |     |          |       |            |
| 000 | TRAVEL        | 1 3 0 | O          |        |     |          |       |            |
| 000 | TRAVELY       | 1 3 0 | O          |        |     |          |       |            |
| 000 | TRAVELON      | 1 3 0 | O          |        |     |          |       |            |
| 000 | TRAVELTO      | 1 3 0 | O          |        |     |          |       |            |
| 000 | TRICKY        | 1 3 0 | O          |        |     |          |       |            |
| 000 | TROUNCED      | 1 4 2 | O          |        |     |          |       |            |
| 000 | TRY           | 1 3 0 | O          |        |     |          |       |            |
| 000 | TWICE         | 1 4 6 | O          |        |     |          |       |            |
| 000 | UNPROTECTED   | 1 4 2 | O          |        |     |          |       |            |
| 000 | USE           | 1 3 0 | O          |        |     |          |       |            |
| 000 | USING         | 1 3 0 | O          |        |     |          |       |            |
| 000 | VISIT         | 1 4 4 | O          |        |     |          |       |            |
| 000 | WALK          | 1 3 4 | O          |        |     |          |       |            |
| 000 | WALISIN       | 1 3 0 | O          |        |     |          |       |            |
| 000 | WALKINTO      | 1 3 0 | O          |        |     |          |       |            |
| 000 | WANDER        | 1 4 2 | O          |        |     |          |       |            |
| 000 | WHERE         | 1 4 1 | O          |        |     |          |       |            |
| 000 | WHEREIS       | 1 4 1 | O          |        |     |          |       |            |
| 000 | WHICH         | 1 4 0 | O          |        |     |          |       |            |
| 000 | WHILE         | 1 4 0 | O          |        |     |          |       |            |
| 000 | WHILEI        | 1 4 0 | O          |        |     |          |       |            |
| 000 | WHOON         | 1 3 0 | O          |        |     |          |       |            |
| 000 | WHOOH         | 1 3 0 | O          |        |     |          |       |            |

## 10.2 Classes

|     |  |        |  |
|-----|--|--------|--|
| 000 | MAGGINIM ■ MAGCOW MAGHEN MAGSTEED MAGBIRD 1                                  | 000671 | RSHELPER(F1) ■ GOOSE FALCON 1          |
| 000 | MAGHININGS ■ MAGFLINT MAGRING 1  | 000672 | RSHELPER(F2) ■ MOUNTAIN LAKE FOREST 1  |
| 000 | MAGGOOD ■ MAGPOTION MAGWAFFER 1  | 000673 | RSHELPER(F3) ■ ROCK WELL DIPPER 1      |
| 000 | MAGHELP1 ■ 1   | 000674 | RSHELPER(F4) ■ RIVER STOVE ROCKI 1     |
| 000 | MAGHELP2 ■ 1   | 000675 | RSHELPER(F5) ■ BLACKSMITHS 1           |
| 000 | MAGHELP3 ■ 1   | 000676 | RSHELPER(F6) ■ HORSE FALCON SEEDI 1    |
| 000 | MAGHELPQ ■ 1   | 000677 | RSHELPER(F7) ■ TEMPTATIONI 1           |
| 000 | MAGGILLS ■ MAGGORD MAGROW 1  | 000678 | RSHELPER(F8) ■ EATENI 1                |
| 000 | MAGGIOS ■ MAGHEN MAGROX 1  | 000679 | RSHELPER(F9) ■ KILLEDI 1               |
| 000 | MAGGRJS ■ MAGEGG MAGBOX MAGWORDS MAGKEY 1                                    | 000680 | RSHELPER(F10) ■ OTHERTREFI 1           |
| 000 | MAGUAL ■ FLIGHT SUPERSPEED SUPSTREN 1  | 000681 | 2 RSREL(F1) ■ FLYI 1                   |
| 000 | MAGUALS ■ SUPSTREN SUPERSPEED FLIGHT TRANSFORMABILITY 1                      | 000682 | 2 RSREL(F2) ■ BLOCKI 1                 |
| 000 | MAGGRANS ■ MAGSTEED MAGCARPET MAGBIRD 1                                      | 000683 | 2 RSREL(F3) ■ CHANGEII 1               |
| 000 | MAGRESCS ■ MAGTRANS 1  | 000684 | 2 RSREL(F4) ■ HIDEI 1                  |
| 000 | MAGE ■ IVAN BORIS ALIOSHA NICHOLAS MARCO JONA ERENA ENELYA VLADIMIR BALDAK 1 | 000685 | 2 RSREL(F5) ■ BEHIDDENI 1              |
| CC0 | MALECS ■ MALES 1   | 000686 | 2 RSREL(F6) ■ CHANGELI 1               |
| 000 | MOTHER ■ 1   | 000687 | 2 RSREL(F7) ■ AVOIDI 1                 |
| 000 | 2 MOTIVE(F1) ■ GOWORK GNOFOREST GOTRADE GOTOMAR 1                            | 000688 | 2 RSREL(F8) ■ AVOIDI 1                 |
| 000 | 2 MOTIVE(F2) ■ HORRIBLY SUDDENLY 1   | 000689 | 2 RSREL(F9) ■ AVOIDI 1                 |
| 000 | 2 MOTIVE(F3) ■ GOVISIT GOVISH GOVALK GOBEERRYGATHER 1                        | 000690 | 2 RSREL(F10) ■ JUMPI 1                 |
| 000 | MCILLIS ■ MAGSWORD MAGBOW SUPSTREN 1   | 000691 | SAFORM ■ 1                             |
| 000 | MCILLIS ■ MAGTRANS TRANSFORMABILITY 1  | 000692 | SAFRM ■ F1 F2 F3 F4 F5 1               |
| 000 | MCTRANS ■ MAGSTEED MAGCARPET FLIGHT MAGBIRD SUPERSPEED 1                     | 000693 | SABJIFI ■ 1                            |
| 000 | MCILL ■ MOTRANS MCILLIS MORESCS MAGLQS 1                                     | 000694 | SABJIF2 ■ MAGHEN MAGDON MAGBOD 1       |
| 000 | MUFARM ■ 1   | 000695 | SABJIF3 ■ FIREBIRD GOLDUCK 1           |
| 000 | NUFORMS ■ F1 F2 1  | 000696 | SABJIF4 ■ EGGOODEATH 1                 |
| 000 | NUFORMS ■ F1 F15 F16 F17 F18 F19 1   | 000697 | SABJIFI ■ HEALTH 1                     |
| 000 | NUFORMS ■ F7 F9 F10 F11 F12 F13 F14 1  | 000698 | SEEKER ■ 1                             |
| CC0 | OLDGEN ■ 1   | 000699 | SLOC ■ 1                               |
| CC0 | OWNER ■ 1  | 000700 | SOCJECT ■ 1                            |
| 000 | PEOPLE ■ MALE FEMALE 1   | 000701 | SONI ■ 1                               |
| 000 | PFCEW ■ 1  | 000702 | SONZ ■ 1                               |
| 000 | PFGRS ■ F1 F2 F3 F4 F5 F6 F7 1   | 000703 | SONZ ■ 1                               |
| 000 | PLACES ■ BOODS FIELDS HOUSE BARN TOWN HUT 1                                  | 000704 | STORYLOC ■ 1                           |
| 000 | PERPONHAKAYAGAI ■ HIPSSELF1  | 000705 | THELP ■ F3 F6 1                        |
| 000 | PERPONHAKAYAGAI ■ HIPSSELF1  | 000706 | THEAFMS ■ F1 F2 1                      |
| 000 | PERPONHAKYOF1 ■ HIMSELF1   | 000707 | THATAFORM ■ 1                          |
| 000 | PERPONIBEAR ■ HIMSELF1   | 000708 | TRICK ■ 1                              |
| 000 | PERPONIDRAGON1 ■ HIMSELF1  | 000709 | TRICKS(F1) ■ HAGGING STEAMBAH SHIN 1   |
| 000 | PCSPORMUDRAGON1 ■ DRAGONWIFE1  | 000710 | TRICKS(F2) ■ SLEEPINGPOTION MAGICPIN 1 |
| 000 | POSPOURSIAGAYAGA ■ BARADAUGH 1   | 000711 | VICTIM ■ 1                             |
| 000 | POSPOURSIUBER ■ BEARSEFATHER 1   | 000712 | VILAIN ■ 1                             |
| 000 | POSPOUSIULIBER ■ WOLFPACK 1  | 000713 | VILPOSES ■ YOUREITH YOURWISDOM 1       |
| 000 | PCSVLS ■ DRAGON BABAYAGA BEAR WILF 1   | 000714 | VILSOA ■ F3 FS F16 F17 F18 F19 F20 1   |
| 000 | PURSUER ■ 1  | 000715 | VLOC ■ 1                               |
| 000 | CANSIYOURDATHI ■ HYDEATH 1   | 000716 | VOBJECT ■ 1                            |
| 000 | CANSIYOURNISDOM ■ HYWISDOM 1   | 000717 | VOBMP(F2) ■ MAGOBJJS MAGANIM 1         |
| 000 | OBJECT ■ 1   | 000718 | YOBIMP(F3) ■ CROSIS 1                  |
| 000 | RHELP ■ 1  | 000719 | VORTMP(F4) ■ DAYLIGHT 1                |
| 000 | RSFORH ■ 1   | 000720 | VOBMP(F5) ■ CATTIE ANIMALS SHEEP 1     |
| 000 | RSFORMS(F1) ■ F1 F2 F4 F5 1  | 000721 | VOBMP(F6) ■ HEARTY ARM LEG EYE 1       |
| 000 | RSFORMS(F2) ■ F1 F2 F4 F5 1  | 000722 | VPOSLOC ■ MAGEGG 1                     |
| 000 | RSFORMS(F3) ■ F1 F2 F4 F5 1  | 000723 | VTENP ■ 1                              |
| 000 | RSFORMS(F4) ■ F7 1   | 000724 | YOUNGEN ■ 1                            |
| 000 | RSFORMS(F5) ■ F8 1   | 000725 | 3 AREL(F1) ■ ABDUCT 1                  |
| 000 | RSFORMS(F6) ■ F9 1   | 000726 | 3 AREL(F2) ■ SEIZE 1                   |
| 000 | RSFORMS(F7) ■ F10 1  | 000727 | 3 AREL(F3) ■ PILLAGE 1                 |

|     |               |                                     |         |                            |
|-----|---------------|-------------------------------------|---------|----------------------------|
| 000 | 3 AREL(F4)    | SEIZE                               | 0000785 | 3 PREL2(IF2) • FOR!        |
| 000 | 3 AREL(F5)    | PLUNDER                             | 0000786 | 000 3 PREL2(IF3) • AFTER!  |
| 000 | 3 AREL(F6)    | INJURE!                             | 0000787 | 000 3 PREL2(IF5) • DEVOUR! |
| 000 | 3 AREL(F7)    | CAUSEDISPRF                         | 0000788 | 000 3 AREL2(IF1) • KILL!   |
| 000 | 3 AREL(F8)    | DEMAND!                             | 0000789 | 000 3 RSREL2(IF1) • ON!    |
| 000 | 3 AREL(F9)    | EXPELL!                             | 0000790 | 000 3 RSREL2(IF2) • WITH!  |
| 000 | 3 AREL(F10)   | ORDER                               | 0000791 | 000 3 RSREL2(IF3) • INTO!  |
| 000 | 3 AREL(F11)   | GASTSPILLON                         | 0000792 | 000 3 RSREL2(IF4) • IN!    |
| 000 | 3 AREL(F12)   | REPLACE!                            | 0000793 | 000 3 RSREL2(IF5) • BY!    |
| 000 | 3 AREL(F13)   | ORDERNUDEROF                        | 0000794 | 000 3 RSREL2(IF6) • INTO!  |
| 000 | 3 AREL(F14)   | MURDER!                             | 0000795 | 000 3 RSREL2(IF7) • ANULL! |
| 000 | 3 AREL(F15)   | IMPRISON!                           | 0000796 | 000 3 RSREL2(IF8) • IS!    |
| 000 | 3 AREL(F16)   | THREATOMARRY                        | 0000797 | 000 3 RSREL2(IF9) • IS!    |
| 000 | 3 AREL(F17)   | TREATATY                            | 0000798 | 000 3 RSREL2(IF10) • TO!   |
| 000 | 3 AREL(F18)   | ATI                                 | 0000799 | 000 CHARACTERS & PEOPLE!   |
| 000 | 3 ARRIVALS    | FLYINTO APPEARIN SNEAKINTO WALKINTO | 1       |                            |
| 000 | 2 BETAREL(F1) | LEAVE                               | 1       |                            |
| 000 | 2 BETAREL(F2) | DIE!                                | 1       |                            |
| 000 | 2 BETAREL(F3) | LEAVE                               | 1       |                            |
| 000 | 3 DELTAREL    | PROPOSE                             | 1       |                            |
| 000 | 3 DREL(F1)    | ASK!                                | 1       |                            |
| 000 | 3 DREL(F2)    | GIVENTO                             | 1       |                            |
| 000 | 3 FREL(F1)    | SNOWINTO                            | 1       |                            |
| 000 | 3 FREL(F2)    | PREPAREDFOR                         | 1       |                            |
| 000 | 3 FREL(F3)    | SOLDTO                              | 1       |                            |
| 000 | 3 FREL(F4)    | FOUNDAY                             | 1       |                            |
| 000 | 3 FREL(F5)    | APPEARTO                            | 1       |                            |
| 000 | 3 FREL(F6)    | CONSUMEDBY                          | 1       |                            |
| 000 | 3 FREL(F7)    | SEIZEDAY                            | 1       |                            |
| 000 | 3 FREL(F8)    | PLACEDATOSPORT                      | 1       |                            |
| 000 | 3 FREL(F9)    | HOGOTTO                             | 1       |                            |
| 000 | 3 GAMOF(F1)   | GO!                                 | 1       |                            |
| 000 | 3 GAMOF(F2)   | HOLEVÉ                              | 1       |                            |
| 000 | 3 GAMEV(F1)   | LEAVC!                              | 1       |                            |
| 000 | 3 GAMEV(F2)   | TRAVELY                             | 1       |                            |
| 000 | 3 GRELF(F1)   | TRAVELON                            | 1       |                            |
| 000 | 3 GRELF(F2)   | LEDY!                               | 1       |                            |
| 000 | 3 GRELF(F3)   | DIRECTEDBY!                         | 1       |                            |
| 000 | 3 GRELF(F4)   | FOLLOW!                             | 1       |                            |
| 000 | 3 GRELF(F5)   | CRAWLYTHROUGH!                      | 1       |                            |
| 000 | 3 GRELF(F6)   | CLIMBI                              | 1       |                            |
| 000 | 3 GRELF(F7)   | CHASE!                              | 1       |                            |
| 000 | 2 PREL1(F2)   | ATTEMPT!                            | 1       |                            |
| 000 | 2 PREL1(F5)   | ATTEMPT!                            | 1       |                            |
| 000 | 2 PREL1(F6)   | AFTER!                              | 1       |                            |
| 000 | 3 PREL2(IF1)  | FLY!                                | 1       |                            |

