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

by

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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 move 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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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 Janos 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 Königsdorff Maranda, Dimitri Segal, Mihaly Hoppal, and Michel de Virville. Jason, Segal and Königsdorff 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 Königsdorff Maranda, "A Sketch of the Okanagan Myth Automaton," which Königsdorff-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 Grammarian 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), & Petöfi (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 <sup>deletion</sup> <sub>ASOPS.</sub>

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..."

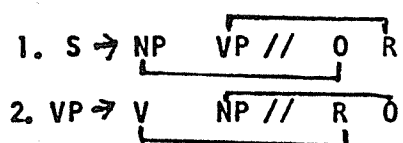
The system also has classes whose membership may be modified by actions of the rules. These are of two types: object classes and relation classes. Each class name may be associated with or function as a semantic object or relation. Subscripted classes may also be defined, where the subscripts must consist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

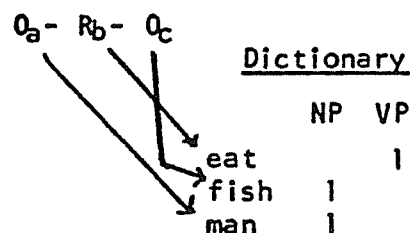
Each lexical entry in the dictionary is marked for compatibility with every terminal and non-terminal category in the phrase structure component of the grammar rules. For example, a root may be marked with the information that it can function in a noun form, a verb form, but not a preposition form. The 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



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>			
Myth	<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	---	
Myth	<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	
Myth	<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	
Myth	<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	---	---	---	

Myth	<u>WANDERER</u>	<u>CREATION</u>	<u>Classes for SOULNEST</u>		
1	HERO	RAIN			
2	BAITOGOGO	LAKE	K	<u>OBJECT</u>	<u>HELPER</u>
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 selected 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: OBSERVER(M) OBSERVES RAPE  
IF OBSERVER(M) NOT NULL

RULE DISCOVERY: OBSERVER(M) TELLS FATHER OF RAPE  
IF OBSERVER(M) IS NOT NULL  
FATHER DISCOVERS RAPE  
IF OBSERVER(M) IS NULL AND RAPIST(M) IS NOT NULL

RULE REVENGE: CALL REVENGE(M)  
IF REVENGE(M) NOT NULL

RULE THRASH: FATHER THRASHES BROTHERS

RULE KILLSWIFE: BAITOGOGO STRANGLES WIFE

RULE SOULNEST: FOR  $K=1,2,3$   
 FATHER SENDS HERO TO NEST OF SOULS FOR OBJECT(K)  
 HERO ASKS GRANDMOTHER TO HELP  
 GRANDMOTHER ADVISES HIM TO ASK HELPER(K)  
 HELPER(K) OBTAINS OBJECT(K) FOR HERO

RULE CRIME: HERO(M) KILLS TAPIR(M) SPEED(M)  
 IF TAPIR(M) IS NOT NULL

RULE DEPRIVES: DEPRIVED(M) IS DEPRIVED OF DEPRIVATION (M).

RULE VERTICAL: CALL VERTICAL(M)

RULE TREE: SON BECOMES BIRD TO SEARCH FOR MOTHER  
 BIRD DROPS EXCREMENT ON BAITOGOGO  
 EXCREMENT BECOMES TREE

RULE FALCONS: BROTHERS SET FIRE TO HOUSE OF PARENTS  
 PARENTS BECOME FALCONS TO ESCAPE

RULE MOUNTAIN: BERKOROROTI ASCENDS MOUNTAIN

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

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

RULE CREATION: CALL CREATION(M)

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

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

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

RULE FIRE: JAGUAR GIVES FIRE TO HERO

We refer the reader now to a listing of the actual program. First, the semantic nodes and relations are listed. To the right of each node, after the equal sign, the lexical expressant is provided. In this program as well as in the Propp model, only one lexical expressant per node was provided.

This was done for reasons of simplicity, and no limitation on the number of possible lexical expressants is implied. Occasionally compound names were inserted as expressants of unitary concepts. This device is unnecessary, and might have been handled by a lexical triple rather than by a dictionary entry (the Propp model uses lexical triples in such cases). 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=0H,END#0H1
2	3	
3	3	THIS PROGRAM MAPS TIME AND MYTH SO THAT THE MYTHS
4	3	WILL BE GENERATED IN DISTINCT TIME FRAMES
5	3	IE. MYTH 1 AT TIME 1, MYTH 2 AT TIME 2, ETC.
6	3	
7	3	NODES
8	3	
9	3	SNODES1
10	3	
11	3	
12	3	THAT 0 = 'THAT' 1
13	3	ULST 0 = 1
14	3	LST 0 = 1
15	3	MX 0 = 1
16	3	
17	3	INDEXES
18	3	
19	3	11 0 = 1
20	3	12 0 = 1
21	3	13 0 = 1
22	3	1 \$ MYTH IDENTIFIER/INDICES
23	3	
24	3	
25	3	M1 0 = 1
26	3	M2 0 = 1
27	3	M12 0 = 1
28	3	M124 0 = 1
29	3	M125 0 = 1
30	3	POTHEROFHERO 2 = 1
31	3	MANFROMTAPIRCLAN 0 = 1
32	3	KOPENOFTRIBE 3 = 1
33	3	PELOFTRIBE 3 = 1
34	3	WOPEN 3 = 'WOMAN' 1
35	3	WEN 1 = 'MAN' 1
36	3	MAN 0 = 'MAN' 1
37	3	TAPIRCLAN 2 = 'TAPIR CLAN' 1
38	3	WIFE 2 = 'WIFE' 1
39	3	GRANDMOTHER 2 = 'GRANDMOTHER' 1
40	3	NEST 2 = 'NEST' 1
41	3	SOULS 3 = 'SOUL' 1
42	3	MACANS 1 = 'MACAW' 1
43	3	WIFEOFBAITOGOGO 2 = 1
44	3	FATHER 2 = 'FATHER' 1
45	3	SON 0 = 'SON' 1
46	3	ASARE 0 = 'ASARE' 1
47	3	HERO 2 = 'HERO' 1
48	3	VULTURE 0 = 'VULTURE' 1
49	3	JAGUAR 0 = 'JAGUAR' 1
50	3	MOTHER 2 = 'MOTHER' 1
51	3	WATER 1 = 'WATER' 1
52	3	FOOD 1 = 'FOOD' 1
53	3	BAITOGOGO 0 = 'BAITOGOGO' 1
54	3	BROTHERS 3 = 'BROTHER' 1
55	3	PALMS 1 = 'PALM' 1
56	3	WILDFRUIT 1 = 'WILD FRUIT' 1
57	3	GAME 1 = 'GAME' 1
58	3	TAPIR 0 = 'TAPIR' 1
59	3	BEKOROROTI 0 = 'BEKOROROTI' 1
60	3	BIRDNESTING 0 = 1
61	3	TREE 0 = 'TREE' 1
62	3	FALCONS 1 = 'FALCON' 1
63	3	MOUNTAIN 0 = 'MOUNTAIN' 1
64	3	RAIN 2 = 'RAIN' 1
65	3	LAKE 0 = 'LAKE' 1
66	3	FIRE 1 = 'FIRE' 1
67	3	SEA 0 = 'SEA' 1
68	3	BROTHERINLAW 2 = 'BROTHER IN LAW' 1
69	3	GREATDANCERATTLE 2 = 'GREAT DANCE RATTLE' 1
70	3	SHALLRATTLE 2 = 'SMALL RATTLE' 1
71	3	BELLS 3 = 'BELL' 1
72	3	HUMMINGBIRD 2 = 'HUMMINGBIRD' 1
73	3	DOVE 2 = 'DOVE' 1
74	3	GRASSHOPPER 2 = 'GRASSHOPPER' 1
75	3	COUNTRY 2 = 'COUNTRY' 1
76	3	NHELP 0 = 'HELP' 1
77	3	TRIBE 0 = 'TRIBE' 1
78	3	SOULNEST 0 = 1
79	3	KILLSWIFE 0 = 1
80	3	THRASH 0 = 1
81	3	LIE 0 = 'LIE' 1
82	3	BIRD 0 = 'BIRD' 1
83	3	EXCREMENT 1 = 'EXCREMENT' 1
84	3	PARENTS 3 = 'PARENT' 1
85	3	HOUSE 2 = 'HOUSE' 1
86	3	POLE 0 = 'POLE' 1
87	3	SHOULDER 2 = 'SHOULDER' 1
88	3	WELL 0 = 'WELL' 1
89	3	MESSAPE 0 = 'ESCAPE' 1
90	3	ALL 0 = 'ALL' 1
91	3	
92	3	CONTROL SEQUENCE NODES
93	3	
94	3	GATHER 0 = 1
95	3	RAPE 2 = 'RAPE' 1
96	3	OBSERVE 0 = 1
97	3	DISCOVERY 0 = 1
98	3	REVENGE 0 = 'REVENGE' 1
99	3	CRIME 0 = 1
100	3	DEPRIVES 0 = 1
101	3	VERTICAL 0 = 1
102	3	HORIZONTAL 0 = 1
103	3	CREATION 0 = 1
104	3	
105	3	

1	SLIMITS	START=0H,END#0H1
2	3	
3	3	THIS PROGRAM MAPS TIME AND MYTH SO THAT THE MYTHS
4	3	WILL BE GENERATED IN DISTINCT TIME FRAMES
5	3	IE. MYTH 1 AT TIME 1, MYTH 2 AT TIME 2, ETC.
6	3	
7	3	NODES
8	3	
9	3	SNODES1
10	3	
11	3	
12	3	THAT 0 = 'THAT' 1
13	3	ULST 0 = 1
14	3	LST 0 = 1
15	3	MX 0 = 1
16	3	
17	3	INDEXES
18	3	
19	3	11 0 = 1
20	3	12 0 = 1
21	3	13 0 = 1
22	3	1 \$ MYTH IDENTIFIER/INDICES
23	3	
24	3	
25	3	M1 0 = 1
26	3	M2 0 = 1
27	3	M12 0 = 1
28	3	M124 0 = 1
29	3	M125 0 = 1
30	3	POTHEROFHERO 2 = 1
31	3	MANFROMTAPIRCLAN 0 = 1
32	3	KOPENOFTRIBE 3 = 1
33	3	PELOFTRIBE 3 = 1
34	3	WOPEN 3 = 'WOMAN' 1
35	3	WEN 1 = 'MAN' 1
36	3	MAN 0 = 'MAN' 1
37	3	TAPIRCLAN 2 = 'TAPIR CLAN' 1
38	3	WIFE 2 = 'WIFE' 1
39	3	GRANDMOTHER 2 = 'GRANDMOTHER' 1
40	3	NEST 2 = 'NEST' 1
41	3	SOULS 3 = 'SOUL' 1
42	3	MACANS 1 = 'MACAW' 1
43	3	WIFEOFBAITOGOGO 2 = 1
44	3	FATHER 2 = 'FATHER' 1
45	3	SON 0 = 'SON' 1
46	3	ASARE 0 = 'ASARE' 1
47	3	HERO 2 = 'HERO' 1
48	3	VULTURE 0 = 'VULTURE' 1
49	3	JAGUAR 0 = 'JAGUAR' 1
50	3	MOTHER 2 = 'MOTHER' 1

RELATIONS		CLASSES	
104	\$	185	\$
107	\$	166	\$
108	\$	167	\$
109	\$	168	\$
110	\$	169	\$
111	\$	170	\$
112	\$	171	\$
113	\$	172	\$
114	\$	173	\$
115	\$	174	\$
116	\$	175	\$
117	\$	176	\$
118	\$	177	\$
119	\$	178	\$
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121	\$	180	\$
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124	\$	183	\$
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195	\$	254	\$
196	\$	255	\$
197	\$	256	\$
198	\$	257	\$
199	\$	258	\$
200	\$	259	\$
201	\$	260	\$
202	\$	261	\$
203	\$	262	\$
204	\$	263	\$
205	\$	264	\$
206	\$	265	\$
207	\$	266	\$
208	\$	267	\$
209	\$	268	\$
210	\$	269	\$
211	\$	270	\$
212	\$	271	\$
213	\$	272	\$
214	\$	273	\$
215	\$	274	\$
216	\$	275	\$
217	\$	276	\$
218	\$	277	\$
219	\$	278	\$
220	\$	279	\$
221	\$	280	\$
222	\$	281	\$

