AUTOMATIC NOVEL WRITING:
A Status Report

by

Sheldon Klein, John F. Aeschlimann,
David F. Balsiger, Steven L. Converse,
Claudine Court, Mark Foster, Robin Lao,
John D. Oakley and Joel Smith

Technical Report #186

July 1973

AUTOMATIC NOVEL WRITING: A Status Report

Sheldon Klein, J.F. Aeschlimann, D.F. Balsiger, S.L. Converse, C. Court
M. Foster, R. Lao, J.D. Oakley, J. Smith

Computer Sciences Department & Linguistics Department
University of Wisconsin, Madison

Programmed in FORTRAN V on a Univac 1108, the system generates 2100 word murder mystery stories, complete with semantic deep structure, in less than 19 seconds.

The techniques draw upon the state of the art in linguistics, compiler theory, and micro-simulation. The plot and detailed development of events in the narrative are generated by a micro-simulation model written in a specially created, compiler-driven simulation language. The rules of a simulation model are stochastic¹ (with controllable degrees of randomness) and govern the behavior of individual characters and events in the modelled universe of the story. This universe is represented in the form of a semantic deep structure encoded in the form of a network—a directed graph with labelled edges, where the nodes are semantic objects, and where the labelled edges are relations uniting those objects. The simulation model rules implement changing events in the story by altering the semantic network. Compiler or translator-like production rules are used to generate English narrative discourse from the semantic deep structure network (the output might be in any language). The flow of the narrative is derived from reports on the changing state of the modelled universe as affected by the simulation rules.

Nodes of the semantic network may be atoms, classes, or complex predicates that represent entire subportions of the network. Atom nodes and relations are linked to expression lists that may contain lexical stems or roots that are available for insertion into trees during the generation process. (Low level transformations convert the roots into appropriately inflected or derived forms. High level transformations mark the tree for application of the low level ones.) These expression lists may also contain semantic network expressions consisting of objects and relations which may themselves be linked to expression lists, thereby providing the generator with recursive expository power. An atom node may also function as a complex predicate node with status that may vary during a simulation.

Class nodes may refer to lists of object nodes, and the complex-predicate nodes may be linked to pointers to subportions of the network that includes themselves, allowing them to be recursively self-referential. (This would permit generation of sentences such as "I know that I know that - (sentence)".)

We are also testing a natural-language meta-compiling capability—the use of the semantic network to generate productions in the simulation language itself that may themselves be compiled as new rules during the flow of the simulation. Such a feature will permit one character to transmit new rules of behavior to another character through conversation, or permit a character to develop new behavior patterns as a function of his experiences during the course of a simulation. This feature, combined with the complex-predicate nodes helps to give the system the logical power of at least the 2nd order predicate calculus.

Theoretical motivations include an interest in modelling generative-semantic linguistic theories, including case grammar and presuppositional formulations. The dynamic time dimension added to the semantic deep structure by the simulation makes it possible to formulate more powerful versions of such theories than now exist.

¹ NOTA BENE: [SK 3-10-2003]: Should read 'probablistic' rather than 'stochastic'. 
<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2.0 Historical Background and Related Research</td>
<td>4</td>
</tr>
<tr>
<td>3.0 Semantic Network &amp; Discourse Generation System</td>
<td>4</td>
</tr>
<tr>
<td>4.0 Highlights of the Simulation Language</td>
<td>15</td>
</tr>
<tr>
<td>5.0 Novel Writer Features and Futures</td>
<td>27</td>
</tr>
<tr>
<td>5.1 Style Control</td>
<td>27</td>
</tr>
<tr>
<td>5.2 Private Semantic Universes for Individual Characters</td>
<td>29</td>
</tr>
<tr>
<td>5.3 Simulation of Simulations: Look-Ahead, Planning, Time Travel and Dreams</td>
<td>29</td>
</tr>
<tr>
<td>5.4 Semantic Parsing</td>
<td>30</td>
</tr>
<tr>
<td>5.5 Linguistic and Behavioral Learning: Self-Modifying Behavior and Natural Language Meta-Compiling</td>
<td>30</td>
</tr>
<tr>
<td>6.0 Significance for Linguistics, Sociolinguistics and the Behavioral Sciences in General</td>
<td>31</td>
</tr>
<tr>
<td>7.0 References</td>
<td>32</td>
</tr>
<tr>
<td>8.0 Appendix</td>
<td>34</td>
</tr>
<tr>
<td>8.1 Surface Structure/Semantic Network Production Rules</td>
<td>34</td>
</tr>
<tr>
<td>8.2 Transformations</td>
<td>36</td>
</tr>
<tr>
<td>8.3 Dictionary</td>
<td>37</td>
</tr>
<tr>
<td>8.4 Nodes, Relations and Classes</td>
<td>44</td>
</tr>
<tr>
<td>8.5 Network and Simulation Rule Plot Specification</td>
<td>49</td>
</tr>
<tr>
<td>8.6 Sample Murder Mystery Texts</td>
<td>73</td>
</tr>
<tr>
<td>8.6.1 A 2100 Word Murder Mystery Story</td>
<td>73</td>
</tr>
<tr>
<td>8.6.2 Murder and Solution from Story 2</td>
<td>108</td>
</tr>
<tr>
<td>8.6.3 Murder Scene from Story 3</td>
<td>109</td>
</tr>
<tr>
<td>8.6.4 Murder Scene from Story 4</td>
<td>109</td>
</tr>
</tbody>
</table>
AUTOMATIC NOVEL WRITING: A Status Report

Sheldon Klein, John F. Aeschlimann, David F. Balsiger
Steven L. Converse, Claudine Court, Mark Foster
Robin Lao, John D. Oakley & Joel Smith

Computer Sciences Department & Linguistics Department
University of Wisconsin
Madison, Wisconsin 53706
U.S.A.

1.0 Introduction

The novel writer described herein is part of an automated linguistic tool so powerful and of such methodological significance that we are compelled to claim a major breakthrough in linguistic and computational linguistic research. What is emerging is a system for modelling human linguistic and social behavior through time, including the transmission of language and complex patterns of social behavior across generations, through the mediation of language, and according to the dictates of any generative semantic linguistic theory currently in existence, including the case grammar of Fillmore, the presuppositional model of Lakoff, and the 1972 semantic theory of Katz, as well as theories of far greater power than any heretofore suggested.

The key components are a compiler driven simulation language system that manipulates events in the form of a semantic deep structure network notation, and which has the power of at least the 2nd order predicate calculus, and a linguistic generative system that can map the semantic deep structure notation into any natural language using grammars within the framework of a variety of linguistic theories, and which can also generate productions in the language of the simulation system itself, providing a natural language meta-compiler capability.

* Portions of this research were sponsored by National Science Foundation Grant No. GS-2595, and by the Wisconsin Alumni Research Foundation
The novel writer described here is a particular application and testing of the more general system in progress. While the computer generated stories contained in the appendix are in English, they might as easily have been produced in any natural language without alteration of the simulation rules or the semantic deep structure. The simulation system that generated the plot can be used to generate any kind of human behavior, within any time scale, with any level of detail, and all within the framework of any theoretical model of behavior that a researcher may care to formulate.

For the novel writer, the simulation language was used to describe the potential behavior of a set of characters in a partially random set of situations. The deterministic aspects guarantee a murder story within the context of a weekend houseparty, arising from possible motives of greed, anger, jealousy or fear. The particular murderer and victim may vary with the random number source and with the particular specification of character traits prior to the generation. The motives for murder arise as a function of events during the course of the generation of the story.

The rules of the simulation model are stochastic, with controllable degrees of randomness, and govern the behavior of individual characters in the modelled universe of the story. This universe is represented in the form of a semantic deep structure that is encoded in the form of a network, a directed graph with labelled edges, where the nodes are semantic objects and where the labelled edges are relations uniting those objects.

The simulation rules alter events in the universe as a function of the passage of time. As the simulation progresses, the newly created events serve as the semantic deep structure input to a generative device that uses compiler or translator like rules to generate discourse in the selected natural language. The flow of the narrative is derived from successive reports on the changing state of the modelled universe.
Much of the semantic, behavioral and presuppositional information can be incorporated in the behavioral simulation rules as well as in the semantic deep structure network. The rules and the deep structure are intimately related in a number of ways. As indicated, the rules can alter the universe, and yet the rules themselves can be represented in the semantic deep structure; and the rules can be used to generate sentences in the simulation language itself, thus permitting the modification of old behavior patterns or the creation of new ones. The ability to partition the semantic deep structure into static and dynamic components, coupled with the higher order predicate calculus power permits the formulation of behavioral linguistic theories and models more powerful than any currently in existence.

In the balance of this paper we shall briefly cite relevant literature and then proceed to a discussion of the system in its novel writing aspect. The appendix includes a complete listing of the simulation language program that generated our several 'novels', and a sample story, length 2100 words, produced by the program complete with semantic deep structure and English text. We also include interesting passages from three other versions of the murder mystery derived from the same basic simulation program.

We note here that the novel writing system, which is operational on a Univac 1108 computer, uses approximately 75,000 words of storage space, of which 35,000 is required for the control mechanisms of the simulation system, 20,000 for the simulation language compiler and 20,000 for the discourse generation component. Approximately 50% of this space is used for data structures. The program generates 2100 word stories, complete with semantic deep structure descriptions as well as text, in less than 19 seconds. The system is programmed in FORTRAN V.
2.0 Historical Background and Related Research


Work involving natural language compiling into semantic representations, inference languages or simulation languages includes (in addition to our own) Kellogg, 1968, Heidorn, 1972, Simmons (in preparation), as well as Green & Raphael, ibid and Coles, ibid (again the list is not exhaustive).

3.0 Semantic Network & Discourse Generation System

The following explication is quoted from Klein, 1973, pp.3-11:
**Semantic Network**

The semantic network consists of objects and relations linking those objects. The object nodes and relations have no names in themselves, only numbers. But they are linked to lexical expression lists that contain lexical variants as well as other expression forms. In examples of semantic network representations of deep structures bracketed lexical items selected from the associated lexical lists are provided with the objects and relations for convenience in reading.

As an example consider the discourse:

"The man in the park broke the window with a hammer."

"John knows that."

The deep structure network representation might resemble:

```
O(man) - R(break; -1) - O(window)
^        ^
R(in)    R(with)
       ^
O(park)  O(hammer)
```

(where the \(-1\) represents a time earlier than present)

But the actual representation of the semantic deep structure is more subtle and has properties not obvious in this example illustration. The network is actually composed of semantic triples. A semantic triple can consist of any sequence of 2 or 3 objects and relations. Every object in the system has a unique number or address. Every triple in the system also has a unique number and is also associated with its time of creation. The network is actually stored in the form of a hash table, wherein the actual semantic network is implied and computable rather than overtly listed. The time of creation of each triple makes the application of tense transformations easy: the simulation system maintains a clock representing 'now'. Accordingly the relative time sequence among deep structure triples is rendily computable, and serves as data for generation of surface structure expression of tense, etc.

The actual representation of this sentence is closer to:

1. O(man)- R(break,-time) - O(window) 
   \[ R(break,-time)- R(with)- O(hammer) \]
2. O(man) -R(in) -O(park)

where the second triple in 1. is not actually listed separately; multi-place predicates are indexable through the primary triple.