### 10.3 Propp Model Simulation Program



000 BRULE ! \*MOVE PICK(CHARACTER\$) TO OWNER.  
 000 REMOVE OWNER FROM CHARACTERS!  
 000 VICTIM !  
 000 INSERT OWNER LIVEN LAND(LAND SAME) LIVEN ALSO!  
 000 OWNER UNKNOWN OBJECT!  
 000 OWNER UNKNOWN OBJECT EQL BODPARTS!  
 000 -10,10,1  
 000 BRULE !  
 000 SPULE OWN1 OWNER LIVEN LAND(LAND SAME) LIVEN ALSO!  
 000 -10,10,1  
 000 BRULE OWN1 (SEK)  
 000 MOVE OWNER TO VICTIM!  
 000  
 000 S PICK A VICTIM, IF THE OBJECT OF THE VILLAINY IS TO BE A PERSON.  
 000 S THE VICTIM MAY BE FROM THE FAMILY, DEPENDING ON THE HERO!\_VILLAIN!  
 000 S AND FORM OF VILLAINY. IT IS ASSUED THAT VICTIM=HEROES ARE INVOLVED  
 000 S ONLY IN VILLAINIES WHICH REMOVE THEM FROM HOME! THEY THEN ATTEMPT  
 000 S TO GET BACK.  
 000 S THEN PICK ANOTHER FAMILY MEMBER TO SERVE AS "OWNER" OF THE VICTIM.  
 000 S  
 000 BRULE VCTPIC ! REMOVE VILLAIN FROM FAMILY.  
 000 MOVE VILLAIN TO VTEMP!  
 000 10,10,1  
 000 SPULE ! REMOVE HERO FROM FAMILY.  
 000 MOVE HERO TO HTEMP!  
 000 10,10,1 HERO EQL FAMILY AND (AFORM,EQL,NUMFORM\$)  
 000 SPULE !  
 000 FVICCHAR ! REMOVE PICK(FAMILY) TO VICTIM!  
 000 10,0 : NUMIVTEMP EQ 11  
 000 10,5 : NUMIVTEMP EQ 01  
 000 0,10 : NUMIFAMILY GT 11  
 000 SPULE ! REMOVE VICTIM FROM FAMILY!  
 000 SPULE !  
 000 VTEMP ! REMOVE PICK(FAMILY) TO OWNER,  
 000 ADD VICTIM TO FAMILY.  
 000 ADD VTEMP TO FAMILY!  
 000 S OR THE VICTIM AND "OWNER" COME FROM OUTSIDE THE FAMILY AND ARE  
 000 S INTRODUCED.  
 000 SPULE VICCHAR !  
 000 MOVE PICK(CHARACTER\$) TO OWNER.  
 000 REMOVE OWNER FROM CHARACTERS!  
 000 MOVE PICK(CHARACTER\$) TO VICTIM,  
 000 REMOVE VICTIM FROM CHARACTERS!  
 000 INSERT OWNER LIVEN LAND(LAND SAME) LIVEN ALSO!  
 000 INSERT VICTIM IS CHILD(LCHILD, POS OWNER)!  
 000 SPULE VTEMP !  
 000 MOVE VICTIM TO OBJECT!  
 000 ADD HTEMP TO FAMILY!  
 000 S IF THE HERO IS NOT THE VICTIM, THEN HE IS A SEEKER=HERO!  
 000 S  
 000 SPULE SEEK ! MOVE HERO TO SEEKER!  
 000 -10,10,1 (HERO EQL VICTIM)  
 000 S

000 000 S [PICK THE LOCATION OF THE VILLAINY.  
 000 000 S \*MOVE PICK(PLACES\$) TO VLOC!  
 000 000 S BRULE !  
 000 000 S 001071 000 S 001072 000 S 001073 000 S 001074 000 S 001075 000 S 001076 000 S 001077 000 S 001078 000 S 001079 000 S 001080 000 S 001081 000 S 001082 000 S 001083 000 S 001084 000 S 001085 000 S 001086 000 S 001087 000 S 001088 000 S 001089 000 S 001090 000 S 001091 000 S 001092 000 S 001093 000 S 001094 000 S 001095 000 S 001096 000 S 001097 000 S 001098 000 S 001099 000 S 001100 000 S 001101 000 S 001102 000 S 001103 000 S 001104 000 S 001105 000 S 001106 000 S 001107 000 S 001108 000 S 001109 000 S 001110 000 S 001111 000 S 001112 000 S 001113 000 S 001114 000 S 001115 000 S 001116 000 S 001117 000 S 001118 000 S 001119 000 S 001120 000 S 001121 000 S 001122 000 S 001123 000 S 001124 000 S 001125 000 S 001126 000 S

000 S [CALL ROUTINES FOR FUNCTIONS GAMMA, BETA, AND DELTA.  
 000 S  
 000 S CALL GAMCALL !  
 000 S CALL GAMCALL !  
 000 S CALL GAMCALL !  
 000 S CALL GAMCALL !

|     |   |     |  |  |
|-----|---|-----|--|--|
| 000 | •CALL DELTA1  | 000 | SRULE CONCOM TDISPATCH   |  |
| 000 | 000 S INTRODUCE THE VILLAIN, IF NECESSARY (P. 27).  | 000 | MOVE F1A TO AFORM  |  |
| 000 | 000 S MOVE VARIVI •CALL VILLARIV 1  | 000 | *MOVE OWNER TO SUBJECT,  |  |
| 000 | 000 S CALL VILLAIN NED.FAMILIA1   | 000 | *MOVE OWNER TO DEAD.   |  |
| 000 | 000 S 10,-10,1  | 000 | CALL A1  |  |
| 000 | 000 S RECONNAISSANCE SEQUENCE. FUNCTIONS-EPSILON AND PSI1 [INV. V. P. 28-29]. THE FORM OF EPSILON IS RANDOMLY PICKED, NECESSARY ROLES ARE FILLED, AND GROUPS DESCRIBING EPSILON AND ITS PAIRED ELEMENT, PSI1, ARE CALLED. | 000 | 0,-10 1 (FI EQL AFORM 1 OR (F2 EQL AFORM 1))   |  |
| 000 | 000 S   | 000 | 0,-10,3 1 (OWNER EQL DEAD))  |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S   | 000 | MOVE F12 TO AFORM.   |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S   | 000 | MOVE F12 TO AFORM.   |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S   | 000 | MOVE F9 TO AFORM,  |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S SRULE RECON 1   | 000 | MOVE F10 1 (F11 EQL AFORM 1)   |  |
| 000 | 000 S TRICKERY  | 000 | (DISPATCH)   |  |
| 000 | 000 S MOVE PICK1EPSFORMS1 TO EPSSFORM   | 000 | MOVE F12 TO AFORM.   |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S   | 000 | MOVE VILLAIN TO SUBJECT  |  |
| 000 | 000 S   | 000 | MOVE F9 1 (F11 EQL AFORM 1)  |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S   | 000 | LACK 2 FUNCTION SMALL A (LVIIIA, P. 25-36).  |  |
| 000 | 000 S   | 000 | IF THERE IS NO VILLAIN, A LACK IS RANDOMLY CHOSEN ALONG WITH A SEEKER-HERO FROM THE FAMILY AND A SOUGHT AFTER OBJECT (INCH GROUP SA). GROUP SA DESCRIBES THE LACK).  |  |
| 000 | 000 S   | 000 | DEPENS ON THE TYPE OF LACK).   |  |
| 000 | 000 S   | 000 | SRULE 1  |  |
| 000 | 000 S   | 000 | MOVE PICK1VPOSSES1 TO OBJECT.  |  |
| 000 | 000 S   | 000 | MOVE PICK1VPOSSES1 TO SLACK  |  |
| 000 | 000 S   | 000 | MOVE PICK1VPOSSES1 TO SLACK1   |  |
| 000 | 000 S   | 000 | CALL EPSCALL 1 (CA1)   |  |
| 000 | 000 S   | 000 | MOVE EPSILON.  |  |
| 000 | 000 S   | 000 | CALL PSI1  |  |
| 000 | 000 S   | 000 | MOVE PICK1NUFORMS1 TO NUFORM.  |  |
| 000 | 000 S   | 000 | MOVE NUFORM TO THETAFORM.  |  |
| 000 | 000 S   | 000 | CALL VILDISG.  |  |
| 000 | 000 S   | 000 | CALL NU.   |  |
| 000 | 000 S   | 000 | CALL THETA1  |  |
| 000 | 000 S   | 000 | MOVE TRICKERY 1  |  |
| 000 | 000 S   | 000 | MOVE PICK1NUFORMS1 TO NUFORM.  |  |
| 000 | 000 S   | 000 | MOVE NUFORM TO THETAFORM.  |  |
| 000 | 000 S   | 000 | CALL VILDISG.  |  |
| 000 | 000 S   | 000 | CALL NU.   |  |
| 000 | 000 S   | 000 | CALL THETA1  |  |
| 000 | 000 S   | 000 | 0,-10 1 (HERO EQL FAMILY) ]  |  |
| 000 | 000 S   | 000 | DISPATCH 2 FUNCTION B (IXX, P. 36-38).   |  |
| 000 | 000 S   | 000 | THE FORM OF B THAT IS CHOSEN DEPENDS ON WHETHER THE TALE HAS A VILLAIN.  |  |
| 000 | 000 S   | 000 | THE VILLAIN IS DESCRIBED BY CALLING GROUP A. CONCOMITANT FORMS OF THE VILLAIN MAY BE CONSTRUCTED BY AGAIN CALLING A, IN THE PROPER CIRCUMSTANCES. THE SOUGHT AFTER OBJECT IS DETERMINED BY THE FORM OF VILLAIN AND IN ONE CASE BY THE RESPONSE TO THE VILLAINY, AND IS EITHER THE OBJECT OF THE VILLAINY OR THE VILLAIN. |  |
| 000 | 000 S   | 000 | 0,-10 1 (HERO EQL SEEKER).   |  |
| 000 | 000 S   | 000 | SWITCH DISPATCH 1 (IVIXTH1)  |  |
| 000 | 000 S   | 000 | SWITCH 1 TIGC1   |  |
| 000 | 000 S   | 000 | 0,-10 1 NUM(FAMILY 1 EQ 1)   |  |
| 000 | 000 S   | 000 | 0,-10 1  |  |
| 000 | 000 S   | 000 | CALL A1  |  |
| 000 | 000 S   | 000 | MOVE VILSA TO SUBJECT  |  |
| 000 | 000 S   | 000 | MOVE VILSA OR OWNER REFUSE1  |  |
| 000 | 000 S   | 000 | -10,10 1 (AFORM EQL VILSA OR OWNER REFUSE1)  |  |
| 000 | 000 S   | 000 | MOVE VILLAIN TO SUBJECT  |  |