VERTICAL(H124) = FALCONS  
 CVERTICAL(H125) = MOUNTAIN  
 CCREATION(M1) = RAIN  
 CCREATION(H2) = LAKES  
 CCREATION(H124) = FIRE  
 CCREATION(H124) = SEA  
 CCREATION(H125) = RAIN  
 RAPIST(H1) = HERO  
 RAPIST(H2) = MANFRONTAPIRCLAN  
 RAPIST(H12) =  
 RAPIST(H124) = BROTHERS  
 RAPIST(H125) =  
 CTAPIR(H1) =  
 CTAPIR(H2) = MANFRONTAPIRCLAN  
 CTAPIR(H12) =  
 CTAPIR(H124) =  
 CTAPIR(H125) = TAPIR  
 RELATION(H1) = FATHER  
 RELATION(H2) =  
 RELATION(H12) = BROTHERINLANI  
 RELATION(H124) =  
 RELATION(H125) =  
 VICTIM(H1) = WIFEOFBAITOGGO  
 VICTIM(H2) =  
 VICTIM(H12) =  
 VICTIM(H124) = MOTHEROPHERD  
 VICTIM(H125) =  
 2 SPEED(H1) =  
 2 SPEED(H2) = SLOWLY  
 2 SPEED(H12) =  
 2 SPEED(H124) =  
 2 SPEED(H125) = QUICKLY  
 CLIE(H1) =  
 CLIE(H2) =  
 CLIE(H12) = LIE  
 CLIE(H124) =  
 CLIE(H125) =  
 INDEX = 11 12 131  
 OBJECT(11) = GREATDANCERATTLE  
 OBJECT(12) = SHALLRATTLE  
 OBJECT(13) = BELLS  
 HELPER(11) = HUMMINGBIRD  
 HELPER(12) = DOVE  
 HELPER(13) = GRASSHOPPER  
 CNTRL =  
 CLASSES USED FOR SEQUENCING MYTHS AND CONTROL  
 MYTHSEQ = M1 M2 H12 H124 H1251  
 CONTROLSEQ = GATHER RAPE OBSERVE DISCOVERY REVENGE  
 CRIME DEPRIVES VERTICAL HORIZONTAL CREATION  
 MYTH =  
 NETWORK  
 \*LXTRP(WIFE OF BAITOGGO) TO WIFEOFBAITOGGO  
 \*LXTRP(MOTHER OF HERO) TO MOTHEROPHERD  
 \*LXTRP(MAN FROM TAPIRCLAN) TO MANFRONTAPIRCLAN  
 \*LXTRP(WOMEN OF TRIBE) TO WOMENOFTRIBE  
 \*LXTRP(MEN OF TRIBE) TO MENOFTRIBE  
 \*LXTRP(SEARCH FOR) TO SEARCHFOR







```

507 SGROUP BIRONESTING! 10M/OFF! 564 SENDGROUP!
508 S
509 SLOOP ! H.MYTH! 565 S
510 S 566 S
511 SRULE! *INSERT(RELATION(H) MAKES CHERO(H))(MAKES CAPTURE MACANS) 567 S
512 SRULE! *INSERT(RELATION(H) MAKES CHERO(H))(MAKES CAPTURE MACANS) 568 SEND!
513 SRULE! *INSERT(CHERO(H) TELLS THAT(INNEST EMPTY)
514 (TELLS TO RELATION(H)) !
515 10.-10! NUH(CLIC(H)) GT OI
516 SRULE! RELATION(H) REMOVES POLE,
517 CHERO(H) STRANDED,
518 *INSERT(ANIMAL(H) HELPS CHERD(H))(HELPS DESCEND)!
519 SENDLOOP!
520 SRULE! *RETURN!
521 SENDGROUP!
522 S
523 S *****CREATION SUBRTS*****
524 S
525 S
526 S | GROUP RAIN
527 S
528 SGROUP RAIN! 10M/OFF!
529 S
530 SLOOP ! H.MYTH!
531 S
532 SRULE! *INSERT(CHERO(H) SENDS RAIN)
533 (SENDS FOR REVENGE),(SENDS ON TRIBE)!
534 SENDLOOP
535 SRULE ! *RETURN!
536 SENDGROUP!
537 S
538 S | GROUP LAKE
539 S
540 SGROUP LAKE ! 10M/OFF!
541 S
542 SRULE! *INSERT(BAITOGOGO STOPS)(STOPS WALKING),
543 LAKE APPEARS,
544 *INSERT(TREE SHRINKS)(TREE ON SHOULDER)(SHOULDER OF BAITOGOGO)!
545 SRULE! *RETURN!
546 SENDGROUP!
547 S
548 S | GROUP SEA
549 S
550 SGROUP SEA! 10M/OFF!
551 S
552 SRULE! ASARE THIRSTY,
553 BROTHERS DIG WELL,
554 *INSERT(ASARE CANNOT)(CANNOT DRINK ALL)(ALL OF WATER),
555 WELL PRODUCES SEA!
556 SRULE! *RETURN!
557 SENDGROUP!
558 S
559 S | GROUP FIRE
560 SGROUP FIRE! 10M/OFF!
561 S
562 SRULE ! *INSERT(JAGUAR GIVES FIRE)(GIVES TO HERO)!
563 SRULE! *RETURN!

```

GRAMMAR

		P1TYPE	PHAP	PSUB	PTRANS
1	S	---	0	RV	
2	S	---	0	R	
3	NP	---	NAME2		
4	NP	---	ART		
5	NAMEZ	---	NPP		
6	NPP	---	NAME		
7	NPP	---	N		
8	NPP	---	NPP	MOD	
9	NPP	---	NPP	MOD	
10	NPP	---	NPP	ADJ	
11	NPP	---	ADJ	NPP	
12	VP	---	V		
13	VP	---	VP		
14	VP	---	VP		
15	VP	---	VP		
16	VP	---	VP	THAT2	
17	VP	---	VP		
18	VP	---	VP		
19	VP	---	VP		
20	VP	---	VP		
21	VP	---	ADV		
22	MOD	---	MOD		
23	MOD	---	ADJ		
24	MOD	---	PREP		
25	MOD	---	ADJ		
26	MOD	---	MOD		
27	MOD	---	ADJ		
28	MOD	---	PREP		
29	MOD	---	ADJ		
30	MOD	---	ADJ		
31	AP	---	IS		
32	VP2	---	TO		
33	VP2	---	PREP		
34	VP2	---	PREP		
35	VP2	---	VP2		
36	VP2	---	PREP		
37	THAT2	---	THAT	S	

## MYTH 1

## CHANGE STACK FOR TIME OM

11 (MOTHEROFT GATHERS PALMS) SET AT OM  
 21 (HERO RAPES MOTHEROFT) SET AT OM  
 31 (FATHER DISCOVERS RAPE) SET AT OM  
 41 (FATHER SENDS HERO) SET AT OM  
 51 (SENDS FOR GREATDAN) SET AT OM  
 61 (SENDS TO NEST) SET AT OM  
 71 (NEST OF SOULS) SET AT OM  
 81 (HERO ASKS GRANDMOT) SET AT OM  
 91 (ASKS HELPN) SET AT OM  
 101 (GRANDMOT ADVISES HERO) SET AT OM  
 111 (ADVISES ASKS HUMMINGBI) SET AT OM  
 121 (HUMMINGBI OBTAINS GREATDAN) SET AT OM  
 131 (OBTAINS FOR HERO) SET AT OM  
 141 (FATHER SENDS HERO) SET AT OM  
 151 (SENDS FOR SMALLRAT) SET AT OM  
 161 (SENDS TO NEST) SET AT OM  
 171 (NEST OF SOULS) SET AT OM  
 181 (HERO ASKS GRANDMOT) SET AT OM  
 191 (ASKS HELPN) SET AT OM  
 201 (GRANDMOT ADVISES HERO) SET AT OM  
 211 (ADVISES ASKS DOVE) SET AT OM  
 221 (DOVE OBTAINS SMALLRAT) SET AT OM  
 231 (OBTAINS FOR HERO) SET AT OM  
 241 (FATHER SENDS HERO) SET AT OM  
 251 (SENDS FOR BELLS) SET AT OM  
 261 (SENDS TO NEST) SET AT OM  
 271 (NEST OF SOULS) SET AT OM  
 281 (HERO ASKS GRANDMOT) SET AT OM  
 291 (ASKS HELPN) SET AT OM  
 301 (GRANDMOT ADVISES HERO) SET AT OM  
 311 (ADVISES ASKS GRASSHOP) SET AT OM  
 321 (GRASSHOP OBTAINS BELLS) SET AT OM  
 331 (OBTAINS FOR HERO) SET AT OM  
 341 (FATHER DEPRIVE MOTHER) SET AT OM  
 351 (FATHER MAKES HERO) SET AT OM  
 361 (MAKES CAPTURE MACAMS) SET AT OM  
 371 (MAKES CLIMB POLE) SET AT OM  
 381 (FATHER REMOVES POLE) SET AT OM  
 391 (HERO STRANDED) SET AT OM  
 401 (VULTURE HELPS HERO) SET AT OM  
 411 (HELPS DESCEND) SET AT OM  
 421 (HERO WANDER) SET AT OM  
 431 (WANDER THROUGH COUNTRY) SET AT OM  
 441 (HERO SENDS RAIN) SET AT OM  
 451 (SENDS FOR REVENGE) SET AT OM  
 461 (SENDS ON TRIBE) SET AT OM

THE WOMEN OF A TRIBE WERE GATHERING PALMS.

THE HERO RAPED THE MOTHER OF THE HERO.

THE FATHER DISCOVERED THE RAPE.

THE FATHER SENT THE HERO TO THE NEST OF THE SOULS FOR THE GREAT DANCE RATTLE.

THE HERO ASKED THE GRANDMOTHER TO HELP.

THE GRANDMOTHER ADVISED THE HERO TO ASK THE HUMMINGBIRD.

THE HUMMINGBIRD OBTAINED THE GREAT DANCE RATTLE FOR THE HERO.

THE FATHER SENT THE HERO TO THE NEST OF THE SOULS FOR THE SMALL RATTLE.

THE HERO ASKED THE GRANDMOTHER TO HELP.

THE GRANDMOTHER ADVISED THE HERO TO ASK THE DOVE.

THE DOVE OBTAINED THE SMALL RATTLE FOR THE HERO.

THE FATHER SENT THE HERO TO THE NEST OF THE SOULS FOR THE BELLS.

THE HERO ASKED THE GRANDMOTHER TO HELP.

THE GRANDMOTHER ADVISED THE HERO TO ASK THE GRASSHOPPER.

THE GRASSHOPPER OBTAINED THE BELLS FOR THE HERO.

THE FATHER WAS DEPRIVED OF THE MOTHER.

THE FATHER MADE THE HERO TO CLIMB A POLE TO CAPTURE MACAMS.

THE FATHER REMOVED THE POLE.

THE HERO WAS STRANDED.

A VULTURE HELPED THE HERO TO DESCEND.

THE HERO WANDERED THROUGH THE COUNTRY.

THE HERO SENT THE RAIN ON THE TRIBE FOR REVENGE.

MYTH 2

CHANGE STACK FOR TIME 1H

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

THE WIFE OF BAITOGOGO WAS PICKING WILD FRUIT.  
 A MAN FROM THE TAPIR CLAN RAPED THE WIFE OF BAITOGOGO.  
 A SON OBSERVED THE RAPE.  
 THE SON TOLD THE FATHER OF THE RAPE.  
 BAITOGOGO STRANGLE THE WIFE OF BAITOGOGO.  
 BAITOGOGO KILLED THE MAN FROM THE TAPIR CLAN SLOWLY.  
 THE SON WAS DEPRIVED OF THE MOTHER.  
 THE SON BECAME A BIRD.  
 THE BIRD SEARCHED FOR THE MOTHER.  
 THE BIRD DROPPED EXCREMENT ON BAITOGOGO.  
 THE EXCREMENT BECAME A TREE.  
 BAITOGOGO WANDERED THROUGH THE COUNTRY.  
 BAITOGOGO STOPPED WALKING.  
 A LAKE APPEARED.  
 THE TREE ON THE SHOULDER OF BAITOGOGO 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 MADE THE HERO TO CLIMB 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

- 11 (FATHER HUNTING GAME) SET AT 3H
- 21 (BROTHERS RAPES MOTHEROF) SET AT 3H
- 3: (ASARE OBSERVES RAPE) SET AT 3H
- 4: (ASARE TELLS FATHER) SET AT 3H
- 5: (TELLS OF RAPE) SET AT 3H
- 6: (FATHER THRASHES BROTHERS) SET AT 3H
- 7: (ASARE DEPRIVE WATER) SET AT 3H
- 8: (BROTHERS SET FIRE) SET AT 3H
- 9: (SET TO HOUSE) SET AT 3H
- 10: (HOUSE OF PARENTS) SET AT 3H
- 11: (PARENTS BECOMES FALCONS) SET AT 3H
- 12: (BECOMES 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) SET AT 3H
- 20: (CANNOT DRINK ALL) SET AT 3H
- 21: (ALL OF WATER) SET AT 3H
- 22: (WELL PRODUCES SEA) SET AT 3H

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

MYTH 125

CHANGE STACK FOR TIME 4H

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

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

## 5.0 Propp

### 5.1 Automating Propp's One Move Tales

A complete listing of the program and grammar is contained in the 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 IM

1: (BORISIEV LIVE IN DISTANTP) SET AT IM  
 2: (NFATHER IS EMELYA) SET AT IM  
 3: (SON IS BORIS) SET AT IM  
 4: (SON ONLY) SET AT IM  
 5: (MARTHA IS DAUGHTER) SET AT IM  
 6: (DAUGHTER ONLY) SET AT IM  
 7: (EMELYA HAVE SHEEP) SET AT IM  
 8: (BORIS RAND SHEEP) SET AT IM  
 9: (BORIS RAND MARTHA) SET AT IM  
 10: (SHEEP IN WOODS) SET AT IM  
 11: (BORIS SAYZ INTERDICT) SET AT IM  
 12: (MARTHA NOLEAVE WOODS) SET AT IM  
 13: (BORIS LEAVE) SET AT IM  
 14: (LEAVE GODERRYGI) SET AT IM  
 15: (MARTHA LEAVE WOODS) SET AT IM  
 16: (WOLF APPEAR IN DISTANTP) SET AT IM  
 17: (EMELYA ASKI WOLF) SET AT IM  
 18: (ASKI WHERE IS YOUR WISD) SET AT IM  
 19: (WOLF SAYZ THAT) SET AT IM  
 20: (YOUR WISDOM IN HAGEGG) SET AT IM  
 21: (WOLF PLUNDER SHEEP) SET AT IM  
 22: (EMELYA SEND MARTHA) SET AT IM  
 23: (SEND SEARCHI) SET AT IM  
 24: (SEARCHI FOR WOLF) SET AT IM  
 25: (MARTHA DECIDE) SET AT IM  
 26: (DECIDE SEARCHI) SET AT IM  
 27: (SEARCHI FOR WOLF) SET AT IM  
 28: (MARTHA LEAVE) SET AT IM  
 29: (LEAVE ON SEARCHI) SET AT IM

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

Commentary on Change Stack for IM

- Before 1    GROUP ALPHA called, which sets up the classes:  
 FANNAN = BORISIEVICHES; STORYLOC = DISTANT PROVINCE; FATHER = EMELYA;  
 SON1 = BORIS; DAUGHT1 = MARTHA; and FAMILY, OLDGEN, AND YOUNGEN
- 1-6        Master Group, following call on GROUP ALPHA
- Before 7    Form 5 of A picked. HERO (MARTHA) chosen from FAMILY. Form of A  
 forces a VILLAIN (WOLF) from outside FAMILY, and a non-human  
 (SHEEP) object of villainy (VORJECT).  
 EMELYA chosen as OWNER and VICTIM
- Before 8    MARTHA made a SEEKER-HERO. WOODS picked as location of villainy  
 (VLOC). Interdiction sequence chosen to occur. BORIS picked as  
 ABSENTOR so form 3 of BETA will be used. Form 1 of GAMMA picked.  
 Inverted form of interdiction constructed.
- 11-12      GROUP GAMMA. INTERDICT is a predicate node.
- 13-14      GROUP BETA
- 15         GROUP DELTA
- 16         GROUP VILLARIV
- Before 17    Reconnaissance sequence. Form 2 of EPSILON picked.  
 QOBJECT IS YOUR WISDOM, QLOC IS HAGEGG.
- 17-18      GROUP EPSILON
- 19-20      GROUP PSI
- 21         GROUP A
- Before 22    WOLF becomes sought after object (SUBJECT). EMELYA made DISPATCHER.  
 Form 2 of B picked since OWNER and HERO both in FAMILY and there is  
 a SEEKER-HERO.
- 22-24      GROUP B
- 25-27      GROUP C
- 28-29      GROUP DEPART

TALE 1

## CHANGE STACK FOR TIME ID

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

## Commentary on Change Stack for ID

Before 1 Donor Sequence. SUPERSTRENGTH picked as the one magical agent to be acquired (MAGHELPI). It must come from a food (MAGHELPI = MAGWAFFER). 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.