It is worth repeating that the objects and relations are actually numbered locations with links to other objects and relations. They contain no associated content expression form other than what appears on their lexical expression lists that are also linked to them. However, a lexical expression list may contain other data than just pointers to lexical stems in a dictionary. These items include semantic triples that are not in the network (for expression of idiomatic type structures) and pointers to triples that are in the network.
The objects and relations in these triples have their own links to their own lexical expression lists. The lexical expression list of an object or a relation may contain pointers to triples in the network that include triples of which it is a member.

Consider now the second sentence of the sample discourse:

"John knows that!"

encoded in the semantic network as,

3. O(John)- R(know)- O(that)

The O(that) is a complex predicate object. Its lexical expression list contains pointers to semantic triples 1 and 2. The representation could be self-referential; if the lexical expression list of O(that) contained a pointer to triple 3, the network would represent a message approximating:

"John knows that he knows that the man in the park broke the window with a hammer."

This feature helps to give the system the logical power of the 2nd order predicate calculus (at least). Complex logical predications are represented with such predicate nodes linked by logical connective relations. Thus the statement, *If A then B*, where A and B are complex bodies of semantic discourse representing large portions of the semantic network, is represented simply as, O(A)- R(implication)- O(B), where O(A) and O(B) each point to lists of semantic triples that may also be of the same time--predications linking predicate objects that have pointers to triples on their lists. (Always these lists may contain self-referential pointers--serving to justify the claim that the system has the power of at least the 2nd order predicate calculus.) (Other logical devices involving classes of objects and quantifiers are associated with the simulation language manipulates and modifies the semantic network.)
A final schematic of the relevant data structures:

```
Semantic ──── Lexical Expression List
0 ───── triple pointers
     ┌────────┐
     | lexical indices │
     └────────┘
             │
             │
network
triples
```

**Generative Rules: surface structure // semantic network**

The phrase structure rules in the system are part of more complex rules that compile the semantic deep structure network from surface structure--and which also serve the function of generating surface structure from the network. The general form of such a rule is:

```
phrase structure rule // canonical form of semantic triple
```

where the phrase structure rules are of the usual sort, where linked mappings between nodes in the right half of the phrase structure rules and elements in the network specification are indicated. Strictly speaking the network specification need not be limited just to a semantic triple, as will be seen in the section on inference of rules. Some examples of rules:

```
S→ NP VP // O - R
VP→ V NP // R - O
NPP→ adj NPP // O - R(attribute) - O
```

Note that items may occur on either side of the // marks that are not linked to items on the opposite side.

Full comprehension of these rules can best be obtained through an example of generation of surface structure from deep structure. Generalized mechanisms
for context sensitive rules and transformations are part of the model. But they are of a type more basic and primitive than in most existing linguistic generative models. They can represent more complex types of transformations when properly combined.

A Generation Example

Assume a grammar containing the following surface/semantic rules:

1. \( S \rightarrow NP \overset{VP}{/} O - R \)
2. \( NP \rightarrow NP PP \overset{/}{O} - R \)
3. \( NP \rightarrow \text{Det} \overset{NPP}{/} O \)
4. \( NPP \rightarrow \text{adj} \overset{NPP}{/} O - R - O \)
5. \( NPP \rightarrow \text{terminal} \)
6. \( VP \rightarrow \overset{VPP}{/} PP - R - R \)
7. \( VPP \rightarrow \overset{V}{NP \overset{/}{R} - O} \)
8. \( VPP \rightarrow \text{terminal} \)
9. \( V \rightarrow \text{terminal} \)
10. \( PP \rightarrow \overset{\text{prepNP}}{/} R - O \)
11. \( \text{prep} \rightarrow \text{terminal} \)

Assume that the semantic deep structure triple set to be used in the generation is:

\[
\begin{align*}
O(\text{man}) - R(\text{ride}) - O(\text{bicycle}) \\
R(\text{ride}) - R(\text{in}) - O(\text{park}) \\
O(\text{man}) - R(\text{is}) - O(\text{tall})
\end{align*}
\]

The overlap of various objects and relations in more than one triple is known to the generator by various link markings. The time associated with each triple is also part of the data. A starting symbol \( S \) is selected. A prior selective mechanism has placed the triple representing the main predication of the sentence at the top of the triple list. The generative component inspects all \( S \) rules whose right hand network description is of the same canonical form as that of the first semantic triple. Here the condition is not satisfied by the only \( S \) rule, 1. The triple is then broken into two overlapping parts, \( O(\text{man}) - R(\text{ride}) \) and \( R(\text{ride}) - O(\text{bicycle}) \). The \( S \) rules are then inspected for matches with the fractioned canonical forms. The first matches rule 1.
At this point lexical stems are selected from the lexical expression lists associated with the objects and relations in the matched triple fraction. A selected lexical item is tenatively assigned to the node indicated by the link in the syntactic//semantic rule. Grammatical information associated with the lexical item in the dictionary indicates whether or not it can serve as the head of a construction dominated by the node under which it was selected. In this case:

```
NP  S  VP
man  ride
```

```
Lexical Dictionary

<table>
<thead>
<tr>
<th>NP</th>
<th>VP</th>
<th>PP</th>
<th>ADJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>man</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>ride</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
```

A bit vector in the dictionary indicates the applicability of a particular node. Note that both `man` and `ride` could serve as nouns or verbs.

The grammar also marks the forms when appropriate for application of low level transformations at a later stage. If `man` were selected as a stem to fill a slot defined by an adjective node, ADJ, it would at this time be marked for later application of a transformation that would add `-ly` to it. If the lexical dictionary should prevent the selection of a form, an alternate from the lexical expression list is tried. If none on the list are acceptable, another surface//semantic rule is selected to express the semantic triple.

Number for objects is indicated directly in the lexical expression list associated with the particular object (some objects may be inherently plural, as in the case of objects that represent classes). As soon as the lexical items are selected and accepted (the stage in the preceding diagram), a test for applicability of a high level transformation is made. This transformation uses as its index information that never becomes more complex than the subtree indicated
in the above diagram—"a nuclear family tree"—a parent node and its immediate descendents. Often, as in this case, the lexical items are not relevant to the transformation, that here marks the VP with the same number as the NP.

\[
\begin{array}{c}
\text{S} \\
\text{NP} & \text{VP} \\
\text{man} & \text{ride} \\
\text{sg.} & \text{pres. sg.}
\end{array}
\]

Low level transformations that operate only on terminals and their immediate parent nodes will actually convert the stems to the appropriate words at the end of the generation process. The transformation markings supplied by the high level transformations are carried with the lexical items and may serve as part of the data for defining the applicability of other high level transformations. This breaking up of the transformational component into two types of limited environment primitive operations permits extremely rapid transformational generation and parsing algorithms. The complex labor of searching for applicable environments common to most other automated transformational systems is avoided.

Tense information is obtained from the time marking of the triple. The simulation system maintains a clock, and the relative time order of the triples in the deep structure generation list can be computed, so that the proper items may be marked for application of transformations handling tense.

Continuing the generation process, the system saves the remainder of the first triple and skips to the second because of a special link between their relations indicating simultaneity. No VP rule matches the second triple, and it is split into the fractions \( R(\text{ride}) - R(\text{in}) \) and \( R(\text{in}) - R(\text{park}) \). The first fraction matches rule 6. After lexical item in is selected, the tree appears as:
The second triple fraction matches rule 10, yielding after lexical selection:

At this point, the second fraction of the first triple is matched against rule 7, and, after lexical selection, the entire tree appears as:

No rule matches the remaining triple O(man) - R(is) - O(tall). Rule 2 matches the first fraction, but the lexical list for the relation R(is) contains no item acceptable as a PP node descendant. Accordingly, rule 3 is selected. At this point a high level transformation marks the Det for conversion to an appropriate form at the final stage. (If the lexical item had been a proper noun, the Det node would have been marked for deletion.)

At this point rule 4 applies to the entire, unfractionalized, remaining triple, yielding the subtree:
At this point rule 3 is applied to the NP nodes dominating bicycle and park.

The resultant tree is:

The final, low level transformations are applied, yielding the sentence:

"The tall man rides the bicycle in the park"

Note that the semantic triple set might have generated more than one sentence to express the content—either by deliberate stylistic design, or because the rules might not have permitted a grammatically correct construction incorporating the entire semantic structure.
In addition to the features described in the preceding quoted excerpt, we note that the current system makes use of production rules that refer to subclasses of relations. While such subclassification is not logically necessary for the mapping of semantic triples into surface structure, it does increase the speed of generation through the elimination of wasted effort in matching semantic triples with inappropriate rules. In the novel writer data base, for example, there are categorizations of relations into prepositional and non-prepositional types (among others) and a coding logic that permits a retreat to a more general categorization upon failure to find a match in the grammar for a particular subcategory.

There are also relations having a numeric logical typing. Such a relation may be used to select a lexical expression item as a function of its current numeric value. For example a numeric relation signifying "affection" may vary on a scale of plus or minus 3, where plus 3 might be linked to the lexical item "adore" and minus 3 to the item "loathe". In between values link to less extreme terms. The value of such a relation can change dynamically in a simulation as a function of events--accordingly, the appropriate lexical expression of the changing relation follows automatically.

Other features include the listing on generation or change stack of deleted triples and the possibility of marking the lexical expression list pointers with plural transformation markers. This last feature is for semantic nodes whose logical status is always plural, such as nodes that represent classes and whose lexical expression lists only contain pointers to terms descriptive of the entire class. (The dictionary only contains singular stems--hence the pointers to the dictionary connected to such nodes must receive prior plural marking.)
4.0 Highlights of the Simulation Language

A detailed description of an early version of the simulation language is contained in Klein, Oakley, Suurballe & Ziesemer, 1971. The basic function of the simulation component is to modify the semantic deep structure network as a function of stochastic behavioral rules that are evaluated in reference to an internal timekeeping mechanism.

A rule consists of two parts, a series of actions and a series of conditions for the implementation of those actions. The conditions are in the form of logical queries about the current state of the modelled universe as represented in the semantic network. Satisfaction or non-satisfaction of the various conditions contribute, either negatively or positively, to a cumulative probability of implementing the action list. A random number source is consulted after the conditions have been evaluated. If the preferred random number is less than or equal to the computed cumulative probability, the action list is implemented. The process can be made deterministic or random with any desired degree of control through manipulation of the probability parameters. Deterministic control is obtained by assigning very high values, such as plus or minus 10, to certain conditions because the range of the random number source is 0 to 1 (a value of 1 or greater indicates certainty and a value 0 or less is absolute rejection).

An internal clock mechanism determines the time of evaluation of groups of rules. Each group has a frequency of evaluation associated with it, and this frequency may be altered by action of some other rule. It may be increased or decreased or, in fact, temporarily or permanently turned off or disabled. A disabled rule may be reactivated.

There is also a directed sequence of evaluation through groups of rules in addition to the frequency factor. This sequence may be altered dynamically as a function of the actions of various rules.
The language also permits the use of classes of nodes in its actions and tests, and can also allow variables over those classes, as well as dynamic modification of class membership. There are both subscripted and unsubscripted classes and the subscripted class notation permits a class intersection logic in rules with class variables. For example, a subscripted class FRIENDS( X ), where X is a node name or another class name, can function as part of a logical construct in rule condition evaluation expression or action lists.