|     |   |   |        |     |  |
|-----|---|---|--------|-----|--|
| 000 | S | SWITCH 1 TIB2L11  | 000    | \$  | DEPARTURE == FUNCTION_UP-AARRW (X1, P. 37).  |
| 000 | I | 10-10 : NUM_ISAFORM_1_EQ_11.  | 000    | S   | SRULE FORMARW 1 CALL DEPART  |
| 000 | S | MOVE OWNER TO DISPATCHER!   | 001301 | 000 | 10-8 : (VICTIM_EQL HERO1)  |
| 000 | S | SRULE 1   | 001302 | 000 | SENDGROUP 1  |
| 000 | S | SWITCH 1 TIB2L11  | 001303 | 000 | S THE FIRST SECTION OF THE MASTER GROUP ENDS WITH THE DEPARTURE OF   |
| 000 | I | 10-10 : FORMER_EQL_FAMILY1 AND HERO_EQL_FAMILY1                             | 001304 | 000 | S THE REST OF THE TALE TAKES PLACE A DAY LATER,  |
| 000 | S | SRULE_BIL 1 TICALLB1  | 001305 | 000 | S THE HERO. THE REST OF THE TALE.  |
| 000 | S | MOVE F1 TO BFORM!   | 001306 | 000 | S  |
| 000 | S | MOVE F1   | 001307 | 000 | S  |
| 000 | S | SRULE_B4L 1 TICALLB1  | 001308 | 000 | S  |
| 000 | S | MOVE F4_TO_BFORM!   | 001309 | 000 | S GROUP TAIL : 10OFF !   |
| 000 | S | (HERO_EQL_FAMILY1)  | 001310 | 000 | S  |
| 000 | S | SRULE_B2L 1 TICALLB1  | 001311 | 000 | S SRULE 1 DISABLE TAIL !   |
| 000 | S | MOVE F2_TO_BFORM!   | 001312 | 000 | S  |
| 000 | I | 10-7 : HERO_EQL_DISPATCHER1   | 001313 | 000 | S DONOR SEQUENCE == FUNCTIONS D, E, AND F. THIS SEQUENCE IS RELATIVELY INDEPENDENT OF THE REST OF THE TALE.                      |
| 000 | S | MOVE F3_TO_BFORM!   | 001314 | 000 | S FUNCTION D CAN OCCUR, FOLLOWED BY ITS  |
| 000 | S | SRULE_B3L 1 TICALLB1 (VGC)  | 001315 | 000 | S BASICALLY, ANY FORM OF FUNCTION D CAN OCCUR, FOLLOWED BY ITS PAIRED ELEMENT, FUNCTION E. FUNCTION F THEN DEPENDS UPON FUNCTION |
| 000 | S | MOVE F3_TO_BFORM!   | 001316 | 000 | S ACCORDING TO THE CONNECTIONS SHOWN IN THE CHART ON P. 97, BE   |
| 000 | I | 7 : S THERE IS A SEEKER-HERO WITH_A JACK.                                   | 001317 | 000 | S ASSURE, HOWEVER, THAT FOR THE SAKE OF CONTINUITY, THE MAGICAL  |
| 000 | S | S THERE IS A SEEKER-HERO WITH_A JACK.                                       | 001318 | 000 | S AGENTS) ACQUIRED BY THE HERO WILL BE USED IF POSSIBLE. THEREFORE,  |
| 000 | S | SRULE_B2L 1 TICALLB1  | 001319 | 000 | S WE GIVE THE HERO WHAT HE WILL OR MIGHT NEED, AND WE ALSO TRY TO  |
| 000 | S | MOVE F2_TO_BFORM!   | 001320 | 000 | S FORCE THE HERO TO USE THE MAGICAL AGENTS HE HAS ACQUIRED.  |
| 000 | S | MOVE F2_TO_BFORM!   | 001321 | 000 | S EXCEPT FOR A LACK, THE HERO RANDOMLY GETS EITHER ONE OR THREE  |
| 000 | S | MOVE F3_TO_BFORM!   | 001322 | 000 | S MAGICAL AGENTS.  |
| 000 | S | SLOOP 1 X_FAMILY1   | 001323 | 000 | S  |
| 000 | S | SPULE 1 TICALLB1  | 001324 | 000 | S  |
| 000 | S | MOVE X_TO_DISPATCHF1  | 001325 | 000 | S  |
| 000 | S | 10-10 : IN_EQL_MERH1  | 001326 | 000 | S SWITCH !   |
| 000 | S | MOVE F2_TO_BFORM!   | 001327 | 000 | 47 I F2_EQL_SAFORM1  |
| 000 | S | SENDLOOP!   | 001328 | 000 | 10-5 : (VILSA1)  |
| 000 | S | SRULE_B3L 1 TICALLB1  | 001329 | 000 | SWITCH !   |
| 000 | S | MOVE F3_TO_BFORM!   | 001330 | 000 | 10-10 : NUM_ISAFORM1_EQ_11   |
| 000 | S | 10-10 : S THERE IS A VICTIM-HERO. THE FORM OF B DEFENDS UPON THE FORM OF A. | 001331 | 000 | S THE HERO GETS ONLY ONE MAGICAL AGENT.  |
| 000 | S | SRULE 1   | 001332 | 000 | S OTHERWISE, THE HERO CAN USUALLY GET ANY MAGICAL AGENT.   |
| 000 | S | MOVE FORMARM  | 001333 | 000 | S A VICTIM-HERO GETS A MAGICAL TRANSPORTATION AGENT.   |
| 000 | S | MOVE F7_TO_BFORM.   | 001334 | 000 | S  |
| 000 | S | SRULE_VICTM 1 TISENDGROUP1  | 001335 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | MOVE FS_TO_BFORM.   | 001336 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | CALL HI TIFORMARM   | 001337 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | I | 10-10 : SRULE 1   | 001338 | 000 | S OTHERWISE, THE HERO CAN USUALLY GET ANY MAGICAL AGENT.   |
| 000 | S | MOVE F7_TO_BFORM.   | 001339 | 000 | S A VICTIM-HERO GETS A MAGICAL TRANSPORTATION AGENT.   |
| 000 | S | CALL AI TIFORMARM   | 001340 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | I | 10-10 : SRULE 1   | 001341 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | MOVE F6_TO_BFORM.   | 001342 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | CALL BI TIFORMARM   | 001343 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | I | 10-10 : SRULE 1   | 001344 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | CALL BI TIFORMARM   | 001345 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | I | 10-10 : SRULE 1   | 001346 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | MOVE CALLB 1 CALLA 1  | 001347 | 000 | S THE MAGICAL AGENT MAY COME FROM ANOTHER MAGICAL AGENT.   |
| 000 | S | MOVE CALLB 1 CALLA 1  | 001348 | 000 | S  |
| 000 | S | B BEGINNING_COUNTERACTION == FUNCTION_C IX, P. 38!                          | 001349 | 000 | S IDPICK1_FISETH1  |
| 000 | S | IF APPROPRIATE, ACCORDING TO THE FORM OF B, GROUP C IS CALLED:              | 001350 | 000 | S MOVE PICKMDALLI TO MAGHELPI  |
| 000 | S | S   | 001351 | 000 | S  |
| 000 | S | S   | 001352 | 000 | S  |
| 000 | S | S   | 001353 | 000 | S A MAGICAL QUALITY COMES FROM A FOOD WHICH IS CONSUMED.   |
| 000 | S | S   | 001354 | 000 | S  |

000      S<sub>1</sub> RULE EQUAL 1      IF(DONOR) \*MOVE PICK(MAGFOOD1) TO MAGHELP1;  
 000      S<sub>1</sub> \*MOVE F1 TO DFORM;  
 000      S<sub>1</sub> \*MOVE F7 TO FFORM;  
 000  
 000      S<sub>2</sub> FOR A LACK, THE MAGICAL AGENT CAN EITHER LIQUIDATE THE LACK, OR  
 000      S<sub>2</sub> BE THE ITEM SEARCHED FOR.  
 000      S<sub>2</sub> S<sub>3</sub> RULE [SA] :  
 000      S<sub>3</sub>      T(SETH)  
 000      S<sub>3</sub> \*MOVE PICK(MAGLJOS1) TO MAGHELP1;  
 000      S<sub>3</sub> [SAFORN EQL F2];  
 000      S<sub>3</sub> \*MOVE SUBJECT TO MAGHELP1;  
 000      S<sub>3</sub> (DICK);  
 000      S<sub>3</sub> \*MOVE MAGHELP1 TO MAGHELP1;  
 000      S<sub>3</sub> S<sub>4</sub> THE HERO WILL RECEIVE THREE MAGICAL AGENTS, OF TYPES KILLING, AND  
 000      S<sub>4</sub> TRANSPORTATION, AND EITHER LIQUIDATION OR RESCUE, DEPENDING ON  
 000      S<sub>4</sub> POSSIBLE LATER USE.  
 000      S<sub>4</sub> S<sub>5</sub> RULE LTHREE 1 :  
 000      S<sub>5</sub> \*MOVE PICK(MAGKILLS1) TO MAGHELP1;  
 000      S<sub>5</sub> \*MOVE PICK(MAGTRANS1) TO MAGHELP2;  
 000      S<sub>5</sub> \*MOVE PICK(MAGRESCS1) TO MAGHELP3;  
 000      S<sub>5</sub> S<sub>6</sub> RULE 1 :  
 000      S<sub>6</sub> T(DCHNG)  
 000      S<sub>6</sub> \*MOVE PICK(MAGRESCS1) TO MAGHELP1;  
 000      S<sub>6</sub> IVILLAIN EQL SUBJECT, OR IVICTIM EQL HERO1;  
 000      S<sub>6</sub> NUMISAFORM1 EQ 1;  
 C00      S<sub>6</sub> S<sub>7</sub> .5 1      \*MOVE PICK(MAGLJOS1) TO MAGHELP1;  
 C00      S<sub>7</sub> S<sub>8</sub> ANOTHER AGENT MAY CHANGE INTO THE THREE TO BE ACQUIRED.  
 C00      S<sub>8</sub> S<sub>9</sub> RULE DCHNG 1 :  
 C00      S<sub>9</sub> \*MOVE PICK(MAGCHANGS1) TO MAGHELP1;  
 C00      S<sub>9</sub> S<sub>10</sub> .5 1  
 C00      S<sub>10</sub> S<sub>11</sub> THE FORM OF D IS RANDOMLY PICKED IN MOST CASES.  
 C00      S<sub>11</sub> S<sub>12</sub> A DONOR IS RANDOMLY PICKED EXCEPT FOR TWO FORMS OF D.  
 C00      S<sub>12</sub> S<sub>13</sub> A DONOR IS CALLED SO DESCRIBE FUNCTION D.  
 C00      S<sub>13</sub> 000      S<sub>14</sub> S<sub>15</sub> GROUP D IS CALLED SO DESCRIBE FUNCTION D.  
 C00      S<sub>15</sub> 000      S<sub>16</sub> S<sub>17</sub> BRULE CALLO 1      \*CALL D;  
 C00      S<sub>17</sub> 000      S<sub>18</sub> S<sub>19</sub> BRULE CALLD 1      \*CALL D;  
 C00      S<sub>19</sub> 000      S<sub>20</sub> S<sub>21</sub> S<sub>22</sub> REACTION == FUNCTION E (X111; P. 42-43);  
 C00      S<sub>21</sub> S<sub>22</sub> THIS IS A PAIRED ELEMENT WITH FUNCTION D, EXCEPT THAT, FOR SAME  
 C00      S<sub>22</sub> FORMS, TREBLING MAY OCCUR.  
 C00      S<sub>23</sub> S<sub>24</sub> S<sub>25</sub> RULE 1 :  
 C00      S<sub>25</sub> 000      S<sub>26</sub> S<sub>27</sub> S<sub>28</sub> SWITCH 1      F(CALLF1)  
 C00      S<sub>27</sub> 000      S<sub>28</sub> S<sub>29</sub> DFORM EQL DFORMS1;  
 C00      S<sub>28</sub> 000      S<sub>29</sub> S<sub>30</sub> S<sub>31</sub> THE FORM OF TREBLING DEPENDS UPON THE FORM OF D AND SOMETIMES  
 C00      S<sub>30</sub> S<sub>31</sub> THE TYPE OF DONOR.  
 C00      S<sub>32</sub> S<sub>33</sub> BRULE 1 :  
 C00      S<sub>33</sub> 000      S<sub>34</sub> S<sub>35</sub> S<sub>36</sub> T(CALLE1)  
 C00      S<sub>35</sub> 000      S<sub>36</sub> S<sub>37</sub> HERO FAIL;  
 C00      S<sub>36</sub> S<sub>37</sub> S<sub>38</sub> S<sub>39</sub> S<sub>40</sub> S<sub>41</sub> S<sub>42</sub> S<sub>43</sub> S<sub>44</sub> S<sub>45</sub> S<sub>46</sub> S<sub>47</sub> S<sub>48</sub> S<sub>49</sub> S<sub>50</sub>  
 C00      S<sub>38</sub> S<sub>39</sub> S<sub>40</sub> S<sub>41</sub> S<sub>42</sub> S<sub>43</sub> S<sub>44</sub> S<sub>45</sub> S<sub>46</sub> S<sub>47</sub> S<sub>48</sub> S<sub>49</sub> S<sub>50</sub> S<sub>51</sub> S<sub>52</sub> S<sub>53</sub> S<sub>54</sub> S<sub>55</sub> S<sub>56</sub> S<sub>57</sub> S<sub>58</sub> S<sub>59</sub> S<sub>60</sub>  
 C00      S<sub>40</sub> S<sub>41</sub> S<sub>42</sub> S<sub>43</sub> S<sub>44</sub> S<sub>45</sub> S<sub>46</sub> S<sub>47</sub> S<sub>48</sub> S<sub>49</sub> S<sub>50</sub> S<sub>51</sub> S<sub>52</sub> S<sub>53</sub> S<sub>54</sub> S<sub>55</sub> S<sub>56</sub> S<sub>57</sub> S<sub>58</sub> S<sub>59</sub> S<sub>60</sub> S<sub>61</sub> S<sub>62</sub> S<sub>63</sub> S<sub>64</sub> S<sub>65</sub> S<sub>66</sub> S<sub>67</sub> S<sub>68</sub> S<sub>69</sub> S<sub>70</sub> S<sub>71</sub> S<sub>72</sub> S<sub>73</sub> S<sub>74</sub> S<sub>75</sub> S<sub>76</sub> S<sub>77</sub> S<sub>78</sub> S<sub>79</sub> S<sub>80</sub> S<sub>81</sub> S<sub>82</sub> S<sub>83</sub> S<sub>84</sub> S<sub>85</sub> S<sub>86</sub> S<sub>87</sub> S<sub>88</sub> S<sub>89</sub> S<sub>90</sub> S<sub>91</sub> S<sub>92</sub> S<sub>93</sub> S<sub>94</sub> S<sub>95</sub> S<sub>96</sub> S<sub>97</sub> S<sub>98</sub> S<sub>99</sub> S<sub>100</sub> S<sub>101</sub> S<sub>102</sub> S<sub>103</sub> S<sub>104</sub> 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000 S TRANSFERENCE == FUNCTION G IXV, P. 50-51.  
 000 S FUNCTION G IS SKIPPED IF NECESSARY.  
 000 S  
 000 S  
 000 S SWITCH 1 TFORMRET1  
 000 S 10,-10 1 HERO EQL VICTIM1 OR (MAGHELP1 EQL SUBJECT1)  
 000 S OR (MAGHELP2 EQL SUBJECT2) OR (MAGHELP3 EQL SUBJECT3)  
 000 S  
 000 S IF AN APPROPRIATE MAGICAL AGENT IS AVAILABLE, IT IS USED! THE  
 000 S FORM OF G THEN DEPENDS UPON THE AGENT.  
 000 S  
 000 S SWULE 1 TIGHAGI  
 000 S MOVE MAGHELP2 TO GHELPER1  
 000 S 10,-10 1 MAGHELP2 EQL MOTRANS1  
 000 S SWULE 1 TIGHAGI  
 000 S MOVE MAGHELP1 TO GHELPER1  
 000 S 10,-10 1 MAGHELP1 EQL MOTRANS1  
 000 S SWULE GHAG 1 (CALLG)  
 000 S MOVE PICK1(GFORMS1GHELPER1) TO GFORM1  
 000 S  
 000 S THERE IS NO APPROPRIATE MAGICAL AGENT, SO THE FORM OF G IS RANDOMLY  
 000 S PICKED, AND A HELPER IS RANDOMLY PICKED BASED UPON THE FORM OF  
 000 S G. THERE IS ONE SPECIAL CASE.  
 000 S  
 000 S SWULE GNAG 1 TIGFS1  
 000 S MOVE PICK1(GFORMS1) TO GFORM1  
 000 S MOVE PICK1(GHELPER1) TO GHELPER1  
 000 S IFFORM EQL F911  
 000 S 5,10 1 SWULE 1 (CALLG) MOVE ALLOODYTRACKS TO GHELPER1  
 000 S  
 000 S GROUP G IS CALLED TO DESCRIBE FUNCTION G.  
 000 S  
 000 S SWULE GFS! \*MOVE GREL2(GHELPER1) TO GRELF1S1  
 000 S 10,-10 1 (GFORM-EQL FS1)  
 000 S SWULE CALLG ! (CALL G)  
 000 S  
 000 S COMBAT SEQUENCE == FUNCTIONS H, J, AND I IXVI, XVII, XVIII.  
 000 S P. 51-53. THIS SEQUENCE IS SKIPPED IF NECESSARY.  
 000 S  
 000 S SWITCH 1 TFORMK1  
 000 S 10,-10 1 (FORM EQL NYFORMS1)  
 000 S SWULE 1 HERO FINO VILLAIN1  
 000 S 10,-10 1 NUMIVILLAIN1 EQL 11  
 000 S  
 000 S EXCEPT FOR THE CASE WHERE A MAGICAL AGENT IS TO BE USED, THE FORM  
 000 S OF FUNCTION H IS RANDOMLY PICKED AND A PAIRED FORM OF FUNCTION J  
 000 S IS USED. FUNCTION J IS ALLOWED ONLY FOR ONE TYPE OF H.  
 000 S ONE FORM OF FUNCTION I HAS NO CORRESPONDING FORM OF FUNCTION H.  
 000 S  
 000 S SWULE 1 TICALL1  
 000 S MOVE FS TO IFORM1  
 000 S 5,10 1 (MAGHELP1 EQL NYKILLS1)