1-11 GROUP WITCH. Two predicate nodes constructed.

12-18 GROUP D. TASK is a predicate node.

Before 19 Trebling chosen not to occur.

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

25-26, Before 27 GROUP F. Already set as Form 7. Basic rule and one additional rule executed.

27-32 There is no magical agent. Form 4 picked for G and HEDGEHOG chosen as GHELPER.

33 GROUP G

33 Combat Sequence will be used

Before 34 There is a magical agent, and form 1 of H (and I) will be used.

34-36 GROUP H

37 GROUP J

38-40 GROUP I

Before 41 There is no magical agent, so form 7 of K picked, based on form of A.

41-42 GROUP K

43-44 GROUP RETURN

Before 45 Pursuit and Rescue are not chosen to occur.

45 GROUP END

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

TALE 1 (cont.)



TALE 2

CHANGE STACK FOR TIME IM

1: (MOREYNAS LIVE IN DISTANTP) SET AT IM  
 2: (NFATHER IS EREHA) SET AT IM  
 3: (NMOTHER IS VASILISA) SET AT IM  
 4: (SON IS BALDAK) SET AT IM  
 5: (SON OLDEST) SET AT IM  
 6: (SON IS MARCO) SET AT IM  
 7: (SON YOUNGER) SET AT IM  
 8: (SON IS BORIS) SET AT IM  
 9: (SON YOUNGEST) SET AT IM  
 10: (DAUGHTER IS MARIJA) SET AT IM  
 11: (DAUGHTER OLDEST) SET AT IM  
 12: (DAUGHTER IS KATRINA) SET AT IM  
 13: (DAUGHTER YOUNGER) SET AT IM  
 14: (DAUGHTER IS MARTHA) SET AT IM  
 15: (DAUGHTER YOUNGEST) SET AT IM  
 16: (NICHOLAS LIVE IN LAND) SET AT IM  
 17: (LIVE IN ALSO) SET AT IM  
 18: (LAND SAME) SET AT IM  
 19: (NICHOLAS OF BIRTH) SET AT IM  
 20: (BIRTH MIRACULO) SET AT IM  
 21: (BALDAK HAVE MAGSTEED) SET AT IM  
 22: (BEAR APPEAR IN DISTANTP) SET AT IM  
 23: (BEAR SEIZE MAGSTEED) SET AT IM  
 24: (BALDAK CALL FOR HELP) SET AT IM  
 25: (HELP FROM NICHOLAS) SET AT IM  
 26: (NICHOLAS DECIDE) SET AT IM  
 27: (DECIDE SEARCH) SET AT IM  
 28: (SEARCH FOR MAGSTEED) SET AT IM  
 29: (NICHOLAS LEAVE) SET AT IM  
 30: (LEAVE ON SEARCH) SET AT IM

Commentary on Change Stack for IM

Before 1 GROUP ALPHA called, which sets up the classes: FAMAHA= MOREYNAS; STORYLOC= DISTANTPROVINCE; FATHER= EREHA; MOTHER= VASILISA; and 3 sons, 3 daughters, FAMILY, OLDGEN and YOUNGER.  
 1-15 Master Group, following call on GROUP ALPHA.  
 Before 16 Form 4 of A picked.  
 16-20 HERO(NICHOLAS) picked from outside family and introduced.  
 Before 21 Form of A and HERO not in FAMILY forces a VILLAIN(BEAR) from outside FAMILY, and a non-human (MAGSTEED) object of villainy (VOBJECT). BALDAK chosen as OWNER and VICTIM since HERO not in FAMILY.  
 Before 22 NICHOLAS made a SEEKER-HERO. No interdiction because the HERO and VICTIM are not both in FAMILY.  
 22 GROUP VILLARIV  
 Before 23 Reconnaissance not chosen. Trickery prevented because HERO not in FAMILY.  
 23 GROUP A  
 Before 24 MAGSTEED becomes sought after object (SUBJECT). BALDAK made DISPATCHER. Form 1 of B picked since OWNER and HERO not both in FAMILY and there is a SEEKER-HERO.  
 24-25 GROUP B  
 26-28 GROUP C  
 29-30 GROUP DEPART

THE MOREYNAS LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS EREHA.  
 THE MOTHER IS VASILISA.  
 THE OLDEST SON IS BALDAK.  
 THE YOUNGER SON IS MARCO.  
 THE YOUNGEST SON IS BORIS.  
 THE OLDEST DAUGHTER IS MARIJA.  
 THE YOUNGER DAUGHTER IS KATRINA.  
 THE YOUNGEST DAUGHTER IS MARTHA.  
 NICHOLAS ALSO LIVES IN THE SAME LAND.  
 BALDAK HAS A 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.

CHANGE STACK FOR TIME ID

11 (NICHOLAS MEET JUG) SET AT ID  
 21 (MEET ALONG WAY) SET AT ID  
 31 (JUG FIGHTING ELENA) SET AT ID  
 41 (FIGHTING OVER MAGBOW) SET AT ID  
 51 (JUG ASKS NICHOLAS) SET AT ID  
 61 (ASKI DIVIDEI MAGBOW) SET AT ID  
 71 (NICHOLAS TRICKY DISPUTANT) SET AT ID  
 81 (TRICKY INTOLEAV MAGBOW) SET AT ID  
 91 (MAGBOW UNPROTEC) SET AT ID  
 101 (MAGBOW RAND MAGBOX) SET AT ID  
 111 (MAGBOW RAND MAGCARPE) SET AT ID  
 121 (MAGBOX SEIZED BY NICHOLAS) SET AT ID  
 131 (NICHOLAS TRAVEL) SET AT ID  
 141 (TRAVEL TO LOCATIO) SET AT ID  
 151 (LOCATIO OF MAGSTEED) SET AT ID  
 161 (MAGSTEED IN KINGDOM) SET AT ID  
 171 (KINGDOM OTHER) SET AT ID  
 181 (NICHOLAS TRAVEL BY MAGCARPE) SET AT ID  
 191 (NICHOLAS FIND BEAR) SET AT ID  
 201 (NICHOLAS SURPRISE BEAR) SET AT ID  
 211 (NICHOLAS KILL BEAR) SET AT ID  
 221 (KILL WITH AID) SET AT ID  
 231 (AID OF MAGBOW) SET AT ID  
 241 (MAGSTEED APPEAR) SET AT ID  
 251 (APPEAR FROM MAGBOX) SET AT ID  
 261 (NICHOLAS START) SET AT ID  
 271 (START BACK HOME) SET AT ID  
 281 (BEARSPAT CHASE) SET AT ID  
 291 (CHASE AFTER NICHOLAS) SET AT ID  
 301 (NICHOLAS ESCAPE) SET AT ID  
 311 (ESCAPE BY) SET AT ID  
 321 (BY FLY) SET AT ID  
 331 (FLY ON FALCON) SET AT ID  
 341 (NICHOLAS RETURN HOME) SET AT ID

Commentary on Change Stack for ID

Before 1 Donor Sequence. Three magical agents chosen to be acquired: MAGHELPI = MAGBOW; MAGHELPI2 = MAGCARPET; MAGHELPI3 = MAGBOX. Form 6 of D and DONOR (JUG) picked.

1-6 GROUP D. A magical agent (MAGBOW) is made the object of the dispute (DISTYPE).

Before 7 Form of D doesn't allow trebling in E.

7-9 GROUP E. Because of magical DISTYPE, second rule of form 6 used. F must use form 8.

10-12 GROUP F

Before 13 SUBJECT not acquired yet, nor VICTIM-HERO, so will use G. There is a magical agent (GHELPER=MAGCARPET) and form 1 must be used.

13-18 GROUP G

19 Combat Sequence will be used.

Before 20 There is a magical agent, and form 5 of 1 is picked.

20-23 GROUP I

Before 24 There is a magical agent (MAGHELPO=MAGBOX) so form 5 of K is used.

24-25 GROUP K

26-27 GROUP RETURN

Before 28 Form 3 of PR chosen. Since BEAR is dead, PURSUER=BEARSFATHER.

28-29 GROUP PR

Before 30 There is no magical agent so form 1 of RS is picked based on PR.

30-33 GROUP RS

34 GROUP END

NICHOLAS MEETS A JUG ALONG THE WAY,  
 THE JUG IS FIGHTING WITH ELENA OVER A MAGIC BOW;  
 THE JUG ASKS NICHOLAS TO DIVIDE THE MAGIC BOW.  
 NICHOLAS TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC BOW UNPROTECTED.  
 THE MAGIC BOW, A MAGIC CARPET AND A MAGIC BOX ARE SEIZED BY NICHOLAS.  
 NICHOLAS TRAVELS TO THE LOCATION OF THE MAGIC STEED IN AN OTHER KINGDOM.  
 NICHOLAS TRAVELS BY THE MAGIC CARPET.  
 NICHOLAS FINDS THE BEAR.  
 NICHOLAS SURPRISES THE BEAR.  
 NICHOLAS KILLS THE BEAR WITH THE AID OF THE MAGIC BOW.  
 THE MAGIC STEED APPEARS FROM THE MAGIC BOX.  
 NICHOLAS STARTS BACK HOME.  
 THE BEAR'S FATHER CHASES AFTER NICHOLAS.  
 NICHOLAS ESCAPES BY FLYING ON A FALCON.  
 NICHOLAS RETURNS HOME.

TABLE 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 possibilities not currently exploited. The first is the device of calling the system for a look into the future. This peek into the future could provide the data for quantifying another call to the program to generate an embedded tale, or its peek into the future could be at the outcome of ~~future call to~~ 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. Kõngäs 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 Kõngäs 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 **!**, 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).







3329	000	FREED	A 2 0	'FREE'	000	OLD	A 2 0	'OLD'
3330	000	FROM	1 4 0	'FROM'	000	OLDEST	A 2 0	'OLDEST'
3331	000	GATHER	1 3 0	'GATHER'	000	ON	1 4 0	'ON'
3332	000	GIVEN	1 2 0	'GIVE'	000	ONLY	A 2 0	'ONLY'
3333	000	GIVENTO	1 2 0	'GIVENTO'	000	OPEN	A 2 0	'OPEN'
3334	000	GNAW	1 3 0	'GNAW'	000	ORDER	A 2 0	'ORDER'
3335	000	GOBERRYGATHER	A 3 0	'GOBERRYGATHER'	000	ORDERTINTOSEA	1 3 0	'ORDERTINTOSEA'
3336	000	GOFISH	A 3 0	'GOFISH'	000	ORDERMURDEROF	1 3 0	'ORDERMURDEROF'
3337	000	GO	1 3 0	'GO'	000	OTHER	A 2 0	'OTHER'
3338	000	GOTOFOREST	A 3 0	'GOTOFOREST'	000	OUT	A 4 0	'OUT'
3339	000	GOTOWAR	A 3 0	'GOTOWAR'	000	OVER	1 4 0	'OVER'
3340	000	GOTRADE	A 3 0	'GOTRADE'	000	OWN	1 3 0	'OWN'
3341	000	GOVISIT	A 3 0	'GOVISIT'	000	OWN	1 3 0	'OWN'
3342	000	GOWALK	A 3 0	'GOWALK'	000	PARTAKE	A 3 0	'PARTAKE'
3343	000	GOWORK	A 3 0	'GOWORK'	000	PERSUADE	A 3 0	'PERSUADE'
3344	000	GREY	1 3 0	'GREY'	000	PERSUADE2	1 3 0	'PERSUADE2'
3345	000	HAVE	1 3 0	'HAVE'	000	PILLAGE	1 3 0	'PILLAGE'
3346	000	HAVE1	1 3 0	'HAVE1'	000	PLACED	1 2 0	'PLACED'
3347	000	HER	A 2 0	'HER'	000	PLACEDATDISPOF	1 3 0	'PLACEDATDISPOF'
3348	000	HIDDEN	A 2 0	'HIDDEN'	000	PLAY	1 3 0	'PLAY'
3349	000	HIDE	A 2 0	'HIDE'	000	PLUCK	1 3 0	'PLUCK'
3350	000	HIS	A 2 0	'HIS'	000	PLUCKOUT	1 3 0	'PLUCKOUT'
3351	000	HORRIBLY	A 6 0	'HORRIBLY'	000	POS	1 5 0	'POS'
3352	000	IMPRISH	1 3 0	'IMPRISH'	000	PREPARED	A 2 0	'PREPARED'
3353	000	IMPRISONED	1 3 0	'IMPRISONED'	000	PREPARE	A 2 0	'PREPARE'
3354	000	IN	1 4 0	'IN'	000	PREPAREDFOR	1 2 0	'PREPAREDFOR'
3355	000	INJURE	1 3 0	'INJURE'	000	PREPARED	1 2 0	'PREPARED'
3356	000	INTO	1 4 0	'INTO'	000	PRODUCED	1 3 0	'PRODUCED'
3357	000	INTOLEAVING	1 4 0	'INTOLEAVING'	000	PROPOSE	A 2 0	'PROPOSE'
3358	000	IS	1 3 0	'IS'	000	PRUSADE	A 2 0	'PRUSADE'
3359	000	ISCHILD	1 3 0	'ISCHILD'	000	PULL	1 3 0	'PULL'
3360	000	JUMP	A 3 0	'JUMP'	000	PULLOFF	1 3 0	'PULLOFF'
3361	000	KILL	A 3 0	'KILL'	000	PURSU	1 3 0	'PURSU'
3362	000	KILL1	A 3 0	'KILL1'	000	PURSU	1 3 0	'PURSU'
3363	000	LEAVE	A 3 0	'LEAVE'	000	RAND	1 8 0	'RAND'
3364	000	LEAVEL	A 3 0	'LEAVEL'	000	RAND1	A 8 0	'RAND1'
3365	000	LED	1 2 0	'LED'	000	RECONCIL	1 3 0	'RECONCIL'
3366	000	LEDBY	1 2 0	'LEDBY'	000	REFUSE	A 3 0	'REFUSE'
3367	000	LISTEN	A 3 0	'LISTEN'	000	REPEL	A 3 0	'REPEL'
3368	000	LIVE	1 3 0	'LIVE'	000	REPLACED	A 2 0	'REPLACED'
3369	000	LIVEIN	1 3 0	'LIVEIN'	000	REPLACE	1 3 0	'REPLACE'
3370	000	HARRY	A 3 0	'HARRY'	000	REQUEST	1 3 0	'REQUEST'
3371	000	MEET	1 3 0	'MEET'	000	RESPOND	A 3 0	'RESPOND'
3372	000	MIRACULOUS	A 2 0	'MIRACULOUS'	000	RETURN	1 3 0	'RETURN'
3373	000	MURDER	1 3 0	'MURDER'	000	RNULL	1 7 0	'RNULL'
3374	000	MY	A 2 0	'MY'	000	ROASTING	A 3 0	'ROASTING'
3375	000	NEED	1 3 0	'NEED'	000	RUDELY	A 6 1	'RUDELY'
3376	000	NOROTO	1 3 0	'NOROTO'	000	SAME	A 2 0	'SAME'
3377	000	NOLEAVE	1 3 0	'NOLEAVE'	000	SAY	A 3 0	'SAY'
3378	000	NOT1	A 6 1	'NOT1'	000	SAY2	1 3 5	'SAY2'
3379	000	OBTAIN	1 3 0	'OBTAIN'	000	SEARCHI	A 3 0	'SEARCHI'
3380	000	OBTAINED	A 2 0	'OBTAINED'	000	SEARCHFOR	1 3 0	'SEARCHFOR'
3381	000	OF	1 4 0	'OF'	000	SECRETLY	A 6 0	'SECRETLY'
3382	000	OFF	A 4 0	'OFF'	000	SEIZED	A 2 0	'SEIZED'
3383	000	OFFER	1 3 0	'OFFER'	000	SEIZEDBY	1 2 0	'SEIZEDBY'
3384	000	OFFERED	1 2 0	'OFFERED'	000	SEIZE	1 3 0	'SEIZE'
3385	000	OFFEREDTO	1 2 0	'OFFEREDTO'	000	SEND	1 3 0	'SEND'
						SHOW	1 3 0	'SHOW'