We present next a grammar of the rules in BNF phrase structure notation, a description of the action types, and a series of examples and notes. The material should help the reader follow the murder mystery simulation program in the appendix, Section 8.6.
GRAMMAR OF THE RULES

<single-valued field> ::= <node name> | <loop-variable name>
<multiple-valued field> ::= <subrule-variable name> | <general class reference>
  | PICK ( <multiple-valued field> )
<specific class reference> ::= <unsubscribed-class name>
  | <subscribed-class name> ( <single-valued field> )
<general class reference> ::= <specific class reference>
  | <subscribed-class name> ( <multiple-valued field> )
<general node field> ::= <single-valued field> | <multiple-valued field>

<unary op> ::= NOT | FLOAT | ABS | ENTIER | - | +
<binary op> ::= ** | * | / | MOD | + | - | EQ | NE | LT | LE | GT | GE
  | AND | OR
<LENGTH function> ::= LENGTH ( <multiple-valued field> )
<CLOCK function> ::= CLOCK
<relation DUR function> ::= DUR ( <relation name> )
<subrule DUR function> ::= DUR ( <general node field> <relation name>
  <general node field> )
<constant> ::= <number> | <duration>

<relation field operand> ::= <relation name> | <LENGTH function>
  | <CLOCK function> | <relation DUR function>
  | <constant>
<relation field subfactor> ::= <relation field operand>
  | ( <relation field expression> )
<relation field factor> ::= <relation field subfactor>
  | <unary op> <relation field factor>
<relation field expression> ::= <relation field factor>
  | <relation field expression> <binary op> <relation field expression>
<subrule-variable definition> ::= <subrule-variable name> <multiple-valued field>
<sentence node field> ::= <general node field> | <subrule-variable definition>
<sentence> ::= ( <sentence node field> <relation field expression>
               <sentence node field> )

<subrule operand> ::= <sentence> | <LENGTH function> | <CLOCK function>
                   | <subrule DUR function> | <constant>
<subrule subfactor> ::= <subrule operand> | ( <subrule expression> )
<subrule factor> ::= <subrule subfactor> | <unary op> <subrule factor>
<subrule expression> ::= <subrule factor>
                       | <subrule expression> <binary op> <subrule expression>

<option field> ::= <empty> | , <option characters>
<option characters> ::= {zero or more option characters}

<true-false number field> ::= <empty> | <number> , <number>
<subrule action field> ::= <empty> | : <action list>
<subrule> ::= <true-false number field> <option field> :
              <subrule expression> <subrule action field>
<subrule list> ::= <empty> | <subrule list> <subrule>
DESCRIPTION OF ACTIONS

I. ACTIONS affecting the network

I-1. Set triples in the network
where \( \text{triple}: \) OBJECT(0) RELATIONSHIP(R) OBJECT(0)

Forms: A. \( 0 \ R \ 0 \)
B. \( 0 \ R = X \ 0 \)
C. \( 0 \ R \)
D. \( 0 \ R = X \)

FORM OF TRIPLE DEPENDS ON RELATIONSHIP TYPE:
A. is transitive or intransitive relation, B. is numeric or quantitative intransitive, C. is attribute relation, D. is quantitative attribute relation or numeric attribute relation

I-2. To delete triples in the network
Form: \( 0 \ '\text{NOT}' \ R \ (0) \)

I-3. To modify numeric relationships in the network
Form: \( 0 \ R \pm X \ (0) \)

I-4. To set secondary triples in the network
*INSERT (TRIPLE) (SECONDARY TRIPLE) ......
Secondary triples are modifiers of primary triples and are transparent to the network, being accessible only through the primary triple which it modifies. The form of a secondary triple is arbitrary with the restriction that the second argument is a relationship and the number of arguments \( \leq 3 \).

I-5. To delete secondary triples from the network
*DELETE (TRIPLE) (SECONDARY TRIPLE)

NOTE: replace all references to \(<\text{NODE}>\) by \(<\text{GENERAL NODE FIELD}>\)

II. ACTIONS affecting classes

II-1. To add nodes to a class
*ADD \(<\text{NODE}>'\text{TO}'<\text{CLASS}>\) : adds all members of \(<\text{GENERAL NODE FIELD}>\) to \(<\text{CLASS}>\)

*MOVE \(<\text{NODE}>'\text{TO}'<\text{CLASS}>\) : the contents of \(<\text{CLASS}>\)
is replaced by \(<\text{GENERAL NODE FIELD}>\)
II-2. To remove nodes from a class
   *REMOVE <NODE>'FROM'<CLASS>

II-3. To remove all entries from a class
   *ERASE <class>

III. ACTIONS affecting lexical items

III-1. To add lexical triples at run-time where the lexical triples
       are arbitrary combinations of 0's and R's ≤ 3 entries.
       *LEXTRP (arbitrary triple)....'TO'<NODE>|<RELATION>

III-2. To move lexical triples from one node or relation to another
       at run time
       *LEXADD <NODE>|<RELATION>...'TO' <NODE>|<RELATION>

IV. ACTIONS affecting predicate nodes

IV-1. To insert pointers to network triples to the predicate list of
       a node.
       *DISCADD (triple)....'TO' <NODE>
       this action will also create triples which do not already exist
       in the network

IV-2. To clear the list of pointers to network triples of a node
       *DISCLEAR <NODE>

V. Actions to control the scheduling of groups of rules

V-1. To activate a group
       *ENABLE <GROUP NAME> IN <DURATION>

V-2. To de-activate a group
       *DISABLE <GROUP NAME>

VI. Miscellaneous Actions

VI-1. To print a list of all triples with a specified node as
       the subject
       *DUMP <NODE>
VI-2. To control the printing of trace messages in the
A. *TEST ABCDE = 1000
   ABCD and E are optional trace types, the number to the
   right of = is a maximum line count for the number of
   traces to be printed.
B. *TSTOP ABC
   Turns off the traces specified.
C. *TSTART AB
   Turns specified traces on or back on.

VI-3. To print a message
   *PRINT <PRINT ARGUMENT>

VI-4. To terminate simulation
   *END
EXAMPLES AND NOTES

Assume in the following examples that the names below have these associations:

Node names:  JOHN  MARY  GEORGE  SUE  BEDROOM
Relation names:  '(A):  HAPPY  SAD
               (I):  LIKES  LOVES  IN  HATES  DISLIKES
               (NI):  AFFECTION
Class names:  unsubscribed:  PEOPLE  ROOMS
             subscribed:  FRIENDS( )
                     ENEMIES( )
                     ADJACENT( )
Loop-variable names:  PERSON  ROOM  X  Y
Subrule-variable names:  P  Q  R

General notes:

(a) Input cards are read between columns 1 and 72; 73-80 are ignored.
(b) Free format. Blanks can be used freely except in the following cases. Blanks must not appear (1) within numbers, durations, or reserved words; (2) anywhere in an option field; (3) between trace characters.
(c) Names must start with a letter, followed by letters or digits to any length. However, only the first 8 characters are saved. Thus, LOOPNAME1 and LOOPNAME2 would be taken as the same variable by the system.
(d) Relations can be of the following types:
   A: attribute (normal)
   I: normal intransitive
   T: transitive
   NA: numeric attribute (with synonym list)
   NI: numeric intransitive
   QA: quantitative attribute (no synonym list)
   QI: quantitative intransitive
(1) <multiple-valued field> :  
P
  FRIENDS(GEORGE)
  ADJACENT(ROOMS)
  PICK(PEOPLE)
  ENEMIES(PICK(ENEMIES(FRIENDS(Q))))
  PEOPLE

  The PICK function returns a single node, chosen randomly, from its argument. Multivalued subscripts implies concatenation of the specified subscripted classes.

(2) <specific class reference> :  
  PEOPLE
  FRIENDS(PERSON)
  ADJACENT(BEDROOM)

(3) <general node field> :  
  JOHN MARY PERSON
  P PEOPLE ENEMIES(PICK(Q))
  PICK(PEOPLE)
  ADJACENT(ROOMS)

(4) <unary op> :  
  The FLOAT operator operates on arguments of type logical, giving 1.0 for TRUE and 0.0 for FALSE. The ENTER operator truncates the fractional part of a number (eg, ENTER(14.23)=14.0).

(5) <binary op> :  
  The symbols =, /=, <=, >= can be used as synonyms for the relational operators EQ, NE, LT, LE, GT, and GE.

(6) <LENGTH function> :  
  LENGTH(PEOPLE)
  LENGTH(ADJACENT(ROOMS))

  Returns a number equal to the number of nodes in its argument.

(7) <CLOCK function> :  
  Returns a number which corresponds to the time of day, ie from OHOM to 23H59M.

(8) <relation DUR function> :  
  DUR(LIKES)
  DUR(IN)
  DUR(HAPPY)

  This function occurs inside a sentence. (S DUR(R) O) returns a number equal to the length of time this triple has been in the network. The relation name must be of a non-numeric relation. If the triple does not exist, a run-time error is printed and 0.0 is returned.

(9) <subrule DUR function> :  
  DUR(JOHN LIKES MARY)
  DUR(PERSON IN R)

  Returns a number equal to the length of time a triple has been in the network. The relation name must be non-numeric. While multiple-valued fields are allowed in the syntax, they must contain only a single value at execution time of a DUR function, or else a run-time error will result. Note that no subrule-variable updating ever occurs in a subrule DUR function. If the specified triple is not in the network, an error is printed out, and 0.0 is returned.
(10) \textit{<relation field expression>}: \\
\texttt{LIKES} \\
\texttt{LIKES AND NOT (HATES OR DISLIKES)} \\
\texttt{DUR(LIKES) GT 1H OR DUR(LOVES) GT 30M} \\
\texttt{LENGTH(P) GT 0 AND DUR(LIKES)/1H*001 LE DUR(LOVES)} \\
\texttt{ABS(AFFECTION*.003) + FLOAT(LIKES)/10.} \\
Relation field expression can be either of type logical or type numeric. A relation name that is numeric or quantitative (i.e., \texttt{Na}, \texttt{Ni}, \texttt{QA}, or \texttt{QI}) is taken as a numeric operand. Other types (\texttt{A}, \texttt{I}, or \texttt{T}) all are assumed to be logical operands (except within a \texttt{DUR} function). The type of the relation expression determines what type of result the enclosing sentence will return, either a logical value or a numeric value. The operators have specified precedences not explicitly implied in the grammar, and checks are made for correct operand types.

(11) \textit{<sentence>}: \\
\texttt{(PERSON LIKES OR LOVES P.PEOPLE)} \\
\texttt{(JOHN AFFECTION MARY)} \\
\texttt{(X DUR(LIKES) Y)} \\
\texttt{(GEORGE DUR(LOVES)LT 1W SUE)} \\
\texttt{(FRIENDS(X) AFFECTION LT 0 Y)} \\
\texttt{(X HAPPY OR NOT SAD)} \\
\texttt{(MARY HAPPY AND LIKES JOHN)} \\
All these sentences return a logical result except the second and third ones. If the relation expression in a sentence yields a numeric value, the subject and object fields of the sentence must be single-valued, or else an error will result.