000 S | GROUP RETURN IS CALLED TO DESCRIBE THE FUNCTION.  
 000 S  
 000 S | GROUP RS IS CALLED TO DESCRIBE FUNCTION RS.  
 000 S  
 000 S | RULE FORRET 1 \*CALL RETURN!  
 000 S  
 000 S  
 000 S | PURSUIT == FUNCTION PR (XXXI, P. 56\*57)\*  
 000 S | THE FUNCTIONS PURSUIT AND RESCUE ARE SKIPPED UNDER APPROPRIATE  
 000 S CIRCUMSTANCES.  
 000 S  
 000 S  
 000 S | SWITCH !  
 000 S | (ICILLEND1)  
 000 S | NUMVILLAIN1 EQ 0 !  
 000 S | IVICTIN EQL HERO1!  
 000 S  
 000 S | THE FORM OF PURSUIT IS RANDOMLY PICKED.  
 000 S  
 003 S | RULE 1 \*MOVE PICK1(PFORM1) TO PFORM1!  
 000 S  
 000 S | THE PURSUER IS EITHER THE VILLAIN OR HIS FRIENDS, AS NECESSARY.  
 000 S  
 000 S | TICALPR1  
 000 S | \*MOVE PICK1(PSPURS(VILLAIN1)) TO PURSURI  
 000 S | 10,10 1  
 000 S | (VILLAIN EQL DEAD1)  
 000 S | \*MOVE VILLAIN TO PURSURI!  
 000 S  
 200 S | GROUP PR IS CALLED TO DESCRIBE FUNCTION PR.  
 000 S  
 000 S | RULE 1 \*CALL PR1!  
 000 S  
 000 S  
 000 S | RESCUE == FUNCTION RS (XXXII, P.57\*58)\*  
 000 S | IF THERE IS AN APPROPRIATE\_MAGICAL\_AGENT AVAILABLE, ITS PROPER  
 000 S USE IS FORCED.  
 000 S  
 000 S | RULE 1  
 000 S | THELP1  
 000 S | \*MOVE MAGHELP1 TO RHELP1  
 000 S | (MAGHELP1 EQL MORESES1)  
 000 S | 10,10 1  
 000 S | RULE 1  
 000 S | THELP1  
 000 S | \*MOVE MAGHELP3 TO RHELP3  
 000 S | (MAGHELP3 EQL MORESES3)  
 000 S  
 000 S | OTHERWISE, THE FORM OF RS DEPENDS UPON THE FORM OF PR.  
 000 S  
 000 S | RULE 1  
 000 S | \*MOVE PICK1 (RSFORM1(PFORM1)) TO RSFORM1  
 000 S | IF A MAGICAL AGENT IS TO BE USED, THE FORM OF RS DEPENDS UPON THE  
 000 S TYPE OF AGENT.  
 000 S  
 000 S | SPOLE\_HELP 1  
 000 S | (ICHIGI)  
 000 S | \*MOVE RHELP TO RSHELPER(F1)!  
 000 S | \*MOVE F1 TO RSFORM1  
 000 S | (RHELP EQL MOTRANS)  
 000 S | 10,10 1  
 000 S | RULE 1  
 000 S | \*MOVE USING TO ASREL2(F1)  
 000 S | (RHELP EQL MAGQUAL1)  
 000 S | 10,10 1

|     |            |   |        |   |
|-----|------------|---|--------|---|
|     |            |   |        |   |
| 000 | "10.07 1   | NUMISON1 EQ 01  | 000    | THE TWO FORMS REQUIRE SEPARATE RULES.                     |
| 000 | SRULE 1    | *MOVE PICK(FALECS) TO SON3,   | 001754 |   |
| 000 |            | *REMOVE SON3 FROM MALECS1,  | 001755 |   |
| 000 |            | *ADD SON3 TO FAMILY.  | 001756 |   |
| 000 |            | *ADD SON3 TO YOUNGEN!   | 001757 | SGROUP EPSILON 1 ION/OFF!                                 |
| 000 | "10.05 1   | HUMISON2 EQ 01  | 001758 | SRULE 1 TSENDGROUP!                                       |
| 000 | SRULE 1    | *MOVE PICK(FALECS) TO DAUGH2,   | 001759 | INSERT VILLAIN ASKL BETRATERIASKI WHEREIS SUBJECT1        |
| 000 |            | *REMOVE DAUGH2 FROM FEMALECS,   | 001760 | 10..10 1 (P1 EQL EPSFORM)                                 |
| 000 |            | *ADD DAUGH2 TO FAMILY,  | 001761 | SRULE 1 INSERT (VICTIM ASKI VILLAIN)ASKI WHEREIS SUBJECT1 |
| 000 | "10.07 1   | HUMIDAUGH1 EQ 01  | 001762 | SENDGROUP!  |
| 000 | SRULE 1    | *MOVE PICK(FALECS) TO DAUGH2,   | 001763 |   |
| 000 |            | *REMOVE DAUGH2 FROM FEMALECS,   | 001764 |   |
| 000 |            | *ADD DAUGH2 TO YOUNGEN!   | 001765 | SGROUP VILDIG 10M/VILLAIN DISGUISES HIMSELF.              |
| 000 | "10.05 1   | HUMIDAUGH3 EQ 01  | 001766 | THE DISGUISE IS RANDOMLY PICKED.                          |
| 000 | SENDGROUP! | *MOVE PICK(FALECS) TO DAUGH3,   | 001767 |   |
| 000 |            | *REMOVE DAUGH3 FROM FEMALECS,   | 001768 |   |
| 000 |            | *ADD DAUGH3 TO FAMILY,  | 001769 | SGROUP VILDIG 1 ION/OFF!                                  |
| 000 |            | *ADD DAUGH3 TO YOUNGEN!   | 001770 | SRULE 1 INSERT VILLAIN DISGUISES PERRON(VILLAIN)          |
| 000 |            | HUMIDAUGH2 EQ 01  | 001771 | DISGUISE AS PICK(DISGUISES)!                              |
| 000 |            | SENDGROUP!  | 001772 | SENDGROUP!  |
| 000 |            | GROUP BETA == ABSENCE.  | 001773 |   |
| 000 |            | ONE GENERAL RULE IS USED FOR THE THREE POSSIBLE FORMS: A MOTIVE       | 001774 |   |
| 000 |            | FOR LEAVING IS RANDOMLY PICKED.                                       | 001775 | SGROUP PSI == DELIVERY.                                   |
| 000 |            | SENDGROUP!  | 001776 | THE TWO FORMS REQUIRE SEPARATE RULES.                     |
| 000 |            | SGROUP BETA 1 ION/OFF!  | 001777 |   |
| 000 |            | SRULE 1 *INSERT (ABSENTOR BETARE(BETAFORM))                           | 001778 |   |
| 000 |            | (BETARE(BETAFORM) PICK(MOTIVE(BETAFORM)))                             | 001780 | SGROUP PSI 1 ION/OFF!                                     |
| 000 |            | SENDGROUP!  | 001781 | TSENDGROUP!   |
| 000 |            | GROUP GAMMA == INTERDICTION.  | 001782 | INSERT (BETRAYER SAYZ THAT) VOBJECT IN VLOC1              |
| 000 |            | THE INTERDICTION HAS BEEN PREVIOUSLY CONSTRUCTED IN THE MASTER GROUP. | 001783 | 10..10 1 (P1 EQL EPSFORM)                                 |
| 000 |            | SENDGROUP!  | 001784 | INSERT (VILLAIN SAYZ THAT) QANS(QOBJECT) IN SLOC1!        |
| 000 |            | GROUP GAMMA 1 QION/OFF!   | 001785 |   |
| 000 |            | SRULE 1 ABSENTOR SAYZ INTERDICT1                                      | 001786 |   |
| 000 |            | SENDGROUP!  | 001787 | GROUP NU == TRICKERY.                                     |
| 000 |            | A TRICK IS RANDOMLY PICKED. THE TWO FORMS REQUIRE SEPARATE RULES.     | 001788 |   |
| 000 |            | SRULE 1 ION/OFF!  | 001789 |   |
| 000 |            | SENDGROUP!  | 001790 | SGROUP NU 1 ION/OFF!                                      |
| 000 |            | GROUP DELTA == VIOLATION.   | 001791 | MOVE PICK(TRICKSINUNIFORM) TO TRICK1                      |
| 000 |            | SENDGROUP!  | 001792 | SRULE 1 TSENDGROUP!                                       |
| 000 |            | GROUP DELTA 1 ION/OFF!  | 001793 | INSERT VILLAIN ATTEMPT(TTEMPT PERSUADE)                   |
| 000 |            | SRULE 1 HERO DETAREL VLOC1  | 001794 | 10..10 1 (P1 EQL NUFORM)                                  |
| 000 |            | SENDGROUP!  | 001795 | SRULE 1 INSERT (VILLAIN USE TRICK1)USE ON HERO1           |
| 000 |            | S   | 001796 | SENDGROUP!  |
| 000 |            | GROUP VILLARY 1 ION/OFF!  | 001797 |   |
| 000 |            | SRULE 1 VILLAIN PICKARRIVALS1 STORYLOC1                               | 001798 |   |
| 000 |            | SENDGROUP!  | 001799 |   |
| 000 |            | S   | 001800 |   |
| 000 |            | GROUP THETA 1 ION/OFF!  | 001801 | SGROUP THETA 1 ION/OFF!                                   |
| 000 |            | S THE FORM OF ARRIVAL IS RANDOMLY PICKED.                             | 001802 | SRULE 1 INSERT (HERO PERSUADED) (PERSUADED TAKE TRICK1)   |
| 000 |            | SENDGROUP!  | 001803 | S   |
| 000 |            | GROUP EPSILON == RECOGNAISANCE.                                       | 001804 | 10..10 1 (P1 EQL THETAFORM1)                              |
| 000 |            | SENDGROUP!  | 001805 | SRULE 1 HERO FALLASLEEP!                                  |
| 000 |            | S   | 001806 | SENDGROUP!  |
| 000 |            | GROUP EPSILON 1 ION/OFF!  | 001807 |   |
| 000 |            | SENDGROUP!  | 001808 |   |
| 000 |            | S   | 001809 |   |
| 000 |            | GROUP EPSILON == RECOGNAISANCE.                                       | 001810 |   |

000 S GROUP REPLICK<sub>0</sub> DETERMINATION OF REPLACEMENT.  
 000 S RULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 SRULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL AFORM1  
 000 S GROUP REPLICK ! 10M/OFF1 TISENDGROUP1  
 000 S RULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL AFORM1  
 000 S DISCARD ISDN POS VILLAIN TO REPLACEMENT.  
 000 S LST XXI (VICTIM EQL MALE1  
 000 S DISCARD IDAUGHTER POS VILLAIN TO REPLACEMENT.  
 000 S LST XXII  
 000 S SENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL BFORM1  
 000 S GROUP A == VILLAINY.  
 000 S MOST FORMS OF A ARE HANDLED IN A SINGLE RULE. THREE FORMS REQUIRE  
 000 S DIFFERENT RULES, AND ANOTHER FORM REQUIRES AN ADDITIONAL RULE.  
 000 S 1A RESPONSE!.  
 000 S GROUP A : 10M/OFF1  
 000 S RULE ! 10M/OFF1 TIAOME1  
 000 S VILLAIN AREL(AFORM1) VOBJECT1  
 000 S \*10,=10 : (AFORM EQL ADIFF1)  
 000 S RULE ! TISENDGROUP1 \*INSERT (VILLAIN AREL(AFORM1) VOBJECT1)  
 000 S (AREL(AFORM1) AREL2(AFORM1) AOBJ(AFORM1))  
 000 S 10,=10 : (AFORM EQL F101 OR (AFORM EQL F101)  
 000 S RULE ! TISENDGROUP1  
 000 S \*INSERT (VILLAIN INJUR(VOBJECT1) VOBJECT1) VOBJECT1 POS  
 000 S VICTIM!  
 000 S 10,=10 : (F6 EQL AFORM1)  
 000 S RULE ! TISENDGROUP1  
 000 S SULE AONE, 1 VICTIM\_GIVENTO VILLAIN!  
 000 S 000 000 10,=10 1 (F6 EQL AFORM1)  
 000 S OWNER REFUSE1  
 000 S (F6 EQL AFORM1)  
 000 S CALL REPICKA  
 000 S \*INSERT (VICTIM REPLACED (REPLACED WITH REPLACEMENT))  
 000 S 10,=10 1 (F12 EQL AFORM1)  
 000 S CENDGROUP1  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)  
 000 S GROUP SA : 10M/OFF1  
 000 S RULE ! HERO NEED SUBJECT1  
 000 S SENDERGROUP1  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)  
 000 S GROUP B == DISPATCH.  
 000 S EACH FORM OF B REQUIRES A DIFFERENT RULE. IN ADDITION, ONE FORM  
 000 S MAY USE ONE OF THREE RULES DEPENDING ON THE FORM OF A.  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)