000	SHOWN	1 2 0	'SHOW'	1	000500	000	WITH	1 4 0	'WITH'
000	SHOWTHEREBY	1 3 0	'	1	000501	000	WITHOUT	1 4 0	'WITHOUT'
000	SHOWTO	1 3 0	'	1	000502	000	WITHOUT	1 4 0	'WITHOUT'
000	SIT	1 3 0	'SIT'	1	000503	000	WORK	1 4 0	'WORK'
000	SNEAK	1 3 0	'SNEAK'	1	000504	000	WOUNDED	1 4 0	'WOUNDED'
000	SNEAKINTO	1 3 0	'SNEAK'	1	000505	000	YELL	1 4 0	'YELL'
000	SOLD	1 3 0	'SELL'	1	000506	000	YOUNG	1 4 0	'YOUNG'
000	SOLDTO	1 3 0	'SELL'	1	000507	000	YOUNGER	1 4 0	'YOUNGER'
000	SPEND	1 3 0	'SPEND'	1	000508	000	YOUNGEST	1 4 0	'YOUNGEST'
000	START	1 3 0	'START'	1	000509	000	YOUR	1 4 0	'YOUR'
000	STAY	1 3 0	'STAY'	1	000510	000	'		
000	SUDDENLY	1 3 0	'SUDDEN'	1			'		
000	SUNG	1 3 0	'SING'	1			'		
000	SURPRISE	1 3 0	'SURPRISE'	1			'		
000	SWEET	1 3 0	'SWEET'	1			'		
000	SWEETOLD	1 3 0	'SWEET'	1			'		
000	TAKEAWAY	1 3 0	'TAKE'	1			'		
000	TAKE	1 3 0	'TAKE'	1			'		
000	TEMPY	1 3 0	'TEMPY'	1			'		
000	THIRD	1 3 0	'THIRD'	1			'		
000	THREAT	1 3 0	'THREATEN'	1			'		
000	THREATEN	1 3 0	'THREATEN'	1			'		
000	THREATENED	1 3 0	'THREATEN'	1			'		
000	THREATENMARRY	1 3 0	'THREATEN'	1			'		
000	THREE	1 3 0	'THREE'	1			'		
000	THROUGH	1 4 0	'THROUGH'	1			'		
000	TO	1 4 2	'TO'	1			'		
000	TOIL	1 4 2	'TOIL'	1			'		
000	TORMENT	1 3 0	'TORMENT'	1			'		
000	TORMENT	1 3 0	'TORMENT'	1			'		
000	TOWARD	1 4 0	'TOWARD'	1			'		
000	TRADE	1 3 0	'TRADE'	1			'		
000	TRAVEL	1 3 0	'TRAVEL'	1			'		
000	TRAVEL	1 3 0	'TRAVEL'	1			'		
000	TRAVELBY	1 3 0	'TRAVEL'	1			'		
000	TRAVELON	1 3 0	'TRAVEL'	1			'		
000	TRAVELTO	1 3 0	'TRAVEL'	1			'		
000	TRICKY	1 3 0	'TRICK'	1			'		
000	TROUNCED	1 2 0	'TROUNCED'	1			'		
000	TRY	1 3 0	'TRY'	1			'		
000	TRY	1 3 0	'TRY'	1			'		
000	TWICE	1 2 0	'TWICE'	1			'		
000	UNPROTECTED	1 2 0	'UNPROTECTED'	1			'		
000	USE	1 3 0	'USE'	1			'		
000	USING	1 3 0	'USE'	1			'		
000	VISIT	1 3 0	'VISIT'	1			'		
000	WALK	1 3 0	'WALK'	1			'		
000	WALK	1 3 0	'WALK'	1			'		
000	WALKSIN	1 3 0	'WALK'	1			'		
000	WALKINTO	1 3 0	'WALK'	1			'		
000	WANDERING	1 2 0	'WANDER'	1			'		
000	WHERE	1 4 0	'WHERE'	1			'		
000	WHEREIS	1 4 0	'WHERE'	1			'		
000	WHICH	1 4 0	'WHICH'	1			'		
000	WHILE	1 4 0	'WHILE'	1			'		
000	WHILE	1 4 0	'WHILE'	1			'		
000	WHO	1 4 0	'WHO'	1			'		
000	WHOON	1 3 0	'WHO'	1			'		
000	WIN	1 3 0	'WIN'	1			'		

10.2 Classes

000	000557	000	F0FDIF9 = F1 F2 I
000	000558	000	F0FDIF10 = F8 I
000	000559	000	GAMFORM = I
000	000560	000	GAMFORMS = F1 F2 I
000	000561	000	GFORM = I
000	000562	000	GHELPER = I
000	000563	000	GHELPERSF21 = HORSE WOLF SHIP I
000	000564	000	GHELPERSF31 = BALLOFTHREAD FOX I
000	000565	000	GHELPERSF41 = HEDGEHOG BEGGAR I
000	000566	000	GHELPERSF51 = STAIRWAY TUNNEL LEATHERSTRAPS I
000	000567	000	GHELPERSF61 = F1 F2 I
000	000568	000	GHFORMS(MAGCARPET) = F1 I
000	000569	000	GHFORMS(MAGBIRD) = F1 I
000	000570	000	GHFORMS(FLIGHT) = F1 I
000	000571	000	GHFORMS(SUPERSEED) = F2 I
000	000572	000	GHFORMS = F2 F3 F4 F5 I
000	000573	000	HERO = I
000	000574	000	HFORM = I
000	000575	000	HFORMS = F1 F2 F3 I
000	000576	000	MTEMP = I
000	000577	000	IFORM = I
000	000578	000	KFORM = I
000	000579	000	KFORMS = F1 F2 F3 F4 F5 F6 F7 F9 I
000	000580	000	KFORM = I
000	000581	000	KFORMS(F1) = F1 F4 F10 F11 I
000	000582	000	KFORMS(F2) = F1 F4 F11 I
000	000583	000	KFORMS(F3) = F7 F4 I
000	000584	000	KFORMS(F4) = F4 F7 I
000	000585	000	KFORMS(F5) = F4 F7 I
000	000586	000	KFORMS(F6) = F1 F4 F11 I
000	000587	000	KFORMS(F7) = F4 I
000	000588	000	KFORMS(F8) = F1 F4 F10 F11 I
000	000589	000	KFORMS(F9) = F4 I
000	000590	000	KFORMS(F10) = F4 I
000	000591	000	KFORMS(F11) = F8 I
000	000592	000	KFORMS(F12) = F1 F4 F11 I
000	000593	000	KFORMS(F13) = F4 F7 I
000	000594	000	KFORMS(F14) = F9 I
000	000595	000	KFORMS(F15) = F1 F4 F5 F10 F11 I
000	000596	000	KFORMS(F16) = F4 I
000	000597	000	KFORMS(F17) = F4 I
000	000598	000	KFORMS(F18) = F4 I
000	000599	000	KFORMS(F19) = F4 I
000	000600	000	2 KILLMETH = I
000	000601	000	2 KILLMETS = ROASTING BEHEADING DRINKING FEEDINGSTRAPS I
000	000602	000	2 KRELIF11 = SEIZED I
000	000603	000	2 KRELIF31 = ENTICED I
000	000604	000	2 KRELIF41 = OBTAINED I
000	000605	000	2 KRELIF71 = CAUGHT I
000	000606	000	2 KRELIF81 = BROKEN I
000	000607	000	2 KRELIF91 = FREED I
000	000608	000	KSFORMS(F1) = F3 F5 I
000	000609	000	KSFORMS(F3) = F5 I
000	000610	000	KSFORMS(F4) = F5 I
000	000611	000	KSFORMS(F5) = F6 I
000	000612	000	LASTNAMS = BERENNIKOVYS PARANOVYS POPOVICHNS MOREVNAS BORISIEVICHNS I
000	000613	000	LOCATIONS = CERTAINKINGDOM DISTANTPROVINCE I

000	MAGNIM	=	MAGCOW	MAGHEN	MAGSTEED	MAGBIRD	1	000671	RSHELPER(F1)	=	GOOSE	FALCONI				
000	MAGCHANGS	=	MAGFLINT	MAGRING	1			000672	RSHELPER(F2)	=	MOUNTAIN	LAKE FORESTI				
000	MAGFOOD	=	MAGPOTION	MAGWATER	1			000673	RSHELPER(F3)	=	ROCK	WELL DIPPERI				
000	MAGHELPI	=	1					000674	RSHELPER(F4)	=	RIVER	STONE ROCKI				
000	MAGHELPA	=	1					000675	RSHELPER(F5)	=	BLACKSMITHS					
000	MAGHELPIB	=	1					000676	RSHELPER(F6)	=	HORSE	FALCON SEEDI				
000	MAGHELPIA	=	1					000677	RSHELPER(F7)	=	TEMPTATIONI					
000	MAGKILLS	=	MAGSWORD	MAGROW	1			000678	RSHELPER(F8)	=	EATENI					
000	MAGLIOS	=	MAGHEN	MAGROX	1			000679	RSHELPER(F9)	=	KILLEDI					
000	MAGGJUS	=	MAGEGG	MAGBOX	MAGWORDS	MAGKEY	1	000680	RSHELPER(F10)	=	OTHERTREEI					
000	MAGGUAL	=	FLIGHT	SUPERSPEED	SUPSTREN	1		000681	2	RSRELI(F1)	=	FLYI				
000	MAGQUALS	=	SUPSTREN	SUPERSPEED	FLIGHT	TRANSFORMABILITY	1	000682	2	RSRELI(F2)	=	BLOCKI				
000	MAGTRANS	=	MAGSTEEN	MAGCARPET	MAGBIRD	1		000683	000	2	RSRELI(F3)	=	CHANGEI			
000	MAGRESCS	=	MAGTRANS	1				000684	000	2	RSRELI(F4)	=	HIDEI			
000	MALE	=	IVAN	BORIS	ALIOSHA	NICHOLAS	MARCO	FOMA	ERENA	EHELVA	VLADIMIR					
000	MALECS	=	MALE	1				000685	000	2	RSRELI(F5)	=	BEHIDDERI			
000	MOTHER	=	1					000686	000	2	RSRELI(F6)	=	CHANGEI			
000	MOTHER	=	1					000687	000	2	RSRELI(F7)	=	AVOIDI			
000	MOTHER	=	1					000688	000	2	RSRELI(F8)	=	AVOIDI			
000	MOTHER	=	1					000689	000	2	RSRELI(F9)	=	AVOIDI			
000	MOTHER	=	1					000690	000	2	RSRELI(F10)	=	JUMPI			
000	MOTHER	=	1					000691	000	SAFORM	=	1				
000	MOTHER	=	1					000692	000	SAFORMS	=	F1 F2 F3 F4 F5	1			
000	MOTHER	=	1					000693	000	SABDJ(F1)	=	1				
000	MOTHER	=	1					000694	000	SABDJ(F2)	=	MAGHEN	MAGCOW	MAGBOX	1	
000	MOTHER	=	1					000695	000	SABDJ(F3)	=	FIREBIRD	GO	DUCK	1	
000	MOTHER	=	1					000696	000	SABDJ(F4)	=	EGG	DEATH	1		
000	MOTHER	=	1					000697	000	SABDJ(F5)	=	WEALTH	1			
000	MOTHER	=	1					000698	000	SEKER	=	1				
000	MOTHER	=	1					000699	000	SLOC	=	1				
000	MOTHER	=	1					000700	000	SORJECT	=	1				
000	MOTHER	=	1					000701	000	SONI	=	1				
000	MOTHER	=	1					000702	000	SONZ	=	1				
000	MOTHER	=	1					000703	000	SON3	=	1				
000	MOTHER	=	1					000704	000	STORYLOC	=	1				
000	MOTHER	=	1					000705	000	THELP	=	F3 F6	1			
000	MOTHER	=	1					000706	000	THEAFMS	=	F1 F2	1			
000	MOTHER	=	1					000707	000	THEAFORM	=	1				
000	MOTHER	=	1					000708	000	TRICK	=	1				
000	MOTHER	=	1					000709	000	TRICKS(F1)	=	MAGRING	STEAMRATH	SWIM	1	
000	MOTHER	=	1					000710	000	TRICKS(F2)	=	SLEEPINGPOTION	MAGICPIN	1		
000	MOTHER	=	1					000711	000	VICTIM	=	1				
000	MOTHER	=	1					000712	000	VILLAIN	=	1				
000	MOTHER	=	1					000713	000	VILPOSES	=	YOURDEATH	YOURWISDOM	1		
000	MOTHER	=	1					000714	000	VILSA	=	F3 F5 F14 F17 F18 F19 F23	1			
000	MOTHER	=	1					000715	000	VLOC	=	1				
000	MOTHER	=	1					000716	000	VOBJECT	=	1				
000	MOTHER	=	1					000717	000	VOBTH(F2)	=	MAGBJS	MAGANIM	1		
000	MOTHER	=	1					000718	000	VOBTH(F3)	=	CROPS	1			
000	MOTHER	=	1					000719	000	VOBTH(F4)	=	DAYLIGHT	1			
000	MOTHER	=	1					000720	000	VOBTH(F5)	=	CATTLE	ANIMALS	SHEEP	1	
000	MOTHER	=	1					000721	000	VOBTH(F6)	=	HEART	ARM	LEG	EYE	1
000	MOTHER	=	1					000722	000	VPOSLOC	=	MAGEGG	1			
000	MOTHER	=	1					000723	000	VTEMP	=	1				
000	MOTHER	=	1					000724	000	YOUNGEN	=	1				
000	MOTHER	=	1					000725	000	3	ARELI(F1)	=	ABDUCTI			
000	MOTHER	=	1					000726	000	3	ARELI(F2)	=	SEIZI			
000	MOTHER	=	1					000727	000	3	ARELI(F3)	=	PILLAGEI			