(12) \textit{<option field>}: An optional field which specifies the options to be in effect. Currently used options are:

\begin{itemize}
\item \texttt{S} \textbf{Synchronous group flag.} Used in the option field of a \texttt{$GROUP$} statement to flag a group as synchronous. Example: \texttt{$GROUP$ S NEWS: 1H/ON;} defines a group which will be executed at hour intervals, on the hour.
\item \texttt{O} \textbf{Optimization flag.} (Sentences with side effects are not necessarily executed in the subrules, depending on the results of previous logical results).
\item \texttt{C} \textbf{Current cycle flag.} Allows sentences to test for triples which have been set true during the current time cycle. (Otherwise these are not available till a later time cycle, i.e., they act as if they weren't there during the same time cycle).
\end{itemize}

An option field specified on a \texttt{$GROUP$}, \texttt{$LOOP$}, \texttt{$RULE$}, or \texttt{$SWITCH$} statement is in effect for all subrules within its scope, unless explicitly overridden by an option field at a lower level.
(13) \(<\text{subrule}>\) :

\(.2,0: (\text{PERSON LIKES OR LOVES P,PEOPLE}) \text{ AND } (P \text{ IN ROOM});\)
\(-10,0,C: (X \text{ NOT IN HOUSE}) \text{ OR } (Y \text{ NOT IN HOUSE});\)
\(-.1,.2: (\text{P,PEOPLE LIKES X}) \text{ AND } (Y \text{ LIKES P});\)
\(*\text{MOVE P} \text{ TO TEMPCLS};\)
\(*\text{ADD X} \text{ TO TEMPCLS};\)
\(,0C: (X \text{ AFFECTION MARY})^*0.1 + .2;\)
\(: \text{CLOCK}/24H + \text{FLOAT(CLOCK LT 5H)};\)

Execution of a subrule returns a number (ie, probability) and optionally specifies an action list to be unconditionally executed. Options in effect for this subrule are either explicitly stated, or are gotten from the last option field in effect (eg, the enclosing \$RULE). A "probability" of +10 or -10 means "abort the subrule list" and return either a TRUE or FALSE for the rule.

(14) \(<\text{action list}>\) : A list of one or more actions, separated by commas. Actions can either add or delete triples from the network, or perform a control action such as manipulating classes, enabling or disabling groups, or specifying trace or print parameters.

(15) \(<\text{branch field}>\) :

\text{RULE1}
\$NEXT PERSON
\$NEXT X
\$ENDGROUP

A statement label gives the statement to branch to. A rule can branch anywhere within a group, including out of a loop into an outside loop, but not within a non-enclosing loop. The \$NEXT format says to get the next value for a loop variable (equivalent to \text{flowing into an } $\text{ENDLOOP statement for that loop}$). A branch to \$ENDGROUP terminates the execution of the group, though it does not disable the group (a *DISABLE action is the only thing which can do this).

(16) \(<\text{$\text{RULE statement}$}>\) : Basic unit of the language. The cumulative total of the subrule probabilities is tested against a random number which is generated. If the random number (between 0 and 1) is less than or equal to the cumulative total, the rule evaluates TRUE, and the action list of the rule is executed. If not, then it evaluates to FALSE and no actions in the rule's action list are executed. If a branch part is specified, the TRUE or FALSE result also tells where to branch to. Eg,

\$RULE,C \text{ ABC: T($NEXT X) X LIKES Y, *ADD Y TO FRIENDS(X);} \text{-.2,0: (X HATES OR DISLIKES Y);} \text{.4,0: (P.FRIENDS(X) LIKES Y) AND (X LOVES P);}
(17) `<$SWITCH statement>`: This is exactly the same as a `$RULE` statement except that an action list cannot be specified in the main part of the statement (i.e., subrule action lists are still allowed). This statement is used only for branching purposes.

(18) `<$LOOP statement>`: The specified loop variable will take on all values in the associated multiple-valued field, one at a time. One pass through the loop is made for each different value the loop variable takes on. Note that the values in this multiple-valued field are saved on loop entry, and even if the values of this field change during the execution of the loop, this will have no effect on the order or number of loop passes made. Eg,

```
$LOOP,OC : X.FRIENDS(Y);
```

(19) `<statement list>`: This is defined such that any `$LOOP` statement must have a matching `$ENDLOOP` statement. Such loops can be nested (currently to a maximum level of 10 only), and can contain other types of statements.

(20) `<$GROUP line>`: Identifies the start of a group, gives its time increment, and specifies whether the group is enabled initially or not. The time increment of a group says how often that group will be executed if it is enabled. The "synchronous flag" on a group requires execution of the group only at even multiples of the specified increment. A group can disable or enable any other group, including itself. A group cannot be executed if it is disabled.

(21) Subrule-variables: These are local variables that can take on a list of values and get updated within a rule. Any subrule variable defined inside a given rule is unknown outside that rule and therefore cannot be referenced. However, the contents of a particular subrule can be saved in a class by a control action in a subrule action list. The initial definition of a subrule variable creates a copy of the values (i.e., nodes) in the specified multiple-valued field. As the subrule-variable is referenced, values in the variable may be deleted. In fact, the only values that are allowed to remain in a subrule-variable are those which make the sentence return `TRUE` as a result. (If the sentence returns a numeric result (instead of logical), subrule variables within it are not updated, and an error occurs if a subrule variable contains more than one value.) Eg.

```
(P,PEOPLE LIKES OR LOVES X)
```

After evaluation, P will contain all those nodes in the class PEOPLE that either LIKES or LOVES X. If no one likes or loves X, P will be set to empty and `FALSE` returned. If at least one value in P makes the sentence `TRUE`, then the sentence will return `TRUE`. 
5.0 Novel Writer Features and Futures

The data base for the murder mystery simulation is rather simple and skeletal. A very small grammar was used with only a few transformations. The lexical expression lists contain only a limited selection of variants for the semantic nodes and relations. Some errors in the grammar codes of some dictionary items remain.

Our goal was to test the entire system. It is capable of operating with a vastly more sophisticated data structure. Also, not all features of the simulation language were exploited in the murder mystery program. The predicate node device was not used. Text involving productions such as, "George knows that John loves Mary", were derived from exploitation of the same secondary triple device that handled expressions of the type, "John broke the window with a hammer." The reason: while the simulation language can dynamically add semantic triple list pointers to nodes and relations, the code for adding the indicated triples to the change stack is not fully implemented. The final implementation of this code will permit easy generation of direct discourse, e.g. constructions such as "John said, (sentence_1, sentence_2...sentence_n)"

5.1 Style Control

While some effort was made to control a few facets of style in the current simulation, most possibilities remain to be exploited. We have found that the simulation language itself can be exploited as a style control device. Various constructs in the rules indicate which triples may be combined into a single sentence according to a sequencing logic. Also, the repetition of the same action by several characters at the same time is usually expressed by a pronoun such as "They..." or "Everyone..." even though each individual action is separately tabulated in the semantic network. To achieve this a special
"They" node was created in combination with a "They" class. Several individuals performing the same action in the same time period are assigned temporarily to the "They" class, and output makes use of a triple signifying the action with the "They" node functioning as the subject. Special commands such as UNLST and LST alternately block and unblock the generation of uninteresting or repetitious semantic triples. This blocking is occasionally introduced as a random device to vary the output.

A crude and not always successful device is used to control the use of definite and indefinite articles. For the first occurrence of some nodes on the change stack "a" is selected—in successive productions "the" is used. (This tabulation holds for all succeeding time frames.) The device collapses where the simulation program data structure has apportioned only a single class type node for several objects (out of laziness or for economy).

Weighted probabilistic selection of syntactic rules is a device that, although not used in the current system, was actually successfully tested in an automatic essay paraphrasing and style control system described in Klein, 1965a & b.

Narration from the point of view of particular characters is another possibility, and is perhaps most interestingly implemented with the addition of private semantic universes (see section 5.2).

Addition of a complex network searching component will permit the system to add rich contextual detail to events. For example, where now a change stack may contain just some bare facts about recent changes, a network searching device could seek paths between nodes in apparently unrelated triples, and, if paths exist, add them to the change stack as linking background information.

It should also be possible to have different characters produce discourse in varying styles and dialects as a function of sociolinguistic context.
The techniques are implicit in the following discussion of private universes.

5.2 Private Semantic Universes for Individual Characters

The ability to provide individual characters in a simulation with private semantic networks, personalized grammars, and even personalized behavioral simulation rules can be achieved with only mildly clever systems programming techniques. The operating system on the Univac 1108, and operating systems of perhaps all 3rd and 4th generation computers have system commands to facilitate a restart capability—that is, the ability to store on disc the current state of a program at specified intervals during execution so that in the event of system failure, the program may be restarted at the point of the last execution of a "store on disc command", without the necessity of starting the program from the beginning.

To implement private universes for individual characters, it is only necessary to add an executive program that will treat each private universe as the total universe when it is resident in core storage, and to save it on disc with a unique name when it is ready to process another character's private universe. The existence of core-resident buffers for communication between private universes is assumed.

5.3 Simulation of Simulations: Look-Ahead, Planning, Time Travel and Dreams

Implementation of the private universe capability permits some fascinating possibilities: An individual character could be made to resort to his own look-ahead simulation of events in order to evaluate decision making criteria about the implication of current actions on future events. This would require a private simulation using the data and rules of a private universe. The outcome or outcomes could serve as data to compute probabilities of courses of action for the private individual's actual, simulated real world behavior. Of course
introspective, look-ahead simulation need not give accurate results, only hypothetical predictions based on the private rules of a private universe. Naturally, such a universe might contain models of other characters and their private universes. The device also lends itself to the modelling of dream behavior.

For those readers with an interest in science fiction fantasy, we note that this device can be used to model time travel stories, with all conceivable paradoxes. Essentially, it is necessary that the rules permit a private character to treat his introspective look-ahead (or look-back) as serious reality rather than speculation. In the case of travel into the past, all the other characters must take the look-back seriously also.

5.4 Semantic Parsing

The private universe concept makes it interesting to allow communication between modelled characters directly via conversational interaction. Of course sophisticated semantic parsing techniques are required. A great deal of work in this area has been attempted by numerous researchers. Although we have not implemented such programs in this system, preliminary study suggests that it will permit semantic parsing logic many times more powerful than any in programs currently in existence. The reason: we own the universe of discourse, a universe where all the subtleties of behavior, motivation and context over complex time intervals are all available as data for resolution of the ambiguity that always plagues development of sophisticated semantic parsers.

5.5 Linguistic and Behavioral Learning: Self-Modifying Behavior and Natural Language Meta-Compiling

The use of this system for modelling speech communities, language learning and language transmission in conjunction with sociolinguistic models has been explored in detail in Klein, 1965c, 1966, 1972 and Klein et al 1969.
The transmission and learning of complex, non-verbal behavioral patterns is also possible using the same mechanisms of the system. Simulation rules may also have a representation in the semantic deep structure network of private individuals. Also, the semantic deep structure may be used to generate sentences and texts (rules and rule groups) in the simulation language itself. The system already has the ability to compile dynamically and add to the simulation new rules that might be generated during the flow of a simulation. It thus becomes possible for characters to modify their own behavior rules in response to private introspection and look-ahead, or in response to verbal and non-verbal behavior of others.