000 S 000 SRULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL AFORM1  
 000 S GROUP REPLICK ! 10M/OFF1 TISENDGROUP1  
 000 S RULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL AFORM1  
 000 S DISCARD ISDN POS VILLAIN TO REPLACEMENT.  
 000 S LST XXI (VICTIM EQL MALE1  
 000 S DISCARD IDAUGHTER POS VILLAIN TO REPLACEMENT.  
 000 S LST XXII  
 000 S SENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL BFORM1  
 000 S GROUP A == VILLAINY.  
 000 S MOST FORMS OF A ARE HANDLED IN A SINGLE RULE. THREE FORMS REQUIRE  
 000 S DIFFERENT RULES, AND ANOTHER FORM REQUIRES AN ADDITIONAL RULE.  
 000 S 1A RESPONSE!.  
 000 S GROUP A : 10M/OFF1  
 000 S RULE ! 10M/OFF1 TIAOME1  
 000 S VILLAIN AREL(AFORM1) VOBJECT1  
 000 S \*10,=10 : (AFORM EQL ADIFF1)  
 000 S RULE ! TISENDGROUP1 \*INSERT (VILLAIN AREL(AFORM1) VOBJECT1)  
 000 S (AREL(AFORM1) AREL2(AFORM1) AOBJ(AFORM1))  
 000 S 10,=10 : (AFORM EQL F101 OR (AFORM EQL F101)  
 000 S RULE ! TISENDGROUP1  
 000 S \*INSERT (VILLAIN INJUR(VOBJECT1) VOBJECT1) VOBJECT1 POS  
 000 S VICTIM!  
 000 S 10,=10 : (F6 EQL AFORM1)  
 000 S RULE ! TISENDGROUP1  
 000 S SULE AONE, 1 VICTIM\_GIVENTO VILLAIN!  
 000 S 000 000 10,=10 1 (F6 EQL AFORM1)  
 000 S OWNER REFUSE1  
 000 S (F6 EQL AFORM1)  
 000 S CALL REPICKA  
 000 S \*INSERT (VICTIM REPLACED (REPLACED WITH REPLACEMENT))  
 000 S 10,=10 1 (F12 EQL AFORM1)  
 000 S CENDGROUP1  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)  
 000 S GROUP SA : 10M/OFF1  
 000 S RULE ! HERO NEED SUBJECT1  
 000 S SENDERGROUP1  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)  
 000 S GROUP B == DISPATCH.  
 000 S EACH FORM OF B REQUIRES A DIFFERENT RULE. IN ADDITION, ONE FORM  
 000 S MAY USE ONE OF THREE RULES DEPENDING ON THE FORM OF A.  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)

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000 S 000 SRULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL AFORM1  
 000 S GROUP REPLICK ! 10M/OFF1 TISENDGROUP1  
 000 S RULE ! 10M/OFF1 TISENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL AFORM1  
 000 S DISCARD ISDN POS VILLAIN TO REPLACEMENT.  
 000 S LST XXI (VICTIM EQL MALE1  
 000 S DISCARD IDAUGHTER POS VILLAIN TO REPLACEMENT.  
 000 S LST XXII  
 000 S SENDGROUP1  
 000 S 000 000 10,=10 1 (F1 EQL BFORM1  
 000 S GROUP A == VILLAINY.  
 000 S MOST FORMS OF A ARE HANDLED IN A SINGLE RULE. THREE FORMS REQUIRE  
 000 S DIFFERENT RULES, AND ANOTHER FORM REQUIRES AN ADDITIONAL RULE.  
 000 S 1A RESPONSE!.  
 000 S GROUP A : 10M/OFF1  
 000 S RULE ! 10M/OFF1 TIAOME1  
 000 S VILLAIN AREL(AFORM1) VOBJECT1  
 000 S \*10,=10 : (AFORM EQL ADIFF1)  
 000 S RULE ! TISENDGROUP1 \*INSERT (VILLAIN AREL(AFORM1) VOBJECT1)  
 000 S (AREL(AFORM1) AREL2(AFORM1) AOBJ(AFORM1))  
 000 S 10,=10 : (AFORM EQL F101 OR (AFORM EQL F101)  
 000 S RULE ! TISENDGROUP1  
 000 S \*INSERT (VILLAIN INJUR(VOBJECT1) VOBJECT1) VOBJECT1 POS  
 000 S VICTIM!  
 000 S 10,=10 : (F6 EQL AFORM1)  
 000 S RULE ! TISENDGROUP1  
 000 S SULE AONE, 1 VICTIM\_GIVENTO VILLAIN!  
 000 S 000 000 10,=10 1 (F6 EQL AFORM1)  
 000 S OWNER REFUSE1  
 000 S (F6 EQL AFORM1)  
 000 S CALL REPICKA  
 000 S \*INSERT (VICTIM REPLACED (REPLACED WITH REPLACEMENT))  
 000 S 10,=10 1 (F12 EQL AFORM1)  
 000 S CENDGROUP1  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)  
 000 S GROUP SA : 10M/OFF1  
 000 S RULE ! HERO NEED SUBJECT1  
 000 S SENDERGROUP1  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)  
 000 S GROUP B == DISPATCH.  
 000 S EACH FORM OF B REQUIRES A DIFFERENT RULE. IN ADDITION, ONE FORM  
 000 S MAY USE ONE OF THREE RULES DEPENDING ON THE FORM OF A.  
 000 S 000 000 10,=10 1 (F10 EQL AFORM1)

|     |          |   |        |     |  |                  |
|-----|----------|---|--------|-----|--|------------------|
| 000 | -10,10 : | •INSERT (HERO LEAVE) LEAVE ON SEARCH11                              | 001982 | 000 | BRULE DJUMP !  | TISENDGROUP      |
| 000 |          | (HERO EQL VICTIM)   | 001983 | 000 | •MOVE PICK(KILLMETH) TO KILLMETH,                                      |                  |
| 000 |          | HERO WANDER11   | 001984 | 000 | •INSERT (DONOR ATTEMPT(LATTEMPL BY))                                   |                  |
| 000 |          | HERO KILLMETH11   | 001985 | 000 | •ATTEMPT KILL HERO((BY) KILLMETH11                                     |                  |
| 000 | S        |   | 001986 | 000 | 10,-10 !   | (INFORM EQL F611 |
| 000 | S        | GROUP D • FIRST FUNCTION OF THE DONOR.                              | 001987 | 000 | BRULE !  | TISENDGROUP      |
| 000 | S        | AFTER AN INTRODUCTION, EACH FORM OF D REQUIRES A DIFFERENT (SET OF) | 001988 | 000 | •INSERT (DONOR BRAWL)BRAWL WITH HERO1                                  |                  |
| 000 | S        | SOME FORMS NEED A DESCRIPTION OF THE DONOR.                         | 001989 | 000 | (BRAWL IN FORESTHUT11  |                  |
| 000 | S        | RULE1111  | 001990 | 000 | 10,-10 !   | (INFORM EQL F611 |
| 000 | S        |   | 001991 | 000 | S EITHER ONE OR THREE AGENTS ARE OFFERED FOR EXCHANGE 1AS              |                  |
| 000 | S        |   | 001992 | 000 | 000 S PREVIOUSLY DETERMINED!,  |                  |
| 000 | S        |   | 001993 | 000 | •INSERT (DONOR OFFER MAGHELP1OFFER TO HERO1                            |                  |
| 000 | S        | GROUP D :   | 001994 | 000 | S BRULE !  | TISENDGROUP      |
| 000 | S        | S RULE1111  | 001995 | 000 | 000 S PREVIOUSLY DETERMINED!,  |                  |
| 000 | S        | S RULE1111  | 001996 | 000 | •INSERT (DONOR OFFER MAGHELP1OFFER TO HERO1                            |                  |
| 000 | S        | S RULE1111  | 001997 | 000 | 000 S NUM(MAGHELP21 E9 01  |                  |
| 000 | S        | S THESE TWO FORMS USE THE PREDICATE NODE, TASK, WHICH HAS BEEN      | 001998 | 000 | •INSERT (DONOR DEFER MAGHELP1(MAGHELP1_RAND                            |                  |
| 000 | S        | S PREVIOUSLY CONSTRUCTED..BY A CALL ON THE NAME OF THE DONOR.       | 001999 | 000 | MAGHELP21(MAGHELP1 RAND MAGHELP31)                                     |                  |
| C00 | S        |   | 002000 | 000 | •INSERT (THEY OFFERED TO HERO1(OFFERED TO EXCHANGE11                   |                  |
| 000 | S        | S RULE1111  | 002001 | 000 | 000 SENDGROUP1   |                  |
| 000 | S        |   | 002002 | 000 | 000 S GROUP E => REACTION.   |                  |
| 000 | S        |   | 002003 | 000 | 000 S EACH FORM, WHICH IS PAIRED WITH THE FORM OF D, REQUIRES A        |                  |
| 000 | S        | S RULE1111  | 002004 | 000 | 000 S DIFFERENT (SET OF) RULE(S). FORMS 1 AND 3 USE A PREDICATE        |                  |
| 000 | S        | TISENDGROUP   | 002005 | 000 | 000 S NODE1_TRESP1 WHICH HAS BEEN PREVIOUSLY CONSTRUCTED.              |                  |
| 000 | S        | DONOR GRET_HERO.  | 002006 | 000 | 000 S GROUP E => TRESP1  |                  |
| 000 | S        | •INSERT (DONOR ASK1 ASK1 HERO)(ASK1 ANSWER QUESTION11)              | 002007 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | (DONOR EQL F21)   | 002008 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        |   | 002009 | 000 | 000 S IDN/OFF1   |                  |
| 000 | S        | TISENDGROUP1  | 002010 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | DONOR THRISONED.  | 002011 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | •INSERT (DONOR ASK1 ASK1 BE1BE FREED1)                              | 002012 | 000 | 000 S HERO ANSWER QUESTION11   |                  |
| 000 | S        | (DONOR EQL F51)   | 002013 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        |   | 002014 | 000 | 000 S IDN/OFF1   |                  |
| 000 | S        | TISENDGROUP1  | 002015 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | S INSERT (HERO REQUEST_MERCY)REQUEST FROM HERO11                    | 002016 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | (DONOR EQL F51)   | 002017 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        |   | 002018 | 000 | 000 S TISENDGROUP1   |                  |
| 020 | S        | S RULE1111  | 002019 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | S RULE1111  | 002020 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | S RULE1111  | 002021 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | S RULE1111  | 002022 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | S RULE1111  | 002023 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | S RULE1111  | 002024 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        |   | 002025 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | S RULE1111  | 002026 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | S RULE1111  | 002027 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        | S RULE1111  | 002028 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        |   | 002029 | 000 | 000 S THE SUBTYPE OF FORM 6 DEPENDS UPON THE TYPE OF THE OBJECT OF THE |                  |
| 000 | S        | S RULE1111  | 002030 | 000 | 000 S DISPUTE (IMAGICAL OR NONMAGICAL). THIS SUBTYPE IS TURN FORCES    |                  |
| 000 | S        | S RULE1111  | 002031 | 000 | 000 S A CERTAIN FORM FOR FUNCTION F.                                   |                  |
| 000 | S        |   | 002032 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | S RULE1111  | 002033 | 000 | 000 S HERO PRESPOND TRESP1   |                  |
| 000 | S        |   | 002034 | 000 | 000 S TISENDGROUP1   |                  |
| 000 | S        | S RULE1111  | 002035 | 000 | 000 S MOVE E1 TO E2END.  |                  |
| 000 | S        |   | 002036 | 000 | 000 S INSERT (HERO RECONCILE DISPUTE1                                  |                  |
| 000 | S        | S RULE1111  | 002037 | 000 | 000 S RECONCILE B1(B1 DIVIDE)DIVIDE FAIRLY1                            |                  |
| 000 | S        |   | 002038 | 000 | 000 S DIVIDE R1(R1 DIVIDE)DISTP21                                      |                  |