000	3	AREL(F4)	SEIZEI	000785	000	3	PREL2(F2)	FORI
000	3	AREL(F5)	PLUNDERI	000786	000	3	PREL2(F3)	AFTERI
000	3	AREL(F6)	INJUREI	000787	000	3	PREL2(F5)	DEVOURI
000	3	AREL(F7)	CAUSEDISPF I	000788	000	3	PREL2(F6)	KILLI
000	3	AREL(F8)	DEMANDI	000789	000	3	RSREL2(F1)	ONI
000	3	AREL(F9)	EXPELLI	000790	000	3	RSREL2(F2)	WITHE
000	3	AREL(F10)	ORDER I	000791	000	3	RSREL2(F3)	INTOI
000	3	AREL(F11)	CASTSPELLON I	000792	000	3	RSREL2(F4)	INI
000	3	AREL(F12)	REPLACEI	000793	000	3	RSREL2(F5)	RYI
000	3	AREL(F13)	ORDERMURDEROF I	000794	000	3	RSREL2(F6)	INTOI
000	3	AREL(F14)	MURDERI	000795	000	3	RSREL2(F7)	ANULLI
000	3	AREL(F15)	IMPRISHI	000796	000	3	RSREL2(F8)	ISI
000	3	AREL(F16)	THREATONHARRY I	000797	000	3	RSREL2(F9)	ISI
000	3	AREL(F17)	THREATIAT I	000798	000	3	RSREL2(F10)	TOI
000	3	AREL(F18)	TORMENTI	000799	000	3	CHARACTERS	PEOPLE I
000	3	AREL(F19)	DECLARENAPON I					
000	3	AREL2(F10)	INTOI					
000	3	AREL2(F18)	ATI					
000	3	ARRIVALS	FLYINTO APPEARIN SNEAKINTO WALKINTO I					
000	2	BETAREL(F1)	LEAVE I					
000	2	BETAREL(F2)	DIEI					
000	2	BETAREL(F3)	LEAVE I					
000	3	DELTADEL	I					
000	3	DREL(F1)	PROPOSE I					
000	3	DREL(F3)	ASKI I					
000	3	FREL(F1)	SIVENTO					
000	3	FREL(F2)	SHOWINTO					
000	3	FREL(F3)	PREPAREDFOR					
000	3	FREL(F4)	SOLOTO					
000	3	FREL(F5)	FOUNDRY					
000	3	FREL(F6)	APPEARTO					
000	3	FREL(F7)	CONSUMEDBY					
000	3	FREL(F8)	SEIZEDBY					
000	3	FREL(F9)	PLACEDATOPF I					
000	3	GAMCO(F1)	NOSOTO I					
000	3	GAMCO(F2)	GOI					
000	3	GAMLEV(F1)	NOLEAVE I					
000	3	GAMLEV(F2)	LEAVCI I					
000	3	GREL(F1)	TRAVELBY I					
000	3	GREL(F2)	TRAVELON I					
000	3	GREL(F3)	LEDBYI					
000	3	GREL(F4)	DIRECTEDBYI					
000	3	GREL(F5)	I					
000	3	GREL(F6)	FOLLOWI					
000	3	GREL2(TURNEL)	CRAWLTHROUGH I					
000	3	GREL2(STAIRWAY)	CLIMBI					
000	3	GREL2(LEATHERSTRAPS)	DESCENDOR YUSINGI					
000	3	INJUR(ARM)	PULLOFF I					
000	3	INJUR(ICE)	PLUCKOUT I					
000	3	INJUR(HEART)	CUTOFF I					
000	3	INJUR(LEG)	CUTOFF I					
000	2	PREL(F1)	FLYI					
000	2	PREL(F2)	YELLI					
000	2	PREL(F3)	CHASEI					
000	2	PREL(F5)	ATTEMPTI					
000	2	PREL(F6)	ATTEMPTI					
000	3	PREL2(F1)	AFTERI					



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000 000954 *FUNCTIONS) IS SKIPPED, AND THE FEW DRAMATIS PERSONAE NEEDED ARE
000 000957 *PICKED DIRECTLY IN FUNCTION SHALL A*
000 000958 000 *
000 000959 000 *
000 000960 *RULE ISIT I (FMSA)
000 000961 *MOVE PICK(AFORMS) TO AFORMI
000 000962 000 *
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*GROUP MASTER I (H/OFF)
*DISABLE MASTER I

*THE INITIAL SITUATION -- FUNCTION ALPHA (P. 25-26)
*GROUP_ALPHA IS CALLED TO CONSTRUCT THE FAMILY, WHICH IS THEN
*DESCRIBED.

*CALL ALPHA;
*REMOVE FAMILY FROM CHARACTERS I
*FAMNAM LIVEIN STORYLOC I
*NUM(FAMILY) EQ I I
*TPSA I
*PLACE IS STORYLOC I
*FAMILY ALONE;
*MOVE FI TO SAFORMI
*NUM (FAMILY) EQ I I
*NFATHER IS FATHER I
*NUM (FATHER) EQ I I
*NMOTHER IS MOTHER I
*NUM (MOTHER) EQ I I
*TIISIT I
*NFAMILY CHILDLESS I
*NUM (YOUNGER) EQ O I
*TIISIT I
*INSERT (SONI IS CHILD)(CHILD ONLY) I I
*(NUM (YOUNGER) EQ I AND (NUM (SONI) EQ I I)
*TIISIT I
*INSERT (DAUGH) IS CHILD(CHILD ONLY) I I
*(NUM (YOUNGER) EQ I AND (NUM (DAUGH) EQ I I)
*(NUM (SONI) EQ I AND (NUM (SON2) EQ O I)
*(DAUGH)
*INSERT (SON IS SON)(SON ONLY) I I
*(DAUGH)
*(SON) EQ I I
*(DAUGH)
*INSERT (SON IS SON)(SON YOUNGER) I I
*(SON2) EQ I I
*(SON IS SON)(SON YOUNGEST) I I
*(SON3) EQ I I
*(DAUGH) IS DAUGHTER)(DAUGHTER ONLY) I I
*(DAUGH) EQ I AND (NUM (DAUGH2) EQ O I)
*(DAUGH) IS DAUGHTER)(DAUGHTER OLDEST) I I
*(DAUGH) EQ I I
*(DAUGH) IS DAUGHTER)(DAUGHTER YOUNGER) I I
*(DAUGH2) EQ I I
*(DAUGHTER IS DAUGH)(DAUGHTER YOUNGEST) I I
*(DAUGH3) EQ I I

*PICK FORM OF SEED FUNCTION I A (VILLAIN) OR SHALL A (LACK)
*THIS FORM WILL DETERMINE MUCH OF THE REST OF THE TALE, IF THE
*TALE BEGINS WITH A LACK, THEN THE PREPARATORY PART (FIRST SEVEN

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000 -10.07 I NUM(SON1) EQ 01
000 *MOVE PICK(MALECS) TO SON3,
000 *REMOVE SON3 FROM MALECS,
000
000 *ADD SON3 TO FAMILY,
000 *ADD SON3 TO YOUNGENI
000 NUM(SON2) EQ 01
000 *MOVE PICK(FEMALECS) TO DAUGH2,
000 *REMOVE DAUGH2 FROM FEMALECS,
000 *ADD DAUGH2 TO FAMILY,
000
000 -10.07 I NUM(DAUGH1) EQ 01
000 *MOVE PICK(FEMALECS) TO DAUGH3,
000 *REMOVE DAUGH3 FROM FEMALECS,
000 *ADD DAUGH3 TO FAMILY,
000 *ADD DAUGH3 TO YOUNGENI
000 NUM(DAUGH2) EQ 01
000
000 *GROUP BETA -- ABSENTATION,
000 *ONE GENERAL RULE IS USED FOR THE THREE POSSIBLE FORMS, A MOTIVE
000 *FOR LEAVING IS RANDOMLY PICKED.
000
000 *GROUP BETA I 10M/OFFI
000 *INSERT (ABSENTOR BETAREL(BETAFORM))
000 * (BETAREL(BETAFORM) PICK(MOTIVE(BETAFORM)))
000
000 *GROUP GAMMA -- INTERDICTION,
000 *THE INTERDICTION HAS BEEN PREVIOUSLY CONSTRUCTED IN THE MASTER GROUP.
000 *GROUP GAMMA I 10M/OFFI
000 *ABSENTOR SAY2 INTERDICTI
000
000 *GROUP DELTA -- VIOLATION.
000
000 *GROUP DELTA I 10M/OFFI
000 *HERO DELTAREL VLOC1
000
000 *GROUP VILLARIY -- ARRIVAL OF THE VILLAIN,
000 *THE FORM OF ARRIVAL IS RANDOMLY PICKED.
000
000 *GROUP VILLARIY I 10M/OFFI
000 *VILLAIN PICK(ARRIVAL) STORYLOC1
000
000 *GROUP EPSILON -- RECONNAISSANCE,

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```

000 *THE TWO FORMS REQUIRE SEPARATE RULES.
000
000 *GROUP EPSILON I 10M/OFFI
000 *INSERT (VILLAIN ASKI BETRAYER)(ASKI WHEREIS VORJECTII
000 * (VICTIM ASKI VILLAIN)(ASKI WHEREIS OBJECT))
000
000 *GROUP VILDISG -- VILLAIN DISGUISES HIMSELF,
000 *THE DISGUISE IS RANDOMLY PICKED.
000
000 *GROUP VILDISG I 10M/OFFI
000 *INSERT (VILLAIN DISGUIS PERRON(VILLAIN))
000 * (DISGUIS AS PICK(DISGUISES))
000
000 *GROUP PSI -- DELIVERY,
000 *THE TWO FORMS REQUIRE SEPARATE RULES.
000
000 *GROUP PSI I 10M/OFFI
000 *INSERT (BETRAYER SAY2 THAT)(VORJECT IN VLOC1)
000 * (VILLAIN SAY2 THAT)(GANS(OBJECT) IN SLOC1)
000
000 *GROUP NU -- TRICKERY,
000 *A TRICK IS RANDOMLY PICKED: THE TWO FORMS REQUIRE SEPARATE RULES.
000
000 *GROUP NU I 10M/OFFI
000 *MOVE_PICK (TRICKS(INFORM)) TO TRICKI
000 *INSERT (VILLAIN ATTEMPT)(ATTEMPT PERSUADE)
000 * (PERSUADE TAKE TRICK)(PERSUADE NULL HERO))
000
000 *GROUP THETA -- COMPLICITY,
000 *THE TWO FORMS REQUIRE SEPARATE RULES.
000
000 *GROUP THETA I 10M/OFFI
000 *INSERT (HERO PERSUADE)(PERSUADE TAKE TRICKI)
000 * (HERO FALLASLEEP)
000
000 *GROUP THETA I 10M/OFFI
000 *INSERT (VILLAIN USE TRICKI)(USE ON HERO))