The simulation rules governing rule generating behavior may themselves be modified and generated by the same mechanisms, providing the system with a natural language, meta-compiler capability.

6.0 Significance for Linguistics, Sociolinguistics and the Behavioral Sciences in General

We dare to say that Linguistic Theory has no future that is not linked to a computer based experimental methodology. Contemporary linguistic theoretical science has many brilliant theorists in the position analogous to that of a great mathematician attempting to formulate the methodology of long division using roman numerals.

The system described here, with its potential development, provides a means of expressing and testing a vast range of theoretical linguistic models in conjunction with a vast range of sociological and psychological behavioral models, all within the framework of a common, efficient, dynamic time-oriented notation. The implication is that, for the first time, it will be possible to test heretofore untestable theories of language and language related behavior in psychological, sociological and historical contexts.
7.0 References


Mel'čuk, I.A. 1972. Учебное руководство технологий и общее определение решений «Слово -> Текст». Предпосылки к изучению, Введение, структура, информационные связи, АА СССР, Москва.


8.0 Appendix

The semantic deep structure model, as reflected in the choice of nodes, relations and mappings has been more or less arbitrary and experimental, even deliberately inconsistent. The function of the system is independent of the choice of semantic units. One may substitute any scheme according to the dictates of any theory. However, preliminary results suggest that any number of semantic deep structure components will all work nicely, and that the usual arguments for economy or elegance that are to be found in linguistic literature are not necessarily valid in this system. We sense the possibility of proof that such arguments are really functions of the particular notational devices used. A basic principle in computational work is that there is an economy trade between static storage space versus computation time. The non-computational models of linguistic theorists ignore this fact in their proposals and arguments for models of human language behavior.

8.1 Surface Structure/Semantic Network Production Rules

Logically, the system need not be limited to semantic 3-tuples and binary phrase structure rules, although such a convention has been used in this version.

<table>
<thead>
<tr>
<th>0=object, sub 1=that</th>
<th>RV=verb, sub 1=start, stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>R=any relation</td>
<td>RP=prep</td>
</tr>
<tr>
<td>RA=attribute(adj)</td>
<td>RS=possessive</td>
</tr>
<tr>
<td></td>
<td>RADV=adverb, sub 1=adv before verb</td>
</tr>
</tbody>
</table>

PMAP positionally defines mappings between PTYPE triple fragments and the phrase structure rule portions. E.g. in rule 1, the 0 is linked to the NP and the RV is linked to the VP; in rule 4, the first 0 is linked to NPP, the RS is linked to nothing and the second 0 is linked to PNP. PSUB positionally lists relation type subscripts in parallel fashion. PTRANS indicates high level transformation mapping information associated with each rule:

1. = carry down bit vector (null trans.)  2. = OR (logical) bit vectors of new nodes
3. = set infinitive bits for both words  4. = set participle bit for second word
5. = set objective case bit for second word
<table>
<thead>
<tr>
<th>GRAMMAR</th>
<th>PTYPE</th>
<th>PTYPE</th>
<th>PMAP</th>
<th>PSUB</th>
<th>PTRANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 S</td>
<td>NP</td>
<td>VP</td>
<td>O</td>
<td>RV</td>
<td>1 2 0  0 0 0  0 2</td>
</tr>
<tr>
<td>2 S</td>
<td>NP</td>
<td>AP</td>
<td>O</td>
<td>K</td>
<td>1 2 0  0 0 0  0 2</td>
</tr>
<tr>
<td>3 NP</td>
<td>ART</td>
<td>NPP</td>
<td>O</td>
<td></td>
<td>2 0 0  0 0 0  0 2</td>
</tr>
<tr>
<td>4 NP</td>
<td>PNP</td>
<td>NPP</td>
<td>O</td>
<td>RS</td>
<td>2 0 1  0 0 0  0 1</td>
</tr>
<tr>
<td>5 NPP</td>
<td>N</td>
<td></td>
<td>O</td>
<td></td>
<td>1 0 0  0 0 0  0 1</td>
</tr>
<tr>
<td>6 NPP</td>
<td>ADJ</td>
<td>NPP</td>
<td>O</td>
<td>RA</td>
<td>1 2 0  0 0 0  0 1</td>
</tr>
<tr>
<td>7 NPP</td>
<td>NPP</td>
<td>MOD</td>
<td>O</td>
<td>RP</td>
<td>1 2 0  0 0 0  0 1</td>
</tr>
<tr>
<td>8 NPP</td>
<td>NPP</td>
<td>MOD</td>
<td>O</td>
<td>RV</td>
<td>1 2 0  0 0 0  0 1</td>
</tr>
<tr>
<td>9 VP</td>
<td>V</td>
<td></td>
<td>RV</td>
<td></td>
<td>1 0 0  0 0 0  0 0</td>
</tr>
<tr>
<td>10 VP</td>
<td>VP</td>
<td>VP</td>
<td>RV</td>
<td>RV</td>
<td>1 2 0  1 0 0  0 4</td>
</tr>
<tr>
<td>11 VP</td>
<td>VP</td>
<td>VP</td>
<td>RV</td>
<td>RV</td>
<td>1 2 0  0 0 0  0 0</td>
</tr>
<tr>
<td>12 VP</td>
<td>VP</td>
<td>THAT2</td>
<td>RV</td>
<td>O</td>
<td>1 2 0  0 1 0  0 0 1</td>
</tr>
<tr>
<td>13 VP</td>
<td>VP</td>
<td>NP</td>
<td>RV</td>
<td>O</td>
<td>1 2 0  0 0 0  0 0 0 0 5</td>
</tr>
<tr>
<td>14 VP</td>
<td>VP</td>
<td>MOD</td>
<td>RV</td>
<td>RA</td>
<td>1 2 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>15 VP</td>
<td>VP</td>
<td>MOD</td>
<td>RV</td>
<td>RP</td>
<td>1 2 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>16 VP</td>
<td>ADV</td>
<td>VP</td>
<td>RV</td>
<td>RADV</td>
<td>2 1 0  1 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>17 VP</td>
<td>VP</td>
<td>ADV</td>
<td>RV</td>
<td>RADV</td>
<td>1 2 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>18 MOD</td>
<td>PART</td>
<td></td>
<td>RV</td>
<td></td>
<td>1 0 0  0 0 0  0 0 0 0</td>
</tr>
<tr>
<td>19 MOD</td>
<td>ADJ</td>
<td></td>
<td>RA</td>
<td></td>
<td>1 0 0  0 0 0  0 0 0 0</td>
</tr>
<tr>
<td>20 MOD</td>
<td>PREP</td>
<td></td>
<td>RP</td>
<td></td>
<td>1 0 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>21 MOD</td>
<td>PREP</td>
<td>NP</td>
<td>RP</td>
<td>O</td>
<td>1 2 0  0 0 0  0 0 0 0 0 0 5</td>
</tr>
<tr>
<td>22 MOD</td>
<td>PART</td>
<td>NP</td>
<td>RV</td>
<td>O</td>
<td>1 2 0  0 0 0  0 0 0 0 0 0 5</td>
</tr>
<tr>
<td>23 MOD</td>
<td>ADJ</td>
<td>THAT2</td>
<td>RA</td>
<td>O</td>
<td>1 2 0  0 1 0  0 0 0 0 1</td>
</tr>
<tr>
<td>24 MOD</td>
<td>ADV</td>
<td>ADJ</td>
<td>RA</td>
<td>RADV</td>
<td>2 1 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>25 MOD</td>
<td>ADJ</td>
<td>VP2</td>
<td>RA</td>
<td>RV</td>
<td>1 2 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>26 MOD</td>
<td>ADJ</td>
<td>VP2</td>
<td>RA</td>
<td>RP</td>
<td>1 2 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>27 AP</td>
<td>IS</td>
<td>MOD</td>
<td></td>
<td></td>
<td>2 0 0  0 0 0  0 1 2</td>
</tr>
<tr>
<td>28 VP2</td>
<td>TO</td>
<td>VP</td>
<td>RV</td>
<td></td>
<td>2 0 0  0 0 0  0 0 0 0 3</td>
</tr>
<tr>
<td>29 VP2</td>
<td>PREP</td>
<td>NP</td>
<td>RP</td>
<td>O</td>
<td>1 2 0  0 0 0  0 0 0 0 0 0 5</td>
</tr>
<tr>
<td>30 VP2</td>
<td>PREP</td>
<td>MOD</td>
<td>RP</td>
<td>RV</td>
<td>1 2 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>31 THAT2</td>
<td>THAT</td>
<td>S</td>
<td>O</td>
<td></td>
<td>1 0 0  0 0 0  0 0 0 0 1</td>
</tr>
<tr>
<td>32 PNP</td>
<td>NP</td>
<td>POS</td>
<td>O</td>
<td></td>
<td>1 0 0  0 0 0  0 0 0 0 1</td>
</tr>
</tbody>
</table>
8.2 Transformations

As indicated earlier, the system obtains its ability to model a variety of linguistic models, and at the same time a great speed of execution, by decomposing transformational operations into primitive components at several stages. Indications for applications of the transformational fragments are marked and tabulated throughout the generation process. Some of the transformation types themselves give directions for computing and assigning the transformational markings to the growing generation tree (as in section 8.1).

Ultimately, every terminal element is associated with a bit vector indicating applicable low level transformations as assigned during the various stages of generation. The method avoids complex tree search after phrase structure generation, and in comparison with other automated transformational generation systems obtains thereby what may be a 100 to 1 speed advantage.

High Level Transformation Codes (non pronoun)

1. noun sing.
2. noun plural
3. adjectival form
4. prepositional form
5. adverbial form
6. participial form
7. verb (present sing.)
8. verb (present plural)
9. verb (past sing.)
10. verb (past plural)

(pronoun)

1. subjective case
2. objective case

Low Level Transformation Codes

1. NULL
2. add "will"
3. add "s"
4. add "ing"
5. add "d"
6. add "ly"
7. add "y"
8. delete 1 character and add "ies"
9. add "ed"
10. delete 1 character, add "ing"
11. delete 2 characters, add "en"
12. add "es"
13. add "er"
14. add "ings"
15. add "ers"

There are other kinds of high level discourse type transformations not listed here. Of special interest is the one in the form of a special triple of the form $M_k Q_{Q_k}=(n)$: combine the next $(n)$ head triples with the one preceeding. It can be found in the simulation commands and on change stacks.
8.3 Dictionary

Lines 3-8 are patterns for setting grammar symbol bits in the dictionary.

The word TYPE delimits classes of words.

The line following TYPE sets bits in the dictionary bit vector (article/no article, pronoun, etc.) For example: line 179-- bit 2 is set for all words in that class for 'no article'; in line 266, bits 2 and 9 are set for all words in that class for 'no article', 'pronoun'.

The lines with pattern types (N, V, PREP, ADJ, ADV, PART) indicate which patterns of grammar bits to set. For example: line 12, line 14-- for word 'BE' all bits of pattern PART (line 8) and all bits of pattern V(line 4) will be set. Thus, 'BE' is an allowable choice for V, VP, MOD, AP VP2, or PART when matching in grammar rules.