|     |                    |  |        |     |         |   |
|-----|--------------------|--|--------|-----|---------|---|
| 000 | 10-10 1            | (DISTYPE EQL MALL) OR (DISTYPE EQL MAGCHANGS1)   | 002096 | 000 | 10-10 1 | (MAGHELPQ EQL MAGCHANGS1)                                   |
| 000 | SRULE 1            | TISENDGROUP1<br>MOVE FA TO FEDRM.<br>*INSERT HERO TRICKY DISPUTANTS!<br>(TRICKY INTO LEAVING DISTYPE1) | 002097 | 000 | \$      | THREE MAGICAL AGENTS_ACQUIRED.                              |
| 000 |                    | *INSERT MAGHELP1 RAND MAGHELP2!  | 002098 | 000 | \$      |   |
| 000 |                    | SRULE THREE 1  | 002099 | 000 | \$      |   |
| 000 |                    | (MAGHELP1 RAND MAGHELP2) TFORM EQL MAGCHANGS1  | 002100 | 000 | \$      |   |
| 000 | SRULE UNPROTECTED1 | (DISTYPE UNPROTECTED1)   | 002101 | 000 | \$      |   |
| 000 | SRULE 1            | TISENDGROUP1<br>*INSERT (HERO KILLI DONOR1)KILLI BY1   | 002102 | 000 | \$      | SRULE 1<br>(SENDGROUP1<br>HERO TAKE THEY!<br>TFORM EQL F71) |
| 000 | 10-10 1            | (DFORM EQL FB1)<br>TISENDGROUP1<br>HERO DEFEAT DONOR1<br>(DFORM EQL F91)                               | 002103 | 000 | \$      | 10-10 1   |
| 000 | SRULE 1            | THE MAGICAL AGENT USED TO KILL THE_DONOR HAS ALREADY BEEN CHECKED.                                     | 002104 | 000 | \$      | THREE AGENTS ACQUIRED BY THEIR COMING FROM ANOTHER AGENT.   |
| 000 | 10-10 1            | (DFORM EQL F91)  | 002105 | 000 | \$      |   |
| 000 |                    | SRULE CHANG3 10-INSERT (MAGHELP1 RAND MAGHELP2) TFORM EQL MAGHELP2!                                    | 002106 | 000 | \$      |   |
| 000 |                    | (MAGHELP3 COME)COME FROM MAGHELP2!   | 002107 | 000 | \$      |   |
| 000 |                    | SRULE CHANG3 10-INSERT (MAGHELP1 RAND MAGHELP2) TFORM EQL MAGHELP2!                                    | 002108 | 000 | \$      |   |
| 000 |                    | (MAGHELP3 COME)COME FROM MAGHELP2!   | 002109 | 000 | \$      |   |
| 000 | SRULE 1            | *INSERT (HERO AGREE)AGREE_TO_EXCHANGE).  | 002110 | 000 | \$      | SENDGROUP1  |
| 000 |                    | *INSERT (HERO USE MAGHELP1)USE KILLI DONOR11   | 002111 | 000 | \$      |   |
| 000 | SENDGROUP1         |  | 002112 | 000 | \$      |   |
| 000 |                    | SRULE 1  | 002113 | 000 | \$      | GROUP G == TRANSFERENCE.                                    |
| 000 |                    |  | 002114 | 000 | \$      |   |
| 000 |                    |  | 002115 | 000 | \$      |   |
| 000 |                    |  | 002116 | 000 | \$      |   |
| 000 |                    |  | 002117 | 000 | \$      | 10/M OFF1   |
| 000 |                    |  | 002118 | 000 | \$      | *INSERT (HERO TRAVEL) TRAVEL TO LOCATION                    |
| 000 |                    |  | 002119 | 000 | \$      | (LOCATION OF SUBJECT)OBJECT IN KINGDOM                      |
| 000 |                    |  | 002120 | 000 | \$      | (KINGDOM OTHER)<br>HERO GRELIFORM GHLEPER1                  |
| 000 |                    |  | 002121 | 000 | \$      |   |
| 000 |                    |  | 002122 | 000 | \$      | SENDGROUP1  |
| 000 |                    |  | 002123 | 000 | \$      |   |
| 000 |                    |  | 002124 | 000 | \$      |   |
| 000 |                    |  | 002125 | 000 | \$      | GROUP H == STRUGGLE.  |
| 000 |                    |  | 002126 | 000 | \$      | EACH OF THE THREE FORMS REQUIRES A SEPARATE RULE.           |
| 000 |                    |  | 002127 | 000 | \$      |   |
| 000 |                    |  | 002128 | 000 | \$      |   |
| 000 |                    |  | 002129 | 000 | \$      | 10/M OFF1   |
| 000 |                    |  | 002130 | 000 | \$      | TISENDGROUP1  |
| 000 | SPULE 1            | MAGHELP0 FREL(TFORM) HERO1   | 002131 | 000 | \$      |   |
| 000 |                    |  | 002132 | 000 | \$      |   |
| 000 |                    |  | 002133 | 000 | \$      | 10-10 1   |
| 000 |                    |  | 002134 | 000 | \$      |   |
| 000 |                    |  | 002135 | 000 | \$      |   |
| 000 | SPULE 1            | TEST FOR THREE AGENTS:   | 002136 | 000 | \$      | 10-10 1   |
| 000 |                    |  | 002137 | 000 | \$      |   |
| 000 | SWITCH 1           | TITRACE1<br>NUM(MAGHELP2) EQ 1 AND NUM(MAGHELP1) EQ 01   | 002138 | 000 | \$      |   |
| 000 | 10-10 1            |  | 002139 | 000 | \$      |   |
| 000 |                    |  | 002140 | 000 | \$      | GROUP 1 == VICTORY.   |
| 000 |                    |  | 002141 | 000 | \$      | EACH FORM REQUIRES A DIFFERENT (SET OF) RULES1.             |
| 000 |                    |  | 002142 | 000 | \$      |   |
| 000 |                    |  | 002143 | 000 | \$      |   |
| 000 |                    |  | 002144 | 000 | \$      |   |
| 000 |                    |  | 002145 | 000 | \$      | 10/M OFF1   |
| 000 |                    |  | 002146 | 000 | \$      | TISKIP11<br>TISKIP11<br>(FORM EQL F71)                      |
| 000 | 10-10 1            |  | 002147 | 000 | \$      |   |
| 000 |                    |  | 002148 | 000 | \$      |   |
| 000 |                    |  | 002149 | 000 | \$      |   |
| 000 |                    |  | 002150 | 000 | \$      |   |
| 000 | SRULE 1            | (SENDGROUP1<br>*INSERT (MAGHELP1 COME)COME FROM MAGHELP2)  | 002151 | 000 | \$      | SRULE 1   |
| 000 |                    |  | 002152 | 000 | \$      |   |
|     |                    |  |        |     |         |   |

|     |   |                 |   |
|-----|---|-----------------|---|
| 000 | SRULE FORMF !   | TISENDGROUP!    |   |
| 000 | S SUBJECT FREL(IFORM) HERO!   |                 | •INSEY HERO DEFEAT VILLAIN(I)DEFEAT WITH AIDIAID OF MAGHELP!! |
| 000 | S  FUNCTION K USES A MAGICAL AGENT.                                   |                 |   |
| 000 | S   |                 |   |
| 000 | S  SENDGROUP!   |                 |   |
| 000 | SRULE FORMKAG ! TISENDGROUP!  |                 |   |
| 000 | S  INSERT (OBJECT APPEAR(IAPPEAR FROM MAGHELP))                       |                 | •INSEY HERO WIN(WIN WITH HELP)(HELP OF CLEVERNESS !)          |
| 000 | 10,-10 1  | (FORM EQL FS )  |   |
| 000 | SRULE !   |                 | •INSEY VILLAIN TROUNCHED(TROUNCHED AT CARDST)                 |
| 000 | S SENDGROUP!  |                 |   |
| 000 | S   |                 |   |
| 000 | S  GROUP RETURN.  |                 | S  FOR FORM & A MAGICAL AGENT MAY BE USED.                    |
| 000 | S   |                 |   |
| 000 | S GROUP RETURN ! 10M/OFF!   |                 | 002153 000 SRULE !  |
| 000 | S  INSEY (HERO START)(START BACK HOME) !                              |                 | •INSEY HERO SURPRISE VILLAIN,                                 |
| 000 | SRULE !   |                 | MOVE VILLAIN TO DEAD!   |
| 000 | S SENDGROUP!  |                 |   |
| 000 | S  GROUP PR *-* PURSUIT   |                 | 002154 000 SRULE !  |
| 000 | S  AFTER TWO SPECIAL CASES, THERE IS ONE BASIC RULE.                  |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S   |                 | 002155 000 SRULE !  |
| 000 | S GROUP PR ! --- 10M/OFF!   |                 | •INSEY HERO KILL VILLAIN(KILL WITH AIDIAID OF MAGHELP!!)      |
| 000 | SRULE !   |                 |   |
| 000 | S  INSERT (PURSUER TEMPT HERO)  |                 | 002156 000 SRULE !  |
| 000 | S  TEMPT BY(BY) CHANGE)   |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S  CHANGE! INTO OBJECT(OBJECT ALLURING) !                             |                 | 002157 000 SRULE !  |
| 000 | 10,-10 1  | (FORM EQL F4) ! | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | SRULE !   |                 | 002158 000 SRULE !  |
| 000 | S PURSUER PURSUE HERO.  |                 | •INSEY HERO WOUNDED!  |
| 000 | S  INSERT (HERO HIDE)(HIDE IN TREE) !                                 |                 |   |
| 000 | S  INSERT (PURSUER ATTENTH)(ATTENTH GNAW) THOUGH                      |                 | 002159 000 SRULE !  |
| 000 | S  PURSUER ATTENTH(GNAW) THOUGH                                       |                 | •INSEY HERO WOUNDED!  |
| 000 | S   |                 | 002160 000 SRULE !  |
| 000 | 10,-10 1  | (FORM EQL F7) ! | •INSEY HERO WOUNDED!  |
| 000 | S  BASIC RULE, SUBSCRIBED ON THE FORM OF P.                           |                 |   |
| 000 | SRULE !   |                 | 002161 000 SRULE !  |
| 000 | S  INSEY (PURSUER PREL(IFORM))(PREL(IFORM))                           |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S PREL(IFORM) HERO!   |                 | 002162 000 SRULE !  |
| 000 | S SENDGROUP!  |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S   |                 | 002163 000 SRULE !  |
| 000 | S GROUP RS *-* RESCUE !   |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S  THERE IS ONE SPECIAL CASE, ALL OTHERS BEING HANDLED IN ONE GENERAL |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S RULE. A RANDOM HELPER IS PICKED, EXCEPT THAT THE HELPER MAY HAVE    |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S ALREADY BEEN CHOSEN IN THE MASTER GROUP (IN THE CASE OF A MAGICAL   |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S HELPER).  |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S GROUP RS !  |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | SRULE !   |                 |   |
| 000 | S  GROUP RS *-* RESCUE !  |                 | 002164 000 SRULE !  |
| 000 | S  INSEY (HERO ESCAPE)  |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S  ESCAPE BY(BY) RESCUE(L,RESFORM)                                    |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S  RESFORM(L,RESFORM2,RESFORM)  |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | S  PICK A HELPER(RESFORM)!!   |                 | •INSEY HERO KILL VILLAIN(KILL WITHOUT NEIGHTER !              |
| 000 | *10,-10 1   | (FORM EQL F2) ! |   |
| 000 | SRULE !   |                 | •INSEY HERO ESCAPE!   |

2267 000 (ESCAPE BY) (BY) (RSREL (RSFORM)) 002324 000 RULE ! UST XX  
 (RSREL (RSFORM) (RSREL (RSFORM)))  
 2268 000 (ICK) (RSFORM) (RSFORM) 002325 000 \*INSERT (HERO LISTEN) (WITHOUT FALL ASLEEP).  
 2269 000 (ICK) (RSFORM) (RSFORM) 002326 000 \*LISTEN TO GUSLA LISTEN WITH ONLY IT.  
 2270 000 SENDGROUP ! 002327 000 \*INSERT (HERO STAY) (LISTEN TO GUSLA) (LISTEN WHILE LISTEN).  
 2271 000 S 002328 000 (STAY AWAKE) (STAY WHILE IT).  
 2272 000 S 002329 000 \*DISCARD (HERO LISTEN) TO TASK.  
 2273 000 S 002330 000 \*DISCARD (HERO STAY) TO TRESP.  
 2274 000 S GROUP END. 002331 000 LST XXI  
 2275 000 S A HAPPY ENDING IS ASSURED.  
 2276 000 S 002332 000 SENDGROUP !  
 2277 000 S 002333 000 GROUP FORESTK ! 10M/OFF !  
 2278 000 S GROUP END. ! 002334 000 RULE ! UST XX  
 2279 000 S RULE ? 002335 000 \*INSERT (HERO WORK) (WORK IN FOREST).  
 2280 000 S SENDGROUP !  
 2281 000 S 002336 000 \*INSERT (HERO SPEND YEAR) (TOIL FOR FORESTK)  
 2282 000 S 002337 000 10M/OFF !  
 2283 000 S THE LAST FIVE GROUPS CORRESPOND TO THE FIVE DONORS WHO ARE CALLED  
 AS GROUPS.— EACH GROUP SETS UP TWO PREDICATE NODES == ONE FOR THE  
 TASK TO BE GIVEN BY THE DONOR TO THE HERO, THE OTHER FOR THE FINAL  
 POSITIVE RESPONSE OF THE HERO. THIS ALLOWS FOR SIMPLE,  
 GENERAL RULES IN GROUPS D AND E FOR FORMS 1 AND 3.  
 2284 000 S 002338 000 \*SEND TOIL.  
 2285 000 S 002339 000 (SEND IN FOREST) (YEARS THREE).  
 2286 000 S 002340 000 \*DISCARD (HERO WORK) TO TASK.  
 2287 000 S 002341 000 \*DISCARD (HERO SPEND YEAR) TO TRESP.  
 2288 000 S 002342 000 LST XXI  
 2289 000 S 002343 000 SENDGROUP !  
 2290 000 S 002344 000 SEND  
 2291 000 S GROUP CON ! 10M/OFF !  
 2292 000 S RULE ! UST XX  
 2293 000 S \*INSERT (HERO FATI) (EAT HERI) (EAT OF MEAT).  
 2294 000 S INSERT (HERO BELONGS) (IN GARDEN) (AND BURY)  
 (GATHER RANDI BE GATHER BONSI).  
 2295 000 S \*INSERT (HERO BELI) (FORGET NOT) (BE FORGET COM).  
 2296 000 S \*INSERT (HERO FOLLOW INSTRUCTIONS)  
 (INSTRUCTIONS OF COM).  
 2297 000 S \*DISCADD (HERO EAT) TO TASK.  
 2298 000 S \*DISCADD (HERO BELI) TO TASK.  
 2299 000 S \*DISCADD (HERO REJ) TO TASK.  
 2300 000 S \*DISCADD (HERO FOLLOW INSTRUCTIONS) TO TRESP.  
 2301 000 S 002345 000 LST XXI  
 2302 000 S SENDGROUP !  
 2303 000 S GROUP MAN ! 10M/OFF !  
 2304 000 S RULE ! UST XX  
 2305 000 S RULE ! \*INSERT (HERO SPEND NIGHTS) (GRAVE HISI)  
 (SPEND BESIDE GRAVE) (NIGHTS THREE).  
 2306 000 S \*INSERT (HERO SIT) (GRAVE HISI) (NIGHTS THREE).  
 2307 000 S \*SIT FOR NIGHTS (SIT BY GRAVE).  
 2308 000 S \*DISCADD (HERO SPEND NIGHTS)  
 (DISCADD (HERO SIT) TO TASK).  
 2309 000 S \*DISCADD (HERO SIT) TO TRESP.  
 2310 000 S 002346 000 LST XXI  
 2311 000 S 002347 000 SENDGROUP !  
 2312 000 S 002348 000 GROUP STOVE ! 10M/OFF !  
 2313 000 S GROUP STOVE ! UST XX  
 2314 000 S RULE ! \*INSERT (HERO FATI) (MEAL) (HAVE) (PREPARE)  
 (IT HAVE) (MEAL WHICH IT).  
 2315 000 S 002349 000 \*INSERT (HERO PARTAKE) (PARTAKE OF MEAL).  
 2316 000 S 002350 000 \*DISCADD (HERO EAT) (HEAL) TO TASK.  
 2317 000 S \*DISCADD (HERO PARTAKE) TO TRESP.  
 2318 000 S 002351 000 LST XXI  
 2319 000 S 002352 000 SENDGROUP !  
 2320 000 S 002353 000 GROUP WITCH ! 10M/OFF !