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000 -10,10 I (D1STYPE EQL MALL) OR (D1STYPE EQL MAGCHANGES)I
000 T(SENDRGROUP)
000 *MOVE FA TO FORM
000 *INSERT (HERO TRICKY DISPUTANTS)
000 (TRICKY INTOLEAVING D1STYPE)
000 (D1STYPE UNPROTECTED)I
000
000 SRULE EUMP I T(SENDRGROUP)
000 *INSERT (HERO KILLI DONOR)(KILLI BY)I
000 (BY) KILLMETH)I
000
000 -10,10 I (DFORM EQL F8)I
000 SRULE I T(SENDRGROUP)
000 HERO DEFEAT DONOR
000 (DFORM EQL F9)I
000
000 *THE MAGICAL AGENT USED TO KILL THE DONOR HAS ALREADY BEEN CHECKED
000 *FOR PROPER TYPE.
000
000 SRULE I *INSERT (HERO AGREE)(AGREE TO EXCHANGE),
000 *INSERT (HERO USE MAGHELPI)(USE KILLI DONOR)I
000
000 SENDRGROUP I
000
000 *GROUP F == RECEIPT.
000 *THERE IS ONE BASIC RULE SUBSCRIBED ON THE FORM OF F.
000
000 *GROUP F I 10M/OFFI
000
000 *TEST FOR THREE AGENTS:
000
000 *SWITCH I T(THREFI)
000 NUM(MAGHELPI) EQ 1 AND NUM(MAGHELPI) EQ 0I
000
000 *BASIC RULE FOR F.
000
000 SRULE I MAGHELPI FREL(IFFORM) HEROI
000
000 *ADDITIONAL RULE FOR FORM J.
000
000 SRULE I HERO TAKE MAGHELPI
000 (FFORM EQL F3)I
000
000 *TEST FOR THREE AGENTS COMING FROM ANOTHER AGENT.
000
000 *SWITCH I T(CHANG3)I
000 -10,10 I NUM(MAGHELPI) EQ 1I
000
000 *ADDITIONAL RULE FOR FORM SEVEN.
000
000 SRULE I T(SENDRGROUP)
000 HERO OBTAIN MAGHELPII
000 (F7 EQL FFORM)I
000
000 *ADDITIONAL RULE FOR ONE AGENT COMING FROM ANOTHER AGENT.
000
000 SRULE I (SENDRGROUP)
000 *INSERT (MAGHELPI COME)(COME FROM MAGHELPI)I
000
000 10,10 I (MAGHELPI EQ MAGCHANGES)I
000 *THREE MAGICAL AGENTS ACQUIRED.
000
000 SRULE THREE I *INSERT (MAGHELPI RAND MAGHELPI)
000 (MAGHELPI RAND MAGHELPI)(MAGHELPI FREL(IFFORM) HERO)I
000
000 SRULE I (SENDRGROUP)
000 HERO TAKE THEYI
000 (FFORM EQL F2)I
000
000 -10,10 I
000 *THREE AGENTS ACQUIRED BY THEIR COMING FROM ANOTHER AGENT.
000
000 SRULE CHANG3 I *INSERT (MAGHELPI RAND MAGHELPI)(MAGHELPI RAND MAGHELPI)
000 (MAGHELPI COME)(COME FROM MAGHELPI)I
000
000 SENDRGROUP I
000
000 *GROUP G == TRANSFERENCE.
000 *ONE RULE HANDLES ALL FORMS OF G.
000
000 *GROUP G I 10M/OFFI
000 SRULE I *INSERT (HERO TRAVEL) (TRAVEL TO LOCATION)
000 (LOCATION OF SUBJECT)(SUBJECT IN KINGDOM)
000 (KINGDOM OTHER),
000 HERO GREL(IFFORM) GHELPERI
000
000 SENDRGROUP I
000
000 *GROUP H == STRUGGLE.
000 *EACH OF THE THREE FORMS REQUIRES A SEPARATE RULE.
000
000 *GROUP H I 10M/OFFI
000 SRULE I T(SENDRGROUP)
000 *INSERT (THEY FIGHT)(FIGHT IN FIELD)(FIELD OPEN)I
000 (FORM EQL F1)I
000
000 -10,10 I
000 SRULE I T(SENDRGROUP)
000 *INSERT (THEY ENGAGE)(ENGAGE IN COMPETITION)I
000 (FORM EQL F2)I
000
000 SRULE I (FFORM EQL F2)I
000 THEY PLAY CARDSI
000
000 SENDRGROUP I
000
000 *GROUP I == VICTORY.
000 *EACH FORM REQUIRES A DIFFERENT (SET OF) RULE(S).
000
000 *GROUP I I 10M/OFFI
000 SRULE I T(SENDRGROUP)
000 *SWITCH I T(SKIP)I
000 -10,10 I (FORM EQL F1)I
000
000 *FOR FORM ONE, IF APPROPRIATE, A MAGICAL AGENT IS USED.
000
000 SRULE I T(SENDRGROUP)
000 *INSERT (WILLAIN DEFEATED)(DEFEATED ONLY)I
000 (MAGHELPI EQL MOKILLS)I
000

```





10.4 Surface Structure//Semantics Rules

GRAMMAR	PType	PHAP	PSUB	PTRANS/PNFLAG
1 S	VP	0	RV	0
2 S	AP	1 2 0	0 0 0	2 0
3 S	CONJ	0	RAND 0	0
4 S1	VP	1 0 2	0 0 0	1 0
5 AP	MOD	2 0 0	0 0 0	3 0
6 THATZ	S	1 0 0	1 0 0	2 0
7 NP	NARC2	0	0 0 0	1 0
8 NP	ART	2 0 0	0 0 0	2 0
9 NP	PNP	0	0 0 0	1 0
10 NP	NPP	2 0 1	0 0 0	1 0
11 NARC2	CONJ	1 0 2	0 0 0	1 0
12 NPP	NARC	1 0 0	0 0 0	1 0
13 NPP	N	1 0 0	0 0 0	1 0
14 NPP	NPP	1 2 0	0 0 0	2 0
15 NPP	VP	0	RV	2 0
16 NPP	ADJ	1 2 0	0 1 0	1 0
17 NPP	MOD	2 1 0	0 0 0	1 0
18 NPC	AND1	1 0 0	0 0 0	1 0
19 NPR	NP	1 0 0	0 0 0	1 0
20 NPR	VP	1 2 0	0 0 0	6 0
21 NPR	AP	1 2 0	0 0 0	6 0
22 NPR	CONJ	1 0 2	0 0 0	1 0
23 PNP	POS	1 0 0	0 0 0	1 0
24 VP	VP	1 0 0	0 0 0	1 0
25 VP	VP	1 2 0	0 4 0	4 0
26 VP	VP	1 2 0	3 0 0	3 0
27 VP	VP	1 2 0	1 0 0	4 0
28 VP	VP2	1 2 0	0 0 0	1 0
29 VP	VP	1 0 0	6 2 0	1 1
30 VP	PRJ	1 0 0	5 2 0	1 1
31 VP	PR2	1 0 0	0 2 0	1 1
32 VP	THAT2	1 2 0	2 1 0	5 0
33 VP	VP	1 2 0	0 1 0	1 0
34 VP	NP	1 2 0	0 0 0	1 0
35 VP	MOD	1 2 0	0 0 0	1 0
36 VP	VP	1 2 0	0 0 0	1 0
37 VP	ADV	1 2 0	0 1 0	1 0
38 VP	ADV	2 1 0	0 0 0	1 0
39 VP	CONJ	1 2 0	0 0 0	2 0
40 VP	NP	1 0 2	0 0 0	1 0
41 VP2	PREP	1 0 0	0 0 0	1 0
42 VP2	VP	2 0 0	0 0 0	3 0
43 VP2	NP	1 0 0	0 2 0	1 1
44 VP2	PREP	1 2 0	0 0 0	1 0
45 VP2	PREP	1 2 0	0 0 0	1 0
46 CONJ	AND	2 0 0	0 0 0	1 0
47 CONJ	AND	1 2 0	0 0 0	2 0
48 CONJ1	AND1	2 0 0	0 0 0	1 0
49 PR1	BY	0	RV	4 0
50 PR2	THAT	2 0 0	0 0 0	1 0
51 PR3	NPC	1 2 0	0 0 0	3 0
52 MOD	PREP	1 0 0	0 0 0	1 0
53 MOD	ADJ	1 0 0	0 0 0	1 0
54 MOD	VP	0 0 0	0 0 0	1 1
55 MOD	MOD	1 2 0	2 0 0	3 0
56 MOD	MOD	1 2 0	1 0 0	1 0
57 MOD	MOD	2 0 0	0 0 0	4 0
58 MOD	MOD	1 2 0	0 0 0	1 0
59 MOD	ADJ	1 2 0	0 1 0	1 0
60 MOD	MOD	1 2 0	0 0 0	1 0
61 MOD	ADV	2 1 0	0 0 0	1 0
62 MOD	MOD	1 2 0	0 0 0	1 0
63 MOD	MOD	1 2 0	0 0 0	1 0



10.5 Forty-eight Computer Generated  
Russian Folktales

3

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 WISDOM.  
THE BEAR SAYS THAT MY WISDOM IS IN A MAGIC EGG.  
THE BEAR CUTS OFF BALDAK'S LEG.  
BALDAK CALLS FOR HELP FROM ALIOSHA.  
ALIOSHA DECIDES TO SEARCH FOR THE LEG.  
ALIOSHA LEAVES ON A SEARCH.

ALIOSHA MEETS A WITCH ALONG THE WAY.  
THE WITCH ATTEMPTS TO KILL ALIOSHA BY DROWNING.  
ALIOSHA KILLS THE WITCH BY DROWNING.  
A MAGIC BOW, A MAGIC CARPET AND A MAGIC BIRD ARE GIVEN TO ALIOSHA.  
ALIOSHA TRAVELS TO THE LOCATION OF THE LEG IN THE OTHER KINGDOM.  
ALIOSHA TRAVELS BY THE MAGIC CARPET.  
ALIOSHA FINDS THE BEAR.  
THEY FIGHT IN AN OPEN FIELD.  
ALIOSHA IS WOUNDED.  
ALIOSHA DEFEATS THE BEAR WITH THE AID OF THE MAGIC BOW.  
THE LEG IS OBTAINED BY ALIOSHA.  
ALIOSHA STARTS BACK HOME.  
THE BEAR ATTEMPTS TO KILL ALIOSHA.  
ALIOSHA ESCAPES BY FLYING ON THE MAGIC BIRD.  
ALIOSHA RETURNS HOME.

4

THE MOREVNAS LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS BALDAK.  
THE OLDEST SON IS BORTIS.  
THE YOUNGER SON IS NICHOLAS.  
THE YOUNGEST SON IS ERELYA.  
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 EXPELLS BALDAK.  
VLADIMIR DECIDES TO SEARCH FOR BALDAK.  
VLADIMIR LEAVES ON A SEARCH.

VLADIMIR MEETS AN OLD MAN ALONG THE WAY.  
THE OLD MAN GREETS VLADIMIR.  
THE OLD MAN ASKS VLADIMIR TO ANSWER A QUESTION.  
VLADIMIR ANSWERS THE QUESTION.  
A MAGIC RING IS SHOWN TO VLADIMIR.  
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 PURSUES 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.

THE MOREVNAS LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS BALDAK.  
 THE MOTHER IS VASILISA.  
 FOMA IS THE ONLY CHILD.  
 VASILISA, BALDAK AND FOMA ARE IN THE FIELDS.  
 VASILISA SAYS BALDAK, DO NOT LEAVE THE FIELDS.  
 VASILISA LEAVES TO GO TO TRADE.  
 BALDAK LEAVES THE FIELDS.  
 A BEAR SNEAKS INTO THE DISTANT PROVINCE.  
 THE BEAR DISGUISES HIMSELF AS A BIRD.  
 THE BEAR USES A MAGIC PIN ON BALDAK.  
 BALDAK FALLS ASLEEP.  
 THE BEAR ABDUCTS FOMA.  
 THE BEAR MURDERS VASILISA.  
 BALDAK ASKS PERMISSION TO LEAVE.  
 BALDAK DECIDES TO SEARCH FOR FOMA.  
 BALDAK LEAVES ON A SEARCH.

BALDAK MEETS A COW ALONG THE WAY.  
 THE COW IS IMPRISONED.  
 THE COW ASKS TO BE FREED.  
 BALDAK FREES THE COW.  
 A MAGIC RING IS SEIZED BY BALDAK.  
 A MAGIC BIRD COMES FROM THE MAGIC RING.  
 BALDAK TRAVELS TO THE LOCATION OF FOMA IN AN OTHER KINGDOM.  
 BALDAK TRAVELS BY THE MAGIC BIRD.  
 FOMA IS FREED BY BALDAK.  
 BALDAK STARTS BACK HOME.  
 BALDAK RETURNS HOME.

THE POBOVICHES 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.  
 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 MARIHA.  
 THE YOUNGER DAUGHTER IS ELENA.  
 THE YOUNGEST DAUGHTER IS VASILISA.  
 DUNIA ALSO LIVES IN THE SAME LAND.  
 DUNIA IS OF MIRACULOUS BIRTH.  
 ELENA HAS A MAGIC HEN.  
 BABAYAGA WALKS INTO THE CERTAIN KINGDOM.  
 BABAYAGA ASKS MARCO WHERE IS THE MAGIC HEN.  
 MARCO SAYS THAT THE MAGIC HEN IS IN THE HOUSE.  
 BABAYAGA SEIZES THE MAGIC HEN.  
 BABAYAGA MURDERS ELENA.  
 ELENA CALLS FOR DUNIA.  
 ELENA ANNOUNCES THAT BABAYAGA MURDERED ELENA.  
 DUNIA DECIDES TO SEARCH FOR THE MAGIC HEN.  
 DUNIA LEAVES ON A SEARCH.

DUNIA MEETS A JUG ALONG THE WAY.  
 THE JUG IS IMPRISONED.  
 THE JUG ASKS TO BE FREED.  
 DUNIA FREES THE JUG.  
 A MAGIC BOW, A MAGIC CARPET AND THE MAGIC HEN ARE SHOWN TO DUNIA.  
 DUNIA STARTS BACK HOME.  
 BABAYAGA PURSUES DUNIA.  
 DUNIA HIDES IN A TREE.  
 BABAYAGA ATTEMPTS TO GNAW THROUGH THE TREE.  
 DUNIA ESCAPES BY JUMPING TO THE OTHER TREE.  
 DUNIA RETURNS HOME.

THE POPOVICHES LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS VLADIMIR.  
 THE OLDEST SON IS EREMA.  
 THE YOUNGER SON IS EHELYA.  
 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 GREETYS 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 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.

THE POPDYCHES LIVE IN A CERTAIN KINGDOM.  
 THE FATHER IS FOHA.  
 THE MOTHER IS MARIA.  
 THE ONLY SON IS EREHA.  
 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 FOHA TO TAKE A STEAMBATH.  
 FOHA IS PERSUADED TO TAKE A STEAMBATH.  
 FOHA FALLS ASLEEP.  
 THE WOLF CAUSES THE DISAPPEARANCE OF MARIA.  
 FOHA ASKS PERMISSION TO LEAVE.  
 FOHA DECIDES TO SEARCH FOR MARIA.  
 FOHA LEAVES ON A SEARCH.

FOHA MEETS THE FOREST KNIGHT ALONG THE WAY.  
 THE FOREST KNIGHT PROPOSES THAT FOHA WORK IN THE FOREST FOR THREE YEARS.  
 FOHA DOES NOT RESPOND.  
 THE FOREST KNIGHT ASKS AGAIN.  
 FOHA REFUSES.  
 THE FOREST KNIGHT ASKS FOR THE THIRD TIME.  
 FOHA 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 FOHA.  
 FOHA TRAVELS TO THE LOCATION OF MARIA IN THE OTHER KINGDOM.  
 FOHA TRAVELS BY THE MAGIC BIRD.  
 MARIA IS OBTAINED BY FOHA.  
 FOHA STARTS BACK HOME.  
 FOHA RETURNS HOME.

THE BERENIKOV'S LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS FOHA.  
 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.

EREHA 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.

THE BERENNIKOVY LIVE IN A DISTANT PROVINCE.  
 THE MOTHER IS VASILISA.  
 THE OLDEST SON IS MARCO.  
 THE YOUNGER SON IS EREMA.  
 THE YOUNGEST SON IS FOMA.  
 ELENA IS THE ONLY DAUGHTER.  
 EREMA NEEDS A MAGIC COW.  
 EREMA DECIDES TO SEARCH FOR THE MAGIC COW.  
 EREMA LEAVES ON A SEARCH.

EREMA MEETS A FOREST KNIGHT ALONG THE WAY.  
 THE FOREST KNIGHT 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.

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.  
 THE MOTHER IS MARIA.  
 BORTS 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.  
 BORTS 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 POW, A MAGIC CARPET AND A MAGIC STEED COME FROM THE OTHER KINGDOM.  