The lines following pattern types indicate transformations to be associated with all words in the class. For example: in line 25, noun sing. transformation is TRANS #1 on word 0; noun pl transformation is TRANS#3 on word 0.

Stem alternates are listed with their associated transformations. Word 0= main entry Word 1=1st stem, Word 2=2nd stem, etc. For example: in lines 15-16, V present sing. is TRANS #1 on stem 1 (null trans on 'is'); V past sing is TRANS #1 on stem 2 (null trans on 'are').
TUNAMARE 00378  SScrew 00413  SFIRL
ESTUPID 00379  SNAPPEN 00414  SFATTER
ESTONG 00380  SPAGER 00415  SGOSSIP
SSORRY 00381  SSPEAR 00416  SGOSSIP
4RICH 00382  SREMEMBER 00417  TYPICAL
EPRITY 00383  SRIGHT 00418  TYPE
12POORNOGRAPHIC 00384  55SHOCK 00419  ADJ
4POOR 00385  4RUIN 00420  0 5
4NICE 00386  4YANK 00441  PART
101SLIEADING 00387  4YELL 00442  0 10
3NAS 00388  4WANT 00444  V
4LONG 00389  4WAG 00445  0 3 0 1
4LAST 00391  4TALK 00446  0 5 0 1
4HEAVY 00392  8THREATEN 00447  WORG 3GHERE
4HEART 00393  75SUSPECT 00448  WORE 4RIG
PHANSOM 00394  75SUGGEST 00449  WORDER 4RIG
SHAPPY 00395  5START 00450  WORDER 4EVARAGE
2FAT 00396  727ACRER 00451  WORDER 5SURPRISE
6EIGHT 00397  75MOTHER 00452  WORDER 4WAVE
8FRAGrant 00398  65SCREAM 00453  WORDER 8STUGGLE
4COOL 00399  8SOFK 00454  WORDER 5SOLVE
UGLY 00400  4GUTTEN 00455  WORDER 5SORE
WICIENT 00401  7TRAND 00456  WORDER 5SHORE
4DEEP 00403  4SPORT 00457  WORDER 5SMILE
4FILL 00404  3PAY 00458  WORDER 5SERVE
4GOOD 00405  3ROM 00459  WORDER 6SCHINE
GEAFRAD 00406  304W 00460  WORDER 6SCUBE
4SPARK 00407  403CN 00461  WORDER 6EYECUSE
333000 THIRSTY 00408  7MOTION 00462  WORDER 6FROWE
4ASLEEP 00409  4LOW 00463  WORDER 5PREPARE
4SLEEP 00410  5LAUGH 00464  WORDER 5MOV
4CLEVER 00411  4KICK 00465  WORDER 4GAVE
4ERAVE 00412  4JOI 00466  WORDER 5FYPNOUNCE
4Roman 00413  4ECON 00467  WORDER 5SAQUR
4SIMPTACN 00414  4RAIN 00468  WORDER 5EINVITE
6COVEWRED 00415  4LA 00469  WORDER 5EMOTICE
10EGY GOING 00416  7WHSKERR 00470  WORDER 5PHONE
92RITABLE 00417  8FAINT 00471  WORDER 7REIVE
7SOUDENT 00418  5JOY 00472  WORDER 7DEECIVE
12INPOVERISHED 00419  5SHURE 00473  WORDER 7STHULE
104ILL TO DO 00420  5CAEH 00474  WORDER 4LIKE
8DEARIANT 00421  5FAERST 00475  WORDER 4DEESE
74UGIC 00422  4CALL 00476  WORDER 4MOVE
8BEAUTIFUL 00423  35W 00477  WORDER 4ESURCE
2OERM 00424  6AWAKEN 00478  WORDER 4DECIDE
5525 00425  54ACK 00479  WORDER 5GARE
7562 00426  5COVE 00480  WORDER 5TAXNEINE
7969 00427  4CRAH 00481  WORDER 5RIG
9BEAUTIFUL 00428  4CALL 00482  WORDER 5GOUSE
4GOOD 00429  4CALL 00483  WORDER 4CONVINGE
4TATT 00430  64ACK 00484  WORDER 5CRAH
6425 00431  5GOD 00485  WORDER 5ROLAPiece
6426 00432  5CRAH 00486  WORDER 12CONGRATULATE
| 00311 | V | 0 3 0 1 | 00365 | TYPE | 00319 | 0 1 0 3 |
| 00312 | 0 5 0 5 | 00366 | ADJ | 00320 | ADJ |
| 00314 | WORD 3LIE | 00367 | O 1 | 00321 | 2 1 |
| 00315 | STEM 2LY | 00368 | 0 | 00322 | WORD 3DRINK |
| 00316 | STEM 4Liar | 00369 | 1 6 | 00323 | STEM 3DRINK |
| 00317 | TYPE | 00370 | 0 | 00324 | TYPE |
| 00319 | N | 00325 | 1 6 | 00325 | TYPE |
| 00320 | 0 1 0 3 | 00374 | 0 1 6 | 00326 | TYPE |
| 00321 | ADJ | 00375 | 0 1 | 00327 | N 0 1 |
| 00322 | 2 1 | 00376 | 0 | 00328 | 3 2 |
| 00329 | N | 00377 | 0 | 00329 | Word 9*15Mother |
8.4 Nodes, Relations and Classes

The input data for the nodes contains a listing of node names followed by a lexical expression list. Numbers separated by spaces indicate the following:

0 = singular
1 = plural
2 = singular, but definite article even on 1st occurrence
3 = plural, and always associated with a definite article

Note that this information is eventually passed on to both high level and low level transformation components; other devices may also determine number at later stages.

Three pieces of information are associated with the relation input in addition to the specification of the lexical expression list. The letter codes indicate logical type:

- \( A \) = attribute (normal)
- \( T \) = transitive
- \( NI \) = numeric intransitive : with lexical expression list
- \( QA \) = quantitative attribute (no lexical expression list)
- \( I \) = normal intransitive
- \( NA \) = numerical attribute (with lexical expression list)

'Transitive' and 'intransitive' here refer to logical transitivity as opposed to syntactic transitivity. E.g. "If \( A \) \( R \) \( B \) and \( B \) \( R \) \( C \), then \( A \) \( R \) \( C \)." implies that \( R \) is transitive.

The first number following the letter code represents the relation type:

- \( 3 \) = general class
- \( 4 \) = prepositional class
- \( 5 \) = possessive
- \( 2 \) = attribute class
- \( 6 \) = adverbial type

These are not grammar codes, but rather devices for speeding up selecting of rules for generation. The designations as preposition, adverb, etc. are arbitrary; they actually represent a higher order semantic classification. The third number represents an additional subclass marking for partition of the class specified by the 1st digit.

The class listing contains the class names followed by a listing of elements; the listing may be empty or include both nodes and other class names.
8.5 Network and Simulation Rule Plot Specification

The specification of the network includes the assignment of all initial conditions: numerical attributes, lexical triples, semantic triples, and a listing of relations which are logically mutually exclusive for automatic maintenance of logical consistency.

This initialization of starting conditions is part of the first time frame of the simulation. Comments on the significance of groups of rules appear indented between them.
DETECT = DRUNES;
BLACK = COFFEE SHERRY WHISKY PORT VODKA;
VALUE(1) =
EVIDENCE =
FEMALE = LADYBUX NURSE MAID COOK CATHY LADYJANE MARION;
FIGHTER =
FINDER =
CASES = CHESS TENNIS BILLIARDS;
GUESTS = LADYBUX NURSE;
MAYHEM = PAPEY VANCE LUNDHOLM;
INTEREST =
INVITE = JOHNNY WRUCE JAMES MARION RONALD CATHY LORINGE LADYJANE;
KILLER =
KNOCS = STRANGEMAN FOOTPRINT THREAD HANDKERCHIEF STAIN ASHES;
TOCKETPASSAGE =
LOC = HALL PARKER DRAWING GRUNGS LIBRARY DINING ROOM STAIRS LIBRARY;
OCCUPATION = JAPAN SAHABOM TENNIS COURT BILLIARDS YARD;
LOSSER =
MALE = BUTLER WRUCE RONALD JOHNNY JAMES LORINGE;
REAL =
MOTIVATION =
ROOM =
SUBJECT = BOOK VALUABLE MAYHEM;
PARTNER(JAMES) = RONALD;
PARTNER(RONALD) = JAMES;
PLACES = PARK MOVIE HOTEL GARDEN TENNIS COURT;
PLAYERS =
PLAYER =
POCKET =
POSSESSION =
RELATION/JOHNNY) = LADYBUX;
RELATION(JOHNNY) = JOHNNY;
RELATION(BUTLER) = JAMES;
RELATION(CATHY) = JAMES;
PENSELYN =
REVENGE =
RETIRED =
RETURN =
SERVANT = COOK BUTLER MAID;
SPOUSE(CATHY) = RONALD;
SPOUSE(LADYJANE) = MARION;
SPOUSE(LADYJANE) = RONALD;
SPOUSE(LADYJANE) = LADYJANE;
SPOUSE(JAMES) = MARION;
SPOUSE(JAMES) = JAMES;
SPOUSE(RONALD) = CATHY;
TOPIC = POLITICS BUSINESS TENNIS THEATRE MUSIC FLOWERS BOOKS;
CHESS =
WRITE =
WEAPON =
TALKING = GUESTS;
TALK =
TALK/WRITE/CUSTOM INVITED;
WANTED =
WINNER =
CONTEST = NAME Servant;

**INITIALIZE PERSONALITY CHARACTERISTICS NOT TO BE DESCRIBED IN OUTPUT.**

LADYBUX COURAGE = 2 *
LADYBUX VIOLENT = 1 *
JOHNNY II = 100 *
JOHNNY COURAGE = -1 *
DRUMHE WEALTH = -2 *
DRUMHE VIOLENT = 3 *
DRUMHE AFFECTION = -1 RONALD *
DRUMHE AFFECTION = 1 LADYBUX *
LORDGE 10 = 100 *
LORDGE COURAGE = 1 *
LORDGE MARRIED =
LORDGE AFFECTION = 1 DRUMHE *
LADYJANE WEALTH = 3 *
LADYJANE II = 100 *
LADYJANE VIOLENT = -1 *
LADYJANE MARRIED *
RONALD II = 100 *
RONALD VIOLENT = -1 *
RONALD JEALOUS = 1 *
RONALD MARRIED *
CATHY III = 100 *
CATHY WEALTH = 2 *
CATHY MARRIED *
JAMES COURAGE = 9 *
JAMES MARRIED *
MATION COURAGE = 2 *
MATION MARRIED *
BUTLER VIOLENT = -1 *
NURSE II = 100 *
MAID COURAGE = -2 *
COOK II = 100 *
COOK COURAGE = 2 *
SUN FORECAST = 15 *