## 10.4 Surface Structure//Semantics Rules

| GRAMMAR  | P TYPE            | PHAP        | PSUB  | PTTRANS/PNFLAG |
|----------|-------------------|-------------|-------|----------------|
| 1 S      | ----> NP VP       | 0 RV        | 1 2 0 | 2 0            |
| 2 S      | ----> NP AP       | 0 R         | 1 2 0 | 2 0            |
| 3 S      | ----> NPI CONJ    | 0 RAND 0    | 1 2 0 | 2 0            |
| 4 S1     | ----> NP VP       | 0 RV        | 1 2 0 | 2 0            |
| 5 AP     | ----> IS MOD      | 0 R         | 2 0 0 | 2 0            |
| 6 THAT2  | ----> THAT S      | 0           | 2 0 0 | 2 0            |
| 7 NP     | ----> NARC2       | 0           | 2 0 0 | 2 0            |
| 8 NP     | ----> ART NPP     | 0           | 2 0 0 | 2 0            |
| 9 NP     | ----> PNP NPP     | 0 RPUS 0    | 2 0 0 | 2 0            |
| 10 NP    | ----> NPI CONJ    | 0 RAND 0    | 2 0 0 | 2 0            |
| 11 NARC2 | ----> NPP         | 0           | 2 0 0 | 2 0            |
| 12 NPP   | ----> NARC        | 0           | 2 0 0 | 2 0            |
| 13 NPP   | ----> N           | 0           | 2 0 0 | 2 0            |
| 14 NPP   | ----> NPP MOD     | 0 RP        | 2 0 0 | 2 0            |
| 15 NPP   | ----> NPP VP      | 0 RV        | 2 0 0 | 2 0            |
| 16 NPP   | ----> NPP ADJ     | 0 RA        | 2 0 0 | 2 0            |
| 17 NPP   | ----> MOD NPP     | 0 RA        | 2 0 0 | 2 0            |
| 18 NPC   | ----> NP AND1     | 0           | 2 0 0 | 2 0            |
| 19 NPC   | ----> NP VP       | 0 RV        | 2 0 0 | 2 0            |
| 20 NPR   | ----> NP VP       | 0           | 2 0 0 | 2 0            |
| 21 NPP   | ----> NP AP POS   | 0 R RAND 0  | 2 0 0 | 2 0            |
| 22 NPP   | ----> NPP CONJ    | 0           | 2 0 0 | 2 0            |
| 23 NPP   | ----> NP POS      | 0           | 2 0 0 | 2 0            |
| 24 VP    | ----> V           | 0 RV        | 2 0 0 | 2 0            |
| 25 VP    | ----> VP VP       | 0 RV RV     | 2 0 0 | 2 0            |
| 26 VP    | ----> VP VP       | 0 RV RV     | 2 0 0 | 2 0            |
| 27 VP    | ----> VP VP       | 0 RV RV     | 2 0 0 | 2 0            |
| 28 VP    | ----> VP VP2      | 0 RV RV     | 2 0 0 | 2 0            |
| 29 VP    | ----> VP PRI      | 0 RV        | 2 0 0 | 2 0            |
| 30 VP    | ----> VP PR3      | 0 RV        | 2 0 0 | 2 0            |
| 31 VP    | ----> VP PR2      | 0 RV        | 2 0 0 | 2 0            |
| 32 VP    | ----> VP THAT2    | 0 RV        | 2 0 0 | 2 0            |
| 33 VP    | ----> VP THAT2    | 0 RV        | 2 0 0 | 2 0            |
| 34 VP    | ----> VP NP       | 0 RV        | 2 0 0 | 2 0            |
| 35 VP    | ----> VP MOD      | 0 RV RA     | 2 0 0 | 2 0            |
| 36 VP    | ----> VP HOD      | 0 RV        | 2 0 0 | 2 0            |
| 37 VP    | ----> VP ADV      | 0 RV RADV   | 2 0 0 | 2 0            |
| 38 VP    | ----> VP ADV      | 0 RV RADV   | 2 0 0 | 2 0            |
| 39 VP    | ----> VP CONJ     | 0 RV RAND 0 | 2 0 0 | 2 0            |
| 40 VP    | ----> VP NP       | 0 RV RNUL 0 | 2 0 0 | 2 0            |
| 41 VP2   | ----> PREP        | 0 RP        | 2 0 0 | 2 0            |
| 42 VP2   | ----> TO VP       | 0 RV        | 2 0 0 | 2 0            |
| 43 VP2   | ----> PREP NP     | 0 RP 0      | 2 0 0 | 2 0            |
| 44 VP2   | ----> PREP NP     | 0 RP 0      | 2 0 0 | 2 0            |
| 45 VP2   | ----> PREP HOD    | 0 RP        | 2 0 0 | 2 0            |
| 46 CONJ  | ----> AND NPI     | 0 RAND RV   | 2 0 0 | 2 0            |
| 47 CONJ  | ----> AND VP      | 0 RAND RV   | 2 0 0 | 2 0            |
| 48 CONJ  | ----> AND1 NP     | 0           | 2 0 0 | 2 0            |
| 49 PR1   | ----> BY VP       | 0 RV        | 2 0 0 | 2 0            |
| 50 PR2   | ----> MOD THAT S1 | 0           | 2 0 0 | 2 0            |
| 51 PR3   | ----> NPC VP      | 0 RV        | 2 0 0 | 2 0            |
| 52 MOD   | ----> PREP        | 0 RP        | 2 0 0 | 2 0            |
| 53 MOD   | ----> ADJ         | 0 RA        | 2 0 0 | 2 0            |
| 54 HOD   | ----> VP          | 0 RV        | 2 0 0 | 2 0            |
| 55 MOD   | ----> MOD VP      | 0 RP RV     | 2 0 0 | 2 0            |
| 56 MOD   | ----> MOD VP      | 0 RP RV     | 2 0 0 | 2 0            |
| 57 HOD   | ----> MOD VP      | 0 RP RV     | 2 0 0 | 2 0            |
| 58 HOD   | ----> MOD ADJ     | 0 THAT2 RA  | 2 0 0 | 2 0            |
| 59 HOD   | ----> MOD NP      | 0 RA 0      | 2 0 0 | 2 0            |
| 60 HOD   | ----> MOD ADJ     | 0 RA RADV   | 2 0 0 | 2 0            |
| 61 HOD   | ----> MOD ADJ     | 0 RA RADV   | 2 0 0 | 2 0            |
| 62 HOD   | ----> MOD VP2     | 0 RA RV     | 2 0 0 | 2 0            |
| 63 HOD   | ----> MOD VP2     | 0 RA RP     | 2 0 0 | 2 0            |

3

4

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS EREMA.

THE MOTHER IS MARTHA.

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 MIRACULOUS BIRTH.

BALDAK ASKS THE BEAR WHERE IS YOUR WISDOM?

THE BEAR SAYS THAT MY WISDOM IS IN A MAGIC EGG.

THE BEAR RIPS OFF BALDAK'S LEG.

BALDAK CALLS FOR HELP FROM ALIOSHA.

ALIOSHA DECIDES TO SEARCH FOR THE LEG.

ALIOSHA LEAVES ON A SEARCH.

THE MOREYNAS LIVE IN A CERTAIN KINGDOM.

THE FATHER IS BALDAK.

THE OLDEST SON IS BORTS.

THE YOUNGER SON IS NICHOLAS.

THE YOUNGEST SON IS EMELYA.

THE OLDEST DAUGHTER IS VASILISA.

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.

ALIOSHA MEETS A WITCH ALONG THE WAY.

THE WITCH ATTEMPTS TO KILL ALIOSHA BY DROWNING.

ALIOSHA KILLS THE WITCH BY DROWNING.

A MAGIC BOMB, 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 BOMB.

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.

VLADIMIR MEETS AN OLD MAN ALONG THE WAY.

THE OLD MAN GREETST 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 PURSUITS 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.

5

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.

A 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.

6

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.

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS FOMA.

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.

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 SIEFED.

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.

9

10

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.

THE BERENNIKOVS 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.

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.

FOMA TRAVELS BY THE MAGIC BIRD.

MARIA IS OBTAINED BY FOMA.

FOMA STARTS BACK HOME.

FOMA RETURNS HOME.

11

THE BERENNTKOVS LIVE IN A DISTANT PROVINCE.  
THE MOTHER IS VASILISA.  
THE OLDEST SON IS MARCO.  
THE YOUNGER SON IS EREMA.  
THE YOUNGEST SON IS FOMA.  
EREMA IS THE ONLY DAUGHTER.  
EREKA 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 GREETS 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.

62  
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.

13

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS NICHOLAS.

THE MOTHER IS ELENA.

THE ONLY SON IS MARCO.

HARITHA 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 AUGURING OBJECT.

NICHOLAS ESCAPES BY AVOIDING THE TEMPTATION.

NICHOLAS RETURNS HOME.

14

THE BERENNIKOVS LIVE IN A CERTAIN KINGDOM.

THE FATHER IS BORITS.

THE MOTHER IS MARIA.

THE OLDEST SON IS ALIOSHA.

THE YOUNGER SON IS EHELTA.

THE OLDEST DAUGHTER IS VASILISA.

THE YOUNGER DAUGHTER IS KATRINA.

KATRINA NEEDS A HUSBAND.

KATRINA SERDS 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.

63

15

THE POPOVICHES 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 DEMANDS 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 PLINT IS GIVEN TO NICHOLAS.  
A MAGIC BOW, A MAGIC BIRD AND A MAGIC CARPET COME FROM THE MAGIC PLINT.  
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.  
BICHOLAS ESCAPES BY FLYING ON THE MAGIC CARPET.  
NICHOLAS RETURNS HOME.

16

THE PARANDYS LIVE IN A DISTANT PROVINCE.  
THE FATHER IS EMEUYA.  
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.  
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.

NICHOLAS MEETS A JUG ALONG THE WAY.  
THE JUG IS IMPRISONED.  
THE JUG ASKS TO BE FREED.  
NICHOLAS FREES THE JUG.  
A MAGIC BOW, A MAGIC BIRD AND A MAGIC CARPET COME FROM THE MAGIC PLINT.  
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.  
BICHOLAS ESCAPES BY FLYING ON THE MAGIC CARPET.  
NICHOLAS RETURNS HOME.

17

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 FOMA.  
VASILIS IS THE ONLY DAUGHTER.

DUNIA ASKS DUNIA WHERE IS YOUR WISDOM.  
DUNIA SAYS THAT MY WISDOM IS IN A MAGIC EGG.  
DUNIA MURDERS EREMA.

& LAMENT IS SUNG FOR EREMA.

DUNIA IS MURDERED.  
EREHA IS WANDERING.

THE BORISIEVICHES 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 PERSUDED TO TAKE THE MAGIC RING.  
DUNIA FALLS ASLEEP.  
THE WOLF SEIZES THE DAYLIGHT.  
NICHOLAS CALLS FOR HELP FROM DUNIA.

EREHA MEETS A STOVE ALONG THE WAY.  
THE STOVE PROPOSES THAT EREMA EAT THE MEAL WHICH IT HAS PREPARED.

EREHA RESPONDS BY PARTAKING OF THE MEAL.

A MAGIC POTION IS CONSUMED BY EREHA.

EREHA OBTAINS INCREDIBLE SPEED.

EREHA STARTS BACK HOME.

EREHA RETURNS HOME.

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 TAILING FOR THE FOREST KNIGHT IN THE FOREST.  
A MAGIC FLINT IS FOUND BY DUNIA.  
A MAGIC BOW, A MAGIC STEED AND A MAGIC HEN COME FROM THE MAGIC FLINT.  
DUNIA TRAVELS TO THE LOCATION OF THE DAYLIGHT IN AN OTHER 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 HEN.  
DUNIA STARTS BACK HOME.  
DUNIA RETURNS HOME.

18

65

19

THE BERENNIKOV'S LIVE IN A DISTANT PROVINCE.  
THE FATHER IS EMEYA.  
THE MOTHER IS MARTHA.  
THE OLDEST SON IS EREMA.  
THE YOUNGER SON IS FOMA.  
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 DECLARIES 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.  
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.

66  
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 WATER 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.

21

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 SNEAKS 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 FLEES AFTER VASILISA.  
VASILISA ESCAPES BY BEING HIDDEN BY BLACKSMITHS.  
VASILISA RETURNS HOME.

22

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.

67  
NICHOLAS MEETS A WITCH ALONG THE WAY.  
THE WITCH IS FIGHTING WITH EMEVA 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 A COMPETITION.  
NICHOLAS WINS WITH HELP OF CLEVERNESS.  
NICHOLAS STARTS BACK HOME.  
NICHOLAS RETURNS HOME.

23

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.

THE MOREVNAS LIVE IN A DISTANT PROVINCE.

THE MOTHER IS MARTHA.  
THE OLDEST SON IS ALIOSHA.  
THE YOUNGER SON IS VLADIMIR.  
VLADIMIR NEEDS HEALTH.  
VLADIMIR ASKS PERMISSION TO LEAVE.  
VLADIMIR LEAVES ON A SEARCH.

24

VLADIMIR 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 STARS BACK HOME.  
THE DRAGON FLEYS AFTER ALIOSHA.  
ALIOSHA ESCAPES BY FLYING ON THE MAGIC BIRD.  
ALIOSHA RETURNS HOME.

VLADIMIR MEETS A WITCH ALONG THE WAY.  
THE WITCH PROPOSES THAT VLADIMIR LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.  
VLADIMIR TRIES.  
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.

69

25

THE BORISIEVICHES 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 BRAWLS IN A FOREST HUT WITH ALIOSHA.  
ALIOSHA DEFEATS THE BULL.  
A MAGIC FLINT IS SHOWN TO ALIOSHA.  
A MAGIC SWORD, A MAGIC BIRD AND A MAGIC STEED COME FROM THE MAGIC FLINT.  
ALIOSHA TRAVELS TO THE LOCATION OF THE REAR IN AN OTHER KINGDOM.  
ALIOSHA TRAVELS BY THE MAGIC BIRD.  
ALIOSHA FINDS THE BEAR.  
ALIOSHA SURPRISES THE BEAR.  
ALIOSHA KILLS THE BEAR WITH THE AIO 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.

26

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS IVAN.  
THE MOTHER IS KATRINA.  
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 GREETED 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 STAYS BACK HOME.

69

27

THE BERENNIKOVS LIVE IN A DISTANT PROVINCE.  
THE MOTHER IS VASILISA.  
THE OLDEST SON IS MARCO.  
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 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 LOCATION 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.

ALIOSHA MEETS A WITCH ALONG THE WAY.  
THE WITCH IS THREATENED 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 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.

28

THE BORISOVICHES LIVE IN A DISTANT PROVINCE.

THE FATHER IS EREMA.  
THE OLDEST SON IS BORIS.

THE YOUNGER SON IS ALIOSHA.  
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 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 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.

29

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.

THE FATHER IS MARCO.

THE MOTHER IS MARTHA.

THE OLDEST SON IS VLADIMIR.

THE YOUNGER SON IS EREMA.

THE YOUNGEST SON IS EMELYA.

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 HIMSELF AS A YOUNG MAN.

THE DRAGON ATTEMPTS TO PERSUADE MARCO TO TAKE A STEAMBATH.

MARCO IS PERSUDED TO TAKE A STEAMBATH.

MARCO FALLS ASLEEP.