 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 POW.  
 MARCO STARTS BACK HOME.  
 MARCO RETURNS HOME.

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.  
 THE FATHER IS NICHOLAS.  
 THE MOTHER IS ELENA,  
 THE ONLY SON IS HARCO.  
 HARTHA 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 AMPHIBIOUS OBJECT.  
 NICHOLAS ESCAPES BY AVOIDING THE TEMPTATION.  
 NICHOLAS RETURNS HOME.

THE BERENNIKOVS LIVE IN A CERTAIN KINGDOM.  
 THE FATHER IS BORIS.  
 THE MOTHER IS MARIA.  
 THE OLDEST SON IS ALIOSHA.  
 THE YOUNGER SON IS EMELYA.  
 THE OLDEST DAUGHTER IS VASILISA.  
 THE YOUNGER DAUGHTER IS KATRINA.  
 KATRINA NEEDS A HUSBAND.  
 ALIOSHA SENDS KATRINA TO SEARCH FOR A HUSBAND.  
 KATRINA LEAVES ON A SEARCH.

KATRINA MEETS A JUG ALONG THE WAY.  
 THE JUG IS FIGHTING WITH DUNIA OVER A MAGIC BOX.  
 THE JUG ASKS KATRINA TO DIVIDE THE MAGIC BOX.  
 KATRINA TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC BOX UNPROTECTED.  
 THE MAGIC BOX IS SEIZED BY KATRINA.  
 KATRINA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.  
 KATRINA CLINGS A STAIRWAY.  
 A HUSBAND IS ENTICED BY KATRINA.  
 KATRINA STARTS BACK HOME.  
 KATRINA RETURNS HOME.

THE PODOVICHES LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS EMELYA.  
 THE OLDEST SON IS BORIS.  
 THE YOUNGER SON IS NICHOLAS.  
 THE OLDEST DAUGHTER IS ELENA.  
 THE YOUNGER DAUGHTER IS MARIA.  
 THE YOUNGEST DAUGHTER IS DUNIA.  
 BORIS, NICHOLAS AND DUNIA ARE IN THE BARN.  
 BORIS SAYS NICHOLAS, LEAVE THE BARN.  
 BORIS LEAVES TO GO FISHING.  
 NICHOLAS LEAVES THE BARN.  
 A WOLF FLYS 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 FLINT IS GIVEN TO NICHOLAS.  
 A MAGIC BOW, A MAGIC BIRD AND A MAGIC CARPET COME FROM THE MAGIC FLINT.  
 NICHOLAS TRAVELS TO THE LOCATION OF THE WOLF IN AN OTHER KINGDOM.  
 NICHOLAS TRAVELS BY THE MAGIC BIRD.  
 NICHOLAS FINDS THE WOLF.  
 THEY FIGHT IN AN OPEN FIELD.  
 NICHOLAS DEFEATS THE WOLF WITH THE AID OF THE MAGIC BOW.  
 THE WOLF IS SEIZED BY NICHOLAS.  
 NICHOLAS STARTS BACK HOME.  
 THE WOLF PACK PURSUES NICHOLAS.  
 NICHOLAS HIDES IN A TREE.  
 THE WOLF PACK ATTEMPTS TO GNAW THROUGH THE TREE.  
 NICHOLAS ESCAPES BY FLYING ON THE MAGIC CARPET.  
 NICHOLAS RETURNS HOME.

THE PARANÓVS LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS EMELYA.  
 THE MOTHER IS MARIA.  
 THE OLDEST SON IS FOMA.  
 THE YOUNGER SON IS BALDAK.  
 VASILISA IS THE ONLY DAUGHTER.  
 EMELYA SAYS BALDAK, DO NOT GO TO THE HOUSE.  
 EMELYA DIES HORRIBLY.  
 BALDAK GOES TO THE HOUSE.  
 A BEAR FLYS INTO THE DISTANT PROVINCE.  
 THE BEAR ASKS MARCO WHERE IS BALDAK.  
 MARCO SAYS THAT BALDAK IS IN THE HOUSE.  
 THE BEAR ORDERS THE HURDER 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.

THE BORTSEVICHES LIVE IN A DISTANT PROVINCE;

THE FATHER IS MARCO.

DUNIA IS THE ONLY CHILD.

NICHOLAS WHO OWNS THE DAYLIGHT ALSO LIVES IN THE SAME LAND.

A WOLF FLIES INTO THE DISTANT PROVINCE.

THE WOLF DISGUISES HIMSELF AS A YOUNG MAN.

THE WOLF ATTEMPTS TO PERSUADE DUNIA TO TAKE A MAGIC RING.

DUNIA IS PERSUADED TO TAKE THE MAGIC RING.

DUNIA FALLS ASLEEP.

THE WOLF SEIZES THE DAYLIGHT.

NICHOLAS CALLS FOR HELP FROM DUNIA.

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.

VASILISA IS THE ONLY DAUGHTER.

EREHA ASKS DUNIA WHERE IS YOUR WISDOM.

DUNIA SAYS THAT MY WISDOM IS IN A MAGIC EGG.

DUNIA MURDERS EREHA.

A LAHENT IS SUNG FOR EREHA.

EREHA IS WANDERING.

EREHA MEETS A STOVE ALONG THE WAY.

THE STOVE PROPOSES THAT EREHA 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 BAY.

THE FOREST KNIGHT PROPOSES THAT DUNIA WORK IN THE FOREST FOR THREE YEARS.

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

A MAGIC FLINT IS FOUND BY DUNIA.

A MAGIC BOW, A MAGIC STEED AND A MAGIC MEN 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 MEN.

DUNIA STARTS BACK HOME.

DUNIA RETURNS HOME.



THE BERENNIKOVS LIVE IN A DISTANT PROVINCE.

THE FATHER IS EMELYA.

THE MOTHER IS MARTHA.

THE OLDEST SON IS EREMA.

THE YOUNGER SON IS FOHA.

THE YOUNGEST SON IS BALDAK.

VASILISA ALSO LIVES IN THE SAME LAND.

IVAN IS VASILISA'S CHILD.

A DRAGON FLYS INTO THE DISTANT PROVINCE.

IVAN ASKS THE DRAGON WHERE IS YOUR DEATH.

THE DRAGON SAYS THAT MY DEATH IS IN A MAGIC EGG.

THE DRAGON DECLARES WAR ON IVAN.

VASILISA CALLS FOR HELP FROM EREMA.

EREMA MEETS A BULL ALONG THE WAY.

THE BULL BRAWLS IN A FOREST HUT WITH EREMA.

THE BULL TWICE REPELS EREMA.

THEY FIGHT FOR THE THIRD TIME.

EREMA DEFEATS THE BULL.

EREMA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.

EREMA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.

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.

THE BORTIEVICHES 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 POISON ON NICHOLAS.

NICHOLAS FALLS ASLEEP.

BALDAK IS REPLACED WITH THE DRAGON'S SON.

BALDAK SENDS NICHOLAS TO SEARCH FOR THE HEART.

NICHOLAS DECIDES TO SEARCH FOR THE HEART.

NICHOLAS LEAVES ON A SEARCH.

NICHOLAS MEETS A WITCH ALONG THE WAY.

THE WITCH PROPOSES THAT NICHOLAS LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.

NICHOLAS FAILS.

NICHOLAS TRIES AGAIN.

NICHOLAS FAILS AGAIN.

NICHOLAS TRIES FOR THE THIRD TIME.

NICHOLAS RESPONDS BY STAYING AWAKE WHILE LISTENING TO THE GUSLA.

A MAGIC WAFER IS CONSUMED BY NICHOLAS.

NICHOLAS OBTAINS TRANSFORMABILITY.

NICHOLAS TRAVELS TO THE LOCATION OF THE HEART IN AN OTHER KINGDOM.

NICHOLAS TRAVELS ON A SHIP.

THE HEART IS SOLD TO NICHOLAS.

NICHOLAS STARTS BACK HOME.

NICHOLAS RETURNS HOME.

THE BERENNIKOVS LIVE IN A DISTANT PROVINCE.  
 THE ONLY SON IS NICHOLAS.  
 THE OLDEST DAUGHTER IS VASILISA.  
 THE YOUNGER DAUGHTER IS DUNIA.  
 THE YOUNGEST DAUGHTER IS HARTHA.  
 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 FLYS AFTER VASILISA.  
 VASILISA ESCAPES BY BEING HIDDEN BY BLACKSMITHS.  
 VASILISA RETURNS HOME.

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 FLYS INTO THE DISTANT PROVINCE.  
 THE DRAGON DISGUISES HIMSELF AS AN OLD LADY.  
 THE DRAGON USES A MAGIC PIN ON NICHOLAS.  
 NICHOLAS FALLS ASLEEP.  
 THE DRAGON THREATENS TO EAT BALDAK.  
 EREMA CALLS FOR NICHOLAS.  
 EREMA ANNOUNCES THAT THE DRAGON THREATENED TO EAT BALDAK.  
 NICHOLAS DECIDES TO SEARCH FOR THE DRAGON.  
 NICHOLAS LEAVES ON A SEARCH.

NICHOLAS MEETS A WITCH ALONG THE WAY.  
 THE WITCH IS FIGHTING WITH EMELYA 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 IMPRISON'S VLADIMIR.

MARCO CALLS FOR HELP FROM ALIOSHA.

ALIOSHA DECIDES TO SEARCH FOR VLADIMIR.

ALIOSHA LEAVES ON A SEARCH.

ALIOSHA MEETS A BULL ALONG THE WAY.

THE BULL BRAWLS IN A FOREST HUT WITH ALIOSHA.

THE BULL TWICE REPELS ALIOSHA.

THEY FIGHT FOR THE THIRD TIME.

ALIOSHA DEFEATS THE BULL.

A MAGIC SWORD, A MAGIC STEED AND A MAGIC BIRD ARE GIVEN TO ALIOSHA.

ALIOSHA TRAVELS TO THE LOCATION OF VLADIMIR IN THE OTHER KINGDOM.

ALIOSHA TRAVELS ON THE MAGIC STEED.

ALIOSHA FINDS THE DRAGON.

THEY FIGHT IN AN OPEN FIELD.

ALIOSHA DEFEATS THE DRAGON WITH THE AID OF THE MAGIC SWORD.

VLADIMIR IS OBTAINED BY ALIOSHA.

ALIOSHA STARTS BACK HOME.

THE DRAGON FLYS AFTER ALIOSHA.

ALIOSHA ESCAPES BY FLYING ON THE MAGIC BIRD.

ALIOSHA RETURNS HOME.

24

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.

VLADIMIR MEETS A WITCH ALONG THE WAY.

THE WITCH PROPOSES THAT VLADIMIR LISTEN TO THE GUSLA WITHOUT FALLING ASLEEP.

VLADIMIR FAILS.

VLADIMIR TRIES AGAIN.

VLADIMIR FAILS AGAIN.

VLADIMIR TRIES FOR THE THIRD TIME.

VLADIMIR RESPONDS BY STAYING AWAKE WHILE LISTENING TO THE GUSLA.

A MAGIC HEN IS SOLD TO VLADIMIR.

VLADIMIR TRAVELS TO THE LOCATION OF WEALTH IN AN OTHER KINGDOM.

GOLD IS PRODUCED.

VLADIMIR STARTS BACK HOME.

VLADIMIR RETURNS HOME.

69

25

THE BORTSIEVICHES 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 HIS 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 BEAR IN AN OTHER KINGDOM.

ALIOSHA TRAVELS BY THE MAGIC BIRD.

ALIOSHA FINDS THE BEAR.

ALIOSHA SURPRISES THE BEAR.

ALIOSHA KILLS THE BEAR WITH THE AID OF THE MAGIC SWORD.

ALIOSHA STARTS BACK HOME.

THE BEAR'S FATHER ATTEMPTS TO DEVOUR ALIOSHA.

ALIOSHA ESCAPES BY FLYING ON THE MAGIC STEED.

ALIOSHA RETURNS HOME.

26

THE POPOVICHES LIVE IN A CERTAIN KINGDOM.

THE FATHER IS IVAN.

THE MOTHER IS KATRINA.

THE FAMILY IS CHILDLESS.

KATRINA NEEDS THE EGG OF DEATH.

KATRINA ASKS PERMISSION TO LEAVE.

KATRINA DECIDES TO SEARCH FOR THE EGG OF DEATH.

KATRINA MEETS A FOREST KNIGHT ALONG THE WAY.

THE FOREST KNIGHT GREET'S KATRINA.

THE FOREST KNIGHT ASKS KATRINA TO ANSWER A QUESTION.

KATRINA ANSWERS THE QUESTION.

A MAGIC BOX IS SOLD TO KATRINA.

KATRINA TRAVELS TO THE LOCATION OF THE EGG OF DEATH IN THE OTHER KINGDOM.

THE EGG OF DEATH APPEARS FROM THE MAGIC BOX.

KATRINA STARTS BACK HOME.

KATRINA RETURNS HOME.

69

THE BERENNIKOV'S 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 IS DYING.  
 THE COW ASKS THAT VASILISA EAT NOT OF HER MEAT.  
 VASILISA IS TO GATHER THE BONES.  
 VASILISA IS TO FORGET NOT THE COW.  
 VASILISA DOES NOT RESPOND.

THE COW ASKS AGAIN.  
 VASILISA REFUSES.  
 THE COW ASKS FOR THE THIRD TIME.  
 VASILISA RESPONDS BY FOLLOWING THE INSTRUCTIONS OF THE COW.  
 A MAGIC HEN APPEARS TO VASILISA.  
 VASILISA TRAVELS TO THE 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.

THE BORTISTEVICHES LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS EREMA.  
 THE OLDEST SON IS BORIS.  
 THE YOUNGER SON IS ALIOSHA.  
 THE YOUNGEST SON IS IVAN.  
 DUNIA IS THE ONLY DAUGHTER.  
 A DRAGON APPEARS IN THE DISTANT PROVINCE.  
 THE DRAGON DISGUISES HIMSELF AS AN OLD LADY.  
 THE DRAGON ATTEMPTS TO PERSUADE ALIOSHA TO TAKE A MAGIC RING.  
 ALIOSHA IS PERSUADED TO TAKE THE MAGIC RING.  
 ALIOSHA FALLS ASLEEP.  
 THE DRAGON CUTS OFF BORIS'S LEG.  
 BORIS SENDS ALIOSHA TO SEARCH FOR THE LEG.  
 ALIOSHA DECIDES TO SEARCH FOR THE LEG.

ALIOSHA MEETS A WITCH ALONG THE WAY.  
 THE WITCH IS 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 AID OF THE MAGIC SWORD.  
 THE LEG APPEARS FROM THE MAGIC HEN.  
 ALIOSHA STARTS BACK HOME.  
 THE DRAGON'S WIVES CHASE AFTER ALIOSHA.  
 ALIOSHA ESCAPES BY BEING HIDDEN BY BLACKSMITHS.  
 ALIOSHA RETURNS HOME.

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 ELCNA.  
 THE YOUNGEST DAUGHTER IS MARIA.  
 A DRAGON APPEARS IN THE DISTANT PROVINCE.  
 THE DRAGON DISGUISES SELF AS A YOUNG MAN.  