**DEFINE COMPOUND RELATIONS IN TERMS OF INDIVIDUAL RELATIONS.**

+LEXTRAP (30 FOR) TO GOFOR.;
+LEXTRAP (30 AT) TO MASSAT;
+LEXTRAP (GET UP) TO GETUP;
+LEXTRAP (GAME OF CROQUET) TO CROQGAME;
+LEXTRAP (PULL AT) TO YULLAT;
+LEXTRAP (FEEL WELL) TO FELLOWell;
+LEXTRAP (FLIT WITH) TO FLITWITH;
+LEXTRAP (COVER WITH) TO COVERWITH;
+LEXTRAP (ASK FOR) TO ASKFOR;
+LEXTRAP (FALL DOWN) TO FALLDOWN;
+LEXTRAP (WATER TO) TO WATERTO;
+LEXTRAP (WALK IN) TO WALKIN;
LADYUX WEALTH = 3
MY DO = 2
LADYUX GOOD = 3
LADYUX IO = 120
LADYUX SINGLE
MY DO = 2
LADYUX ATTRACTIV = -2
LADYUX SKILLFUL = 4
*IMPER (JOHNUX IS NELPHI) (NEPHWE PM LADYUX)
JOHNUX GOOD = -3
MY DO = 2
JOHNUX HEALTH = -2
JOHNUX VIOLENT = 1
JOHNUX SINGLE
MY DO = 2
JOHNUX HANDSOME = 3
JOHNUX HYGIEN = 3
JOHNUX AFFECTION = -2 LORED
JOHNUX AFFECTION = -2 GNUNG
DRUNUCC GOOD = -3
MY DO = 2
DRUNUCC IO = 150
DRUNUCC COURAGE = 3
DRUNUCC SENSITIVE = 4
DRUNUCC SINGLE
MY DO = 1
DRUNUCC HANDSOME = 1
LONGUO WEALTH = 1
MY DO = 2
LONGUO GOOD = 2
LONGUO VIOLENT = -1
LONGUO HANDSOME = 1
MY DO = 1
LONGUO SENSITIVE = 2
*IMPER (LONGUO MARRIED) (MARRIED TO LADYUX)
LONGUO AFFECTION = 1 LADYUX
LONGUO JERKLE = -1
LONGUO AFFECTION = 1 JOHNUX
LADYUX AFFECTION = 1 LONDE
MY DO = 24
LADYUX ATTRACTIVE = 1
LADYUX JERKLE = 1
*REMOVE NURSE FROM FEMALE
*REMOVE MAID FROM FEMALE
*REMOVE COOK FROM MALE
*REMOVE BUTLER FROM MALE
*ADD FEMALE TO HEAL
*ADD MALE TO HEAL

*************** EXCLUSIONS *********************

********** CHARACTER DESCRIPTION & PREPARATION FOR PARTY *************

GROUP IN:
1/2/4

RULE:
DISABLE INL

ENABLE THE GROUPS WHICH INITIALIZE
THE CHARACTERISTICS OF THE PARTICIPANTS.

*ENABLE DESCN IN 1
*ENABLE DESCN IN 2

ENABLE THE GROUPS CONTROLLING THE PRE-PARTY
ACTIVITIES DURING THE PARTY IN 4 DAYS.

*DISABLE WEEKDAY IN 3
*DISABLE RUNINTO IN 3

*ENABLE STARTACT IN 4/10
*ENABLE CONTROL IN 4/10
*ENABLE RESE TN 4/10
*ENABLE CONVERSE IN 4/10

INITIALIZE THE CHARACTERISTICS OF SOME OF THE
NOVEL'S PARTICIPANTS.

GROUP DESCN:
1/2/4

RULE:
*DISABLE DESCN

*ENABLE DESCN
INITIALIZE THE CHARACTERISTICS OF SOME OF THE NOVEL'S PARTICIPANTS.

SENDGROUP:

1

***************

THIS GROUP DETERMINES WHAT DAY IT IS AND WHAT THE CLIMATE IS. IT ALSO DETERMINES THE ACTIVITIES OF THE DAY (SEVERAL POSSIBILITIES): PLAYING TENNIS, GOING TO THE THEATRE, PLAYING BRIDGE... -.

GROUP WEEKDAY: 10/OFF

RULE: DAY NUMBER + 11

RULE: DAY IS MONDAY:

10 - DISQ (DAY NUMBER) EQ 1

RULE: DAY IS TUESDAY:

10 - DISQ (DAY NUMBER) EQ 2

RULE: DAY IS WEDNESDAY:

10 - DISQ (DAY NUMBER) EQ 3

RULE: DAY IS THURSDAY:

10 - DISQ (DAY NUMBER) EQ 4

RULE: TLG (SENDGROUP)

DAY IS FRIDAY:

DISABLE WEEKDAY:

10 - 10 DISQ (DAY NUMBER) EQ 5

RULE: TLG

*DISABLE CLIMATE

*INSERT (NURSE IS COMPANION) (COMPANION POS LADYBURG)

NURSE VIOLENT = -2;

MY 37 = 1;

NURSE GOOD = 3;

NURSE SINGLE;

10

MY 37 = 2;

NURSE ATTRACTIVE = 3;

NURSE SEXUROVE = 2;

BUTLER SEXUROVE = 3;

MY 37 = 3;

BUTLER ID = 120;

BUTLER GOOD = -2;

BUTLER SINGLE;

MY 37 = 4;

BUTLER ID = 30;

BUTLER SINGLE;

MY 37 = 7;

BUTLER ATTRACTIVE = 1;

BUTLER WEALTH = -1;

COOK SINGLE;

MY 37 = 1;

COOK ATTRACTIVE = -1;

COOK VIOLENT = 3;

MY 37 = 1;

COOK WEALTH = -11

MY 37 = 1;

COOK WEALTH = -11

MY 37 = 1;

COOK WEALTH = -11
SCENE IN A PUB. MEN DRINK AND TALK. THEY MAY GET DRUNK, THEY MAY SING. IF ONE OF THE CHARACTERS HAS BEEN CHEATED BY HIS WIFE, HE WILL BE INCLUDED IN THIS GROUP.

**GROUP CATTENG1 IM/OFF**

**SPOOL:** *DISABLE CATTENG1*

**SPOOL:** *INSERTCATTEN ON CORNER CATTEN SMALL1*

**SPOOL:** X.PICK(MALE1)

**SPOOL:** X.CAN IN CATTEN

-10.0:3:IN WELTHG OT

**SPOOL:** 13:5:IN MARRIED1

**SPOOL:** 0.0-0.10 (X NOT IN CATTEN1)

**SPOOL:** *INSERTAASKFOR WHISKY/WISISKY ON ROCKS1*

**SPOOL:** *INSERT GET DRINK (ICL FROM BARMAN1*

-10-10.00:0.0 (MALE GET DRINK1)

**SPOOL:** 0.0:1:Y.PICK(MALE1)

**SPOOL:** 0.0:2:Y.TEETH

**SPOOL:** 0.0:3:Y.CAN IN CATTEN

**SPOOL:** X.DRUNK

**SPOOL:** X.CAN

**SPOOL:** X.CAN

**ENDSPOOL**

**ENDSPOOL**

**SENDGROUP**

**SPOOL:** 0.0:1:TWO PERSONS HAVE AN AFFAIR. DEPENDING ON WHO SEES THEM, IT CAN GIVE RISE TO BLACKMAIL, GOSSIP, OR JEALOUSY.

**SENDGROUP**

**SPOOL:** 0.0:0:GROUP MOVES: LOW/OFF

**SPOOL:** 0.0:0:SPOOL:** *DISABLE MOVIGI*

**SPOOL:** 0.0:1:SPOOL:** REMOVE X FROM MOVIGI*

**SPOOL:** 0.0:1:SPOOL:** ADD X TO MOVIGI*

**SPOOL:** 0.0:1:*INSERT WITH Y1 Y IN PICK(PLACE1)*

**SPOOL:** X NEAR Y1

**SPOOL:** INSERTX1 CARESS Y (CARESS WITH PASSION1

**SPOOL:** INSERTX1 IS LOVING (LOVER PSC X1

**SPOOL LST:** 0.0:1:Z. PICK(HEAL)

**SPOOL:** 0.0:2:TELL1:

**SPOOL:** 10.0:1:Z. EQL X1 OR (Z. EQL Y1)

**SPOOL:** 0.0:1:*INSERT2 SEE AFFAIR1 FOLLOW THEN1*

**SPOOL:** ULST XX1

**SPOOL:** 2 FOLLOW X1

**SPOOL:** 2 FOLLOW Y1

**SPOOL:** LST XX1

**SPOOL:** X. BLACKMAIL X1

**SPOOL:** X. WELTH =11

-10.0:11:Z. EQL (EFT)1 OR (Z. EQL SPUSE11) OR (Z. EQL SPUSE1Y1

-10.0:11:Z. MARRIED1

-10.0:11:Z. EQL REN11 OR (Z. BLACKMAIL X1

-10.0:11:Z. WELTHL LT 11

**SPOOL:** INSERT AffAIR1 SEE AFFAIR1 FOLLOW THEN1*

**SPOOL:** ULST XX1

**SPOOL:** 2 FOLLOW X1

**SPOOL:** 2 FOLLOW Y1

**SPOOL:** LST XX1

**SPOOL:** 10.0:11:Z. CLE AFFAIR1

**SPOOL:** X. BLACKMAIL Y1

**SPOOL:** X. WELTH =11

**SPOOL:** X. WELTH =11

-10.0:11:Z. EQL DETECT1 OR (Z. EQL SPUSE11) OR (Z. EQL SPUSE1Y1

-10.0:11:Z. MARRIED1

-10.0:11:Z. EQL REN11 OR (Z. BLACKMAIL Y1

-10.0:11:Z. WELTHL LT 11

**SPOOL:** Z. SEE AFFAIR1

**SPOOL:** Z. JALOUS =12

**SPOOL:** 10.0:11:Z. EQL SPUSE11 OR (Z. EQL SPUSE1Y1

**SPOOL:** INSERT SPUSE1 SEE AFFAIR1

-10.0:11:Z. MARRIED1

-10.0:11:Z. EXCIT BLACKMAIL X1 OR (Z. EQL PEND1) OR (Z. EQL AFFAIR1)

**SPOOL:** 0.0:0:ENDSPOOL

**SPOOL:** 0.0:0:ENDSPOOL
DISABLE PRE-PARTY ACTIVITIES AND ADD LADY BULLY'S SERVANTS TO THEIR PROPER SEX CLASSES.

A BRIDGE GAME, DRINKS AND CONVERSATION, POSSIBLE SUSPICION AND CHEATING.

ONE OF THE CHARACTERS PHONES OTHER TO GO TO THE THEATRE.

GROUP THEATRE: 10/00/00;
RULE: DISABLE THEATRE;

LOOP 11: D PICKUP;
RULE: REMOVE Y FROM TEMP;
SWITCH: TITAN;
GROUP 5: SPOUSE;
GROUP 3: T21 Y; P5 PICKUP;
RULE: REMOVE Y FROM TEMP;
SWITCHES;
LUNG; MARY;
GROUP 5: P SPOUSE;
RULE: ? INSERT 1 PHONE Y (PHONE IN MORNING);?
INSERT INVITE YLIZANITE GOT THEATRE?;
Y AGREE;
INSERT Y GETTORGESIEGETORES FOR EVENING;
INSERT (THEY MEET THEM IMEET IN THEATRE);
INSERT 1 X MEET Y (MEET IN THEATRE);
INSERT 1 X MEET Y (MEET IN THEATRE);
INSERT 1P MEET Y (MEET IN THEATRE);
LUNG;
GROUP 5: INSERT INTRODUCE P (INTRODUCE TO X);
(INTRODUCE DURING INTERMISSION);
-10; 5; 10; VALI Y INTRODUCE P (INTRODUCE TO X);
GROUP 3;
**Section A**

Section A contains groups dealing with the daily cycle of activities of the guests at the week-end party such as eating, sleeping, and taking tea.