THE DRAGON DECLARIES 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 ASKS FOR THE THIRD TIME.

MARCO RESPONDS BY SPENDING THREE YEARS TOILING FOR THE FOREST KNIGHT IN THE FOREST.

A MAGIC WAFER IS CONSUMED BY HARCO.

HARCO 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.

30

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 GREETSS 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.

71

CORRECTION

Tales 31 to 36 contain errors in verb number  
agreement that were later corrected in the program.

The other tales use the same verbs correctly  
in similar sentences, as for example, tales 25, 28,  
49 and 50.

31

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS ALIOSHA.  
THE OLDEST SON IS EMELYA.  
THE YOUNGER SON IS BORIS.  
THE YOUNGEST SON IS IVAN.  
THE OLDEST DAUGHTER IS ELENA.  
THE YOUNGER DAUGHTER IS KATRINA.  
THE YOUNGEST DAUGHTER IS MARTHA.  
BORIS NEEDS WEALTH.  
BORIS ASKS PERMISSION TO LEAVE.  
BORIS DECIDES TO SEARCH FOR WEALTH.

BORIS MEETS A JUG ALONG THE WAY.  
THE JUG BRAWLS IN A FOREST HUT WITH BORIS.  
THE JUG TWICE REPELS BORIS.  
THEY FIGHT FOR THE THIRD TIME.

BORIS DEFEATS THE JUG.

A MAGIC SWORD, A MAGIC HEN AND A MAGIC STEED IS SHOWN TO BORIS.

BORIS TRAVELS TO THE LOCATION OF WEALTH IN THE OTHER KINGDOM.  
BORIS TRAVELS ON THE MAGIC STEED.  
GOLD IS PRODUCED BY THE MAGIC HEN.  
BORIS STARTS BACK HOME.  
BORIS RETURNS HOME.

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.  
THE FATHER IS FOMA.  
THE MOTHER IS DUNIA.  
THE OLDEST SON IS BORIS.  
THE YOUNGER SON IS BALDAK.  
THE YOUNGEST SON IS NICHOLAS.  
MARTHA IS THE ONLY DAUGHTER.  
DUNIA HAS THE DAYLIGHT.  
A DRAGON APPEARS IN THE DISTANT PROVINCE.  
THE DRAGON DISGUISES SELF AS A YOUNG MAN.  
THE DRAGON USES A SLEEPING POTION ON FOMA.  
FOMA FALLS ASLEEP.  
THE DRAGON SEIZES THE DAYLIGHT.

DUNIA SENDS FOMA TO SEARCH FOR THE DAYLIGHT.  
FOMA DECIDES TO SEARCH FOR THE DAYLIGHT.  
FOMA LEAVES ON A SEARCH.

FOMA MEETS A FOREST KNIGHT ALONG THE WAY.  
THE FOREST KNIGHT BRAWLS IN A FOREST HUT WITH FOMA.  
FOMA DEFEATS THE FOREST KNIGHT.  
A MAGIC SWORD, A MAGIC BOX AND A MAGIC CARPET IS SHOWN TO FOMA.  
FOMA TRAVELS TO THE LOCATION OF THE DAYLIGHT IN AN OTHER KINGDOM.  
FOMA TRAVELS BY THE MAGIC CARPET.  
FOMA FINDS THE DRAGON.  
THEY FIGHT IN AN OPEN FIELD.  
FOMA IS WOUNDED.  
FOMA DEFEATS THE DRAGON WITH THE AID OF THE MAGIC SWORD.  
THE DAYLIGHT APPEARS FROM THE MAGIC BOX.  
FOMA STARTS BACK HOME.  
FOMA RETURNS HOME.

72

32

33

THE POPOVICHES LIVE IN A DISTANT PROVINCE.  
THE FATHER IS EMELYA.  
THE ONLY SON IS BORIS.  
THE OLDEST DAUGHTER IS KATRINA.  
THE YOUNGER DAUGHTER IS VASILISA.  
BALDAK ALSO LIVES IN THE SAME LAND.  
BALDAK IS OF MIRACULOUS BIRTH.  
BORIS HAS A MAGIC STEED.  
BABAYAGA WALKS INTO THE DISTANT PROVINCE.  
BABAYAGA ASKS IVAN WHERE IS THE MAGIC STEED.  
IVAN SAYS THAT THE MAGIC STEED IS IN THE FIELDS.  
BABAYAGA SEIZES THE MAGIC STEED.  
BABAYAGA MURDERS BORIS.  
BORS CALLS FOR BALDAK.  
BORS ANNOUNCES THAT BABAYAGA MURDERED BORIS.  
BALDAK DECIDES TO SEARCH FOR THE MAGIC STEED.

BALDAK MEETS THE FOREST KNIGHT ALONG THE WAY.  
THE FOREST KNIGHT PROPOSES THAT BALDAK WORK IN THE FOREST FOR THREE YEARS.  
BALDAK RESPONDS BY SPENDING THREE YEARS TOILING FOR THE FOREST KNIGHT IN THE FOREST.  
A MAGIC WAFER IS CONSUMED BY BALDAK.  
BALDAK OBTAINS THE ABILITY TO FLY.  
BALDAK TRAVELS TO THE LOCATION OF THE MAGIC STEED IN AN OTHER KINGDOM.  
BALDAK TRAVELS BY THE ABILITY TO FLY.  
THE MAGIC STEED IS FREED BY BALDAK.  
BALDAK STARTS BACK HOME.  
BABAYAGA FLIES AFTER BALDAK.  
BALDAK ESCAPES BY HIDING IN A STOVE.  
BALDAK RETURNS HOME.

34

THE BERENNIKOVS LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS NICHOLAS.  
THE MOTHER IS KATRINA.  
FOMA IS THE ONLY CHILD.  
KATRINA ASKS MARTHA WHERE IS FOMA.  
MARTHA SAYS THAT FOMA IS IN THE WOODS.  
KATRINA ORDERS THE MURDER OF FOMA.  
FOMA IS SECRETLY FREED.  
FOMA IS WANDERING.

FOMA MEETS A COW ALONG THE WAY.  
THE COW ATTEMPTS TO KILL FOMA BY ROASTING.  
FOMA KILLS THE COW BY ROASTING.  
FOMA KILLS THE COW BY ROASTING.  
A MAGIC SWORD, A MAGIC CARPET AND A MAGIC STEED IS SEIZED BY FOMA.  
FOMA STARTS BACK HOME.  
FOMA RETURNS HOME.

73

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.  
THE MOTHER IS VASILISA.  
THE ONLY SON IS BALDAK.  
THE OLDEST DAUGHTER IS MARIA.  
THE YOUNGER DAUGHTER IS ELENA.  
THE YOUNGEST DAUGHTER IS DUNIA.  
MARCO ALSO LIVES IN THE SAME LAND.  
MARCO IS OF MIRACULOUS BIRTH.  
A BEAR WALKS INTO THE CERTAIN KINGDOM.  
THE BEAR PULLS OFF BALDAK'S ARM.  
BALDAK IS REPLACED WITH THE BEAR'S SON.  
BALDAK CALLS FOR MARCO.  
BALDAK ANNOUNCES THAT THE BEAR REPLACED BALDAK.  
MARCO DECIDES TO SEARCH FOR THE ARM.

MARCO MEETS A GIANT ALONG THE WAY.  
THE GIANT BRAINS IN A FOREST HUT WITH MARCO.  
MARCO DEFEATS THE GIANT.  
A MAGIC BOW, A MAGIC HEN AND A MAGIC BIRD IS GIVEN TO MARCO.  
MARCO TRAVELS TO THE LOCATION OF THE ARM IN THE OTHER KINGDOM.  
MARCO TRAVELS BY THE MAGIC BIRD.  
THE ARM APPEARS FROM THE MAGIC HEN.  
MARCO STARTS BACK HOME.  
MARCO RETURNS HOME.

74

THE BERENNIKOVS LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS IVAN.  
THE OLDEST DAUGHTER IS MARTHA.  
THE YOUNGER DAUGHTER IS DUNIA.  
DUNIA HAS A MAGIC WORD.  
A DRAGON SNEAKS INTO THE CERTAIN KINGDOM.  
THE DRAGON DISGUISES SELF AS A BIRD.  
THE DRAGON ATTEMPTS TO PERSUADE IVAN TO TAKE A STEAMBATH.  
IVAN IS PERSUDED TO TAKE A STEAMBATH.  
IVAN FALLS ASLEEP.  
THE DRAGON SEIZES THE MAGIC WORD.  
DUNIA SENDS IVAN TO SEARCH FOR THE MAGIC WORD.  
IVAN DECIDES TO SEARCH FOR THE MAGIC WORD.  
IVAN LEAVES ON A SEARCH.

IVAN MEETS A FOREST KNIGHT ALONG THE WAY.  
THE FOREST KNIGHT IS IMPRISONED.  
THE FOREST KNIGHT ASKS TO BE FREED.  
IVAN FREES THE FOREST KNIGHT.  
A MAGIC FLINT IS SHOWN TO IVAN.  
A MAGIC BOW, A MAGIC BIRD AND A MAGIC CARPET COMES FROM THE MAGIC FLINT.  
IVAN TRAVELS TO THE LOCATION OF THE MAGIC WORD IN THE OTHER KINGDOM.  
IVAN TRAVELS BY THE MAGIC CARPET.  
IVAN FINDS THE DRAGON.  
THEY FIGHT IN AN OPEN FIELD.  
IVAN DEFEATS THE DRAGON WITH THE AID OF THE MAGIC BOW.  
THE MAGIC WORD IS OBTAINED BY IVAN.  
IVAN STARTS BACK HOME.  
IVAN RETURNS HOME.

37

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 WISDOM.  
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.

75  
38

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.  
THE FATHER IS VLADMIR.  
THE OLDEST SON IS EREMA.  
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 FLYS INTO THE DISTANT PROVINCE.  
BABAYAGA ASKS ELENA WHERE IS MARIA.  
ELENA SAYS THAT MARIA IS IN THE BARN.  
BABAYAGA THREATENS TO HARRY 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.

39

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 FLYS 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.

40

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS IVAN.  
THE OLDEST SON IS FOMA.  
THE YOUNGER SON IS ALIOSHA.  
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 BLACK HOME.  
KATRINA RETURNS HOME.

41

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 DUNIA.  
THE YOUNGER DAUGHTER IS MARTHA.  
THE YOUNGEST DAUGHTER IS MARIA.  
BORIS ALSO LIVES IN THE SAME LAND.  
BORIS IS OF HIRACULOUS 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 BALDK'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.  
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 BEAN TEMPTS BORIS BY CHANGING INTO AN ALLURING OBJECT.  
BORIS ESCAPES BY AVOIDING THE TEMPTATION.  
BORIS RETURNS HOME.

42

THE BORISTEVICHES 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 MARIA WHERE IS ALIOSHA.  
MARIA 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.  
THE WOLF IS TROUNCHED AT CARDS.  
VASILISA STARTS BACK HOME.  
VASILISA RETURNS HOME.

43

THE BORISIEVICHES 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 FAILS 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.

44

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.

FOMA SAYS THAT MY DEATH IS IN A MAGIC EGG.

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.

45

THE PARANOVS LIVE IN A DISTANT PROVINCE.  
THE FATHER IS NICHOLAS.  
THE OLDEST DAUGHTER IS MARIA.  
THE YOUNGER DAUGHTER IS DUNIA.  
MARIA ALSO LIVES IN THE SAME LAND.  
MARIA IS OF MIRACULOUS BIRTH.  
A DRAGON FLIES INTO THE DISTANT PROVINCE.  
THE DRAGON CUTS OUT DUNIA'S HEART.  
DUNIA CALLS FOR HELP FROM MARIA.  
MARIA DECIDES TO SEARCH FOR THE HEART.  
MARIA LEAVES ON A SEARCH.

MARIA MEETS A STOVE ALONG THE WAY.  
THE STOVE PROPOSES THAT MARIA EAT THE MEAL WHICH IT HAS PREPARED.  
MARIA DOES NOT RESPOND.  
THE STOVE ASKS AGAIN.  
MARIA REFUSES.  
THE STOVE ASKS FOR THE THIRD TIME.  
MARIA RESPONDS BY PARTAKING OF THE MEAL.  
A MAGIC BIRD APPEARS TO MARIA.  
MARIA TRAVELS TO THE LOCATION OF THE HEART IN AN OTHER KINGDOM.  
MARIA TRAVELS BY THE MAGIC BIRD.  
MARIA FINDS THE DRAGON.  
THEY FIGHT IN AN OPEN FIELD.  
THE DRAGON IS BADLY DEFEATED.  
THE HEART IS SEIZED BY MARIA.  
MARIA STARTS BACK HOME.  
THE DRAGON YELLS FOR MARIA.  
MARIA ESCAPES BY FLYING ON THE MAGIC BIRD.  
MARIA RETURNS HOME.

46

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.  
THE FATHER IS BORIS.  
THE MOTHER IS MARIA.  
ERENA 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 USES A SLEEPING POTION ON MARIA.  
MARIA FALLS ASLEEP.  
THE BEAR DECLARES 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 STARTS BACK HOME.  
THE BEAR'S FATHER YELLS FOR MARIA.  
MARIA ESCAPES BY FLYING ON THE MAGIC STEED.  
MARIA RETURNS HOME.

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47

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 MARTIA.  
THE YOUNGER DAUGHTER IS MARTIA.  
ELENA NEEDS A HUSBAND.  
ELENA ASKS PERMISSION TO LEAVE.  
ELENA LEAVES ON A SEARCH.

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.

ELENA MEETS A COW ALONG THE WAY.  
THE COW BRAWLS IN A FOREST HUT WITH ELENA.  
ELENA DEFEATS THE COW.  
ELENA DEFECTS THE COW.  
A MAGIC SWORD, A MAGIC CARPET AND A MAGIC HORN ARE GIVEN TO ELENA.

ELENA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.  
ELENA TRAVELS BY THE MAGIC CARPET.  
ELENA ENLISTED BY ELENA.  
ELENA STARTS BACK HOME.

ELENA RETURNS HOME.

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 SETIED 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.

48

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49

THE BERENNIKOV'S LIVE IN A CERTAIN KINGDOM.  
THE MOTHER 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 GREETES 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 BOY, 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.  
MARIA APPEARS FROM THE MAGIC BOX.  
NICHOLAS STARTS BACK HOME.  
NICHOLAS RETURNS HOME.

50

THE PARANOVS 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 A 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 BOW, 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.