 THE DRAGON ATTEMPTS TO PERSUADE MARCO TO TAKE A STEAMBATH.  
 MARCO IS PERSUADED TO TAKE A STEAMBATH.  
 MARCO FALLS ASLEEP.  
 THE DRAGON DECLARES WAR ON MARIA.  
 MARCO DECIDES TO SEARCH FOR THE DRAGON.  
 MARCO LEAVES ON A SEARCH.

MARCO MEETS THE FOREST KNIGHT ALONG THE WAY.  
 THE FOREST KNIGHT PROPOSES THAT MARCO WORK IN THE FOREST FOR THREE YEARS.  
 MARCO DOES NOT RESPOND.  
 THE FOREST KNIGHT ASKS AGAIN.  
 MARCO REFUSES.  
 THE FOREST KNIGHT 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 MARCO.  
 MARCO OBTAINS SUPER-HUMAN STRENGTH.  
 MARCO TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.  
 MARCO FINDS THE DRAGON.  
 MARCO SURPRISES THE DRAGON.  
 MARCO KILLS THE DRAGON WITH THE AID OF SUPER-HUMAN STRENGTH.  
 MARCO STARTS BACK HOME.  
 MARCO RETURNS HOME.

THE POPOVICHES LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS FOMA.  
 THE OLDEST DAUGHTER IS DUNIA.  
 THE YOUNGER DAUGHTER IS VASILISA.  
 THE YOUNGEST DAUGHTER IS KATRINA.  
 VASILISA NEEDS A FIREBIRD.  
 DUNIA SENDS VASILISA TO SEARCH FOR THE FIREBIRD.  
 VASILISA DECIDES TO SEARCH FOR THE FIREBIRD.

VASILISA MEETS AN OLD MAN ALONG THE WAY.  
 THE OLD MAN GREETES VASILISA.  
 THE OLD MAN ASKS VASILISA TO ANSWER A QUESTION.  
 VASILISA ANSWERS THE QUESTION.  
 A MAGIC BOX IS SHOWN TO VASILISA.  
 VASILISA TRAVELS TO THE LOCATION OF THE FIREBIRD IN AN OTHER KINGDOM.  
 THE FIREBIRD APPEARS FROM THE MAGIC BOX.  
 VASILISA STARTS BACK HOME.  
 VASILISA RETURNS HOME.

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.

THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.  
 THE FATHER IS ALIOSHA.  
 THE OLDEST SON IS EMELYA.  
 THE YOUNGER SON IS BORIS.  
 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.



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.  
 BORIS CALLS FOR BALDAK.  
 BORIS 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 FLYS AFTER BALDAK.  
 BALDAK ESCAPES BY HIDING IN A STOVE.  
 BALDAK RETURNS HOME.

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.  
 A MAGIC SWORD, A MAGIC CARPET AND A MAGIC STEED IS SEIZED BY FOMA.  
 FOMA STARTS BACK HOME.  
 FOMA RETURNS HOME.

THE MOREYNAS 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.  
 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 BRANLS IN A FOREST HUT WITH MARCO.  
 MARCO DEFEATS THE GIANT.  
 A MAGIC BOY, 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.

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 PERSUADED 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.

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.

THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.  
 THE FATHER IS VLADIMIR.  
 THE OLDEST SON IS EREMA.  
 THE YOUNGER SON IS HARCO.  
 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.

THE MOREYNAS LIVE IN A CERTAIN KINGDOM;  
 THE FATHER IS BORIS.  
 THE MOTHER IS MARTHA.  
 THE ONLY SON IS VLADIMIR.  
 THE OLDEST DAUGHTER IS ELENA.  
 THE YOUNGEST DAUGHTER IS DUNIA.  
 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.

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 BACK HOME.  
 KATRINA RETURNS HOME.

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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 DURIYA.  
THE YOUNGER DAUGHTER IS MARIYA.  
THE YOUNGEST DAUGHTER IS MARIA.  
BORIS ALSO LIVES IN THE SAME LAND.  
BORIS IS OF MIRACULOUS BIRTH.  
A BEAR WALKS INTO THE CERTAIN KINGDOM.  
THE BEAR ASKS VASILISA WHERE IS THE HEART.  
VASILISA SAYS THAT THE HEART IS IN THE HUT.  
THE BEAR CUTS OUT BALDAK'S HEART.  
BALDAK IS REPLACED WITH THE BEAR'S SON.  
BALDAK CALLS FOR HELP FROM BORIS.  
BORIS DECIDES TO SEARCH FOR THE HEART.  
BORIS LEAVES ON A SEARCH.  
BORIS MEETS A STOVE ALONG THE WAY.  
THE STOVE PROPOSES THAT BORIS EAT THE MEAL WHICH IT HAS PREPARED.  
BORIS DOES NOT RESPOND.  
THE STOVE ASKS AGAIN.  
BORIS REFUSES.  
THE STOVE ASKS FOR THE THIRD TIME.  
BORIS RESPONDS BY PARTAKING OF THE MEAL.  
A MAGIC SWORD, A MAGIC BIRD AND A MAGIC HEN ARE GIVEN TO BORIS.  
BORIS TRAVELS TO THE LOCATION OF THE HEART IN THE OTHER KINGDOM.  
BORIS TRAVELS BY THE MAGIC BIRD.  
THE HEART APPEARS FROM THE MAGIC HEN.  
BORIS STARTS BACK HOME.  
THE BEAR TEMPTS BORIS BY CHANGING INTO AN ALLURING OBJECT.  
BORIS ESCAPES BY AVOIDING THE TEMPTATION.  
BORIS RETURNS HOME.

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THE BORISIEVICHES LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS VLADIMIR.  
THE MOTHER IS VASILISA.  
THE OLDEST SON IS NICHOLAS.  
THE YOUNGER SON IS ALIOSHA.  
A WOLF WALKS INTO THE CERTAIN KINGDOM.  
THE WOLF ASKS 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.  
THEY PLAY CARDS.  
THE WOLF IS TROUNCED AT CARDS.  
VASILISA STARTS BACK HOME.  
VASILISA RETURNS HOME.

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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 SPEAKS INTO THE DISTANT PROVINCE.

THE DRAGON DISGUISES HIMSELF AS A YOUNG MAN.

THE DRAGON ATTEMPTS TO PERSUADE KATRINA TO TAKE A STEAMBATH.

KATRINA IS PERSUADED TO TAKE A STEAMBATH.

KATRINA FALLS ASLEEP.

THE DRAGON PILLAGES THE CROPS.

DUNIA SENDS KATRINA TO SEARCH FOR THE DRAGON.

KATRINA DECIDES TO SEARCH FOR THE DRAGON.

KATRINA LEAVES ON A SEARCH.

KATRINA MEETS THE COW ALONG THE WAY.

THE COW IS DYING.

THE COW ASKS THAT KATRINA EAT NOT OF HER MEAT.

KATRINA RESPONDS BY FOLLOWING THE INSTRUCTIONS OF THE COW.

A MAGIC STEED IS GIVEN TO KATRINA.

KATRINA TRAVELS TO THE LOCATION OF THE DRAGON IN AN OTHER KINGDOM.

KATRINA TRAVELS ON THE MAGIC STEED.

KATRINA FINDS THE DRAGON.

THEY PLAY CARDS.

THE DRAGON IS TROUNCED AT CARDS.

KATRINA STARTS BACK HOME.

KATRINA RETURNS HOME.

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THE PARANOVS LIVE IN A DISTANT PROVINCE.

THE ONLY SON IS MARCO.

THE OLDEST DAUGHTER IS VASILISA.

THE YOUNGER DAUGHTER IS KATRINA.

FOMA ALSO LIVES IN THE SAME LAND.

FOMA IS OF MIRACULOUS BIRTH.

A DRAGON FLIES INTO THE DISTANT PROVINCE.

DUNIA ASKS THE DRAGON WHERE IS YOUR DEATH.

THE DRAGON SAYS THAT MY DEATH IS IN A MAGIC EGG.

THE DRAGON ABDUCTS DUNIA.

THE DRAGON MURDERS VASILISA.

VASILISA CALLS FOR HELP FROM FOMA.

FOMA DECIDES TO SEARCH FOR DUNIA.

FOMA LEAVES ON A SEARCH.

FOMA MEETS A MAN ALONG THE WAY.

THE MAN IS DYING.

THE MAN ASKS THAT FOMA SPEND THREE NIGHTS BESIDE HIS GRAVE.

FOMA DOES NOT RESPOND.

THE MAN ASKS AGAIN.

FOMA REFUSES.

THE MAN ASKS FOR THE THIRD TIME.

FOMA RESPONDS BY SITTING FOR THREE NIGHTS BY HIS GRAVE.

A MAGIC BOX IS GIVEN TO FOMA.

FOMA TRAVELS TO THE LOCATION OF DUNIA IN AN OTHER KINGDOM.

FOMA IS DIRECTED BY A HEDGEHOG.

DUNIA APPEARS FROM THE MAGIC BOX.

FOMA STARTS BACK HOME.

FOMA RETURNS HOME.

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

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

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THE BORISIEVICHES LIVE IN A DISTANT PROVINCE.  
THE FATHER IS BORIS.  
THE MOTHER IS MARIA.  
EREMA 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.  
MARTHA FALLS ASLEEP.  
THE BEAR DECLARES WAR ON VASILISA.  
VLADIMIR CALLS FOR HELP FROM MARIA.  
MARTHA DECIDES TO SEARCH FOR THE BEAR.  
MARTHA LEAVES ON A SEARCH.

MARTHA 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.  
MARTHA TRICKS THE DISPUTANTS INTO LEAVING THE MAGIC SWORD UNPROTECTED.  
THE MAGIC SWORD, A MAGIC CARPET AND A MAGIC STEED ARE SEIZED BY MARIA.  
MARTHA TRAVELS TO THE LOCATION OF THE BEAR IN AN OTHER KINGDOM.  
MARTHA TRAVELS BY THE MAGIC CARPET.  
MARTHA FINDS THE BEAR.  
MARTHA SURPRISES THE BEAR.  
MARTHA KILLS THE BEAR WITH THE AID OF THE MAGIC SWORD.  
MARTHA STARTS BACK HOME.  
THE BEAR'S FATHER YELLS FOR MARTHA.  
MARTHA ESCAPES BY FLYING ON THE MAGIC STEED.  
MARTHA RETURNS HOME.

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THE PLACE IS A CERTAIN KINGDOM.

MARTHA IS ALONE.

MARTHA NEEDS A HUSBAND.

MARTHA DECIDES TO SEARCH FOR A HUSBAND.

MARTHA LEAVES ON A SEARCH.

MARTHA MEETS THE FOREST KNIGHT ALONG THE WAY.

THE FOREST KNIGHT PROPOSES THAT MARTHA WORK IN THE FOREST FOR THREE YEARS.

MARTHA DOES NOT RESPOND.

THE FOREST KNIGHT ASKS AGAIN.

MARTHA REFUSES.

THE FOREST KNIGHT ASKS FOR THE THIRD TIME.

MARTHA RESPONDS BY SPENDING THREE YEARS TOLLING FOR THE FOREST KNIGHT IN THE FOREST.

A MAGIC BOX IS SEIZED BY MARTHA.

MARTHA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.

MARTHA CLIMBS A STAIRWAY.

A HUSBAND APPEARS FROM THE MAGIC BOX.

MARTHA STARTS BACK HOME.

MARTHA RETURNS HOME.

THE PARANOVS LIVE IN A CERTAIN KINGDOM.

THE FATHER IS VLADIMIR.

THE MOTHER IS ELENA.

THE OLDEST SON IS ALIOSHA.

THE YOUNGER SON IS NICHOLAS.

THE OLDEST DAUGHTER IS MARIA.

THE YOUNGER DAUGHTER IS MARTHA.

ELENA NEEDS A HUSBAND.

ELENA ASKS PERMISSION TO LEAVE.

ELENA LEAVES ON A SEARCH.

ELENA MEETS A COW ALONG THE WAY.

THE COW BRAWLS IN A FOREST HUT WITH ELENA.

ELENA DEFEATS THE COW.

A MAGIC SWORD, A MAGIC CARPET AND A MAGIC HEN ARE GIVEN TO ELENA.

ELENA TRAVELS TO THE LOCATION OF A HUSBAND IN THE OTHER KINGDOM.

ELENA TRAVELS BY THE MAGIC CARPET.

A HUSBAND IS ENTICED BY ELENA.

ELENA STARTS BACK HOME.

ELENA RETURNS HOME.



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.  
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 GREET'S NICHOLAS.  
THE WITCH ASKS NICHOLAS TO ANSWER A QUESTION.  
NICHOLAS DOES NOT RESPOND.  
NICHOLAS ASKS AGAIN.  
NICHOLAS RESPONDS RUDELY.  
THE WITCH ASKS FOR THE THIRD TIME.  
NICHOLAS ANSWERS THE QUESTION.  
A MAGIC FLINT IS SHOWN TO NICHOLAS.  
NICHOLAS TRAVELS TO THE LOCATION OF MARIA IN THE OTHER KINGDOM.  
MARIA APPEARS FROM THE MAGIC BOX.  
NICHOLAS RETURNS HOME.

THE PARANOV'S LIVE IN A CERTAIN KINGDOM.  
THE FATHER IS BALDAK.  
THE MOTHER IS HARTHA.  
THE OLDEST SON IS ALIOSHA.  
THE YOUNGER SON IS BORIS.  
THE YOUNGEST SON IS EHELYA.  
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 HARTHA TO TAKE A SWIM.  
HARTHA IS PERSUADED TO TAKE A SWIM.  
MARTHA FALLS ASLEEP.  
THE WOLF TORMENTS NICHOLAS AT A NIGHT.  
IVAN CALLS FOR HELP FROM HARTHA.  
MARTHA DECIDES TO SEARCH FOR THE WOLF.  
HARTHA LEAVES ON A SEARCH.

MARTHA MEETS A GIANT ALONG THE WAY.  
THE GIANT IS IMPRISONED.  
MARTHA ASKS TO BE FREED.  
MARTHA FREES THE GIANT.  
A MAGIC BOW, A MAGIC CARPET AND A MAGIC BIRD ARE GIVEN TO HARTHA.  
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.