Group Control coordinates the timing of the daily events during the party.

**Commands:**

- `GROUP CONTROL:
  - TIESGROUP`
- `TIESGROUP`
- `DISABLE SERVETRE`
- `DISABLE RETIRER`
- `DISABLE TOGED`

10-10:

**Rules:**

- `CLOCK 6:30 AM`
- `GROUP TIESGROUP`
- `ENABLE SLEEPING`
- `DISABLE WAKEUP`

**Switches:**

- `TIESGROUP`
- `TIESGROUP`
- `DISABLE SLEEPING`
- `DISABLE WAKEUP`

10-10:

**Rules:**

- `CLOCK 6:15 AM`
- `GROUP TIESGROUP`
- `ENABLE SLEEPING`
- `DISABLE WAKEUP`

**Switches:**

- `TIESGROUP`
- `TIESGROUP`
- `DISABLE SLEEPING`
- `DISABLE WAKEUP`

---

**Section B**

Section B contains groups dealing with the daily cycle of activities of the guests at the week-end party such as eating, sleeping, and taking tea.

Group Control coordinates the timing of the daily events during the party.

**Commands:**

- `GROUP CONTROL:
  - TIESGROUP`
- `TIESGROUP`
- `DISABLE SERVETRE`
- `DISABLE RETIRER`
- `DISABLE TOGED`

10-10:

**Rules:**

- `CLOCK 6:30 AM`
- `GROUP TIESGROUP`
- `ENABLE SLEEPING`
- `DISABLE WAKEUP`

**Switches:**

- `TIESGROUP`
- `TIESGROUP`
- `DISABLE SLEEPING`
- `DISABLE WAKEUP`

10-10:

**Rules:**

- `CLOCK 6:15 AM`
- `GROUP TIESGROUP`
- `ENABLE SLEEPING`
- `DISABLE WAKEUP`

---

**Section C**

Section C contains groups dealing with the daily cycle of activities of the guests at the week-end party such as eating, sleeping, and taking tea.

Group Control coordinates the timing of the daily events during the party.

**Commands:**

- `GROUP CONTROL:
  - TIESGROUP`
- `TIESGROUP`
- `DISABLE SERVETRE`
- `DISABLE RETIRER`
- `DISABLE TOGED`

10-10:

**Rules:**

- `CLOCK 6:30 AM`
- `GROUP TIESGROUP`
- `ENABLE SLEEPING`
- `DISABLE WAKEUP`

**Switches:**

- `TIESGROUP`
- `TIESGROUP`
- `DISABLE SLEEPING`
- `DISABLE WAKEUP`
GROUP BEGIN

LADY BüLEY'S HOUSE STARTS THE WEEKEND PARTY AND SETS UP THE POSSIBILITY OF A NUMBER OF DIFFERENT MURDERS BASED ON THE CHARACTERISTICS AND RELATIONSHIPS OF THE PARTICIPANTS TO EACH GROUP.

THE INIITIALIZED GUESTS ARRIVE AT THE PARTY INDIVIDUALLY AND AS COUPLES BETWEEN 6 PM ON FRIDAY AND 1 AM SATURDAY.

THE MORNING'S ACTIVITIES IS SET.
GROUP START: 1H/0FF:
   $RULE:
      *DISABLE STARTA*
      *MOVE GUESTS TO TALKING*
      *DISABLE ECO+TGA IN TON*
      *ULST XXI*
      *GUESTS OTO GARDEN*
      *LST XX*
      *EVERYONE GOTO GARDEN*
      *ADD EVERYON TO CONVRSING*
      *BUTLER SERFC TEAM*
      *TOLL*
      *DAY WARM*
      *SUN EMRRT*
      *FLOWERS FRAGMNT*
      *E*

$RULE:
   *DAY COOL*
   *SWY CLDY*
   *SWY CLOU*
   *FIENDGROUP:
      *S*
   *FIND:
      P PICK (FEMALE)
      *FIND:
      GARDEN NICE*
      *FLOWERS PRETTY*
      *P COMPLIMENT LADYBUX*
   *END:

-10+10:
   $RENL00P:
      $ENDGROUP:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      $RL:
      *END:

GROUP ENDT:
   $RULE:
      *DISABLE ENDTA*
      *ENABLE ENDTA IN 1M*
      *TEATIME OVER*

$ENDGROUP:
   $RL:
   $RL:
   $RL:
   $RL:
   $RL:
   $RL:
   $RL:
   $RL:
   $RL:
   *END:

THE SERVANTS GO TO BED AT 10 PM.

GROUP SERVRETIRE: 1H/0FF:
   $RULE:
      ULIST XXI*
      *SERVANT GOTO BED*
      *LST XX*
      *SERVANT GOTO BED*
      *DISABLE SERVRETIRE*
      *ADD SERVANT TO INTERRUPT:

$ENDGROUP:
   $RL:
   $RL:

STARTING AT 11PM, THE GUESTS START BECOMING TIRED ONE BY ONE AND STOP THEIR CURRENT ACTIVITIES.

$RULE:
   *DISABLE CALLTA*
   *DISABLE STARTA IN 1M*
   *DISABLE STARTACT*
   *BUTLER ANNOUNC TELL*
   *ADD ACTIVITIES TO INTERRUPT*

$ENDGROUP:
   $RL:
   $RL:

TEA IS SERVED AT 6 PM. ALL THE GUESTS STOP THEIR ACTIVITIES WHEN THE BUTLER ANNOUNCES IT.

GROUP CALLTA: 1H/0FF:
   $RULE:
      *DISABLE CALLTA*
      *DISABLE STARTA IN 1M*
      *DISABLE STARTACT*
      *BUTLER ANNOUNC TELL*
      *ADD ACTIVITIES TO INTERRUPT:

$ENDGROUP:
   $RL:
   $RL:

TEA IS SERVED IN THE GARDEN.
THE TIRED GUESTS GO TO BED AFTER 25 MINUTES.

GROUP CONVERSE HANDLES CONVERSATIONS BETWEEN INDIVIDUALS. THESE CONVERSATIONS COME IN THREE CATEGORIES: THOSE BETWEEN FRIENDS, THOSE BETWEEN ENEMIES AND THOSE INVOLVING FLIRTING. CONVERSATIONS MAY OCCUR DURING MEALS OR AT OTHER TIMES AMONG THOSE NOT ENGAGED IN OTHER ACTIVITIES.

THE RULES FROM HERE TO LABEL "FRIENDLY" HANDLE CONVERSATIONS BETWEEN ENEMIES. FIGHTS MAY BREAK OUT AS A RESULT OF THESE CONVERSATIONS.

GROUP CONVERSE:"
The rules from here to label "flirt" deal with flirtation. The woman may or may not be interested in the man and if not interested she may be insulting. Participation in flirtatious behavior is dependent upon the person's characteristics. Flirtation at this point may lead to trivial tactics.

**RULE:**
- *EMOTION SUBGROUP:
- *EVERYONE CGL CONVERSING:
- NUM(EMOTION) EQ 0:
  *MOVE TALKING TO TEMP:
  *REMOVE FEMALE FROM TEMP:
  **RULE:**
  - *NUMTEMP EQ 20:
  - **RULE:**
  - *SPREAD:
  - W.PICKTEMP:
  - **RULE:**
  - *MOVE W FROM TEMP:
  **RULE:**
  - *REMOVE RELATIVE(P) FROM TEMP:
  - Temp:
  - **RULE:**
  - *NUMTEMP 10 0:
  - **RULE:**
  - *REMOVE W FROM TEMP:
  - **RULE:**
  - W.TALK WITH P,
GROUP FIGHT CONDUCTS A FIGHT BETWEEN TWO INDIVIDUALS WHEN ITS ENABLED. THE DEGREE OF COOPERATIVENESS OF THE TWO PARTICIPANTS DEPENDS ON THEIR VIOLENCE CHARACTERISTICS. CURRENTLY, THIS GROUP IS ENABLED ONLY AS A RESULT OF AN ARGUMENT ARISING DURING A CONVERSATION BETWEEN ENEMIES.
**SECTION D**

**SECTION D CONTROLS THE LOVERS' TRYSTS. THESE MAY OCCUR ONLY IF THE LOVERS ARE NOT GOTTING OR NOT PLAYING CROQUET.**

**GROUP STARTWALK CROSSES THE PARTICIPANTS FOR A TRYST AND HAS THEM STOP THEIR CURRENT ACTIVITIES. A TRYST WILL OCCUR ONLY IF THE LOVERS ARE NOT GOTTING OR NOT PLAYING CROQUET.**

**GROUP STARTWALK IS AT LEAST ONE COUPLE READY TO GO. IF THERE IS MORE THAN ONE COUPLE, ONE IS SELECTED RANDOMLY.**

**GROUP CANDIDATE COUPLES ARE THOSE WHO HAVE ENGAGED IN PREVIOUS FLIRTATIONS.**

**GROUP AFTERMIX begins an afternoon tryst.**
GROUP NIGHT BEGINS A NIGHT-TIME TRYST.

GROUP REND CONTROLS THE ACTUAL TRYST ITSELF.  

THERE IS ALWAYS AN OBSERVER INVOLVED.  HIS (OR HER) ACTIONS DEPEND ON HIS RELATIONSHIP TO THE OTHER TWO AND ON HIS OWN PERSONALITY.

10-10:

GROUP REND:

P REND:

W AFFECTION

W CARESS

P

W KISS

W CARESS

P

P KISS

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P

ULST XX

P

C

P
\**SECTION E \**

GROUP `DOKILL` RANDOMLY SELECTS A KILLER FROM AMONG THE KILLER'S POTENTIAL VICTIMS. THE WAY THE MURDER IS COMMITTED IS DETERMINED BY THE MOTIVE FOR THE CRIME. THERE ARE SIX POSSIBLE MOTIVES AND SIX CORRESPONDING MOONS OPERANDI.

`DOKILL`:

1. **NUPMOSKILL**
   - `SWITCH`:
     - 10-10: `NUPMOSKILL` EQ 0
     - 10-10: `K_PICK` (POSKILL)
     - 10-10: `V_PICK` (POSKILL)
   - `RULE`:
     - `ENABLE_FINGERING IN 1H`
     - `DISABLE_DOKILL`
     - `REMOVE V FROM RETIRED`
     - `REMOVE V FROM PEOPLE`
     - `MOVE V FROM CULTS`
     - `REMOVE V FROM SERVANT`
     - `REMOVE V FROM KILLER`
     - `MOVE K TO KILLER`
     - `MOVE V TO VICTIM`

2. **TENS**:
   - 10-10: `(K WHYKILL V) EQ 2`
   - 10-10: `(K WHYKILL V) EQ 3`
   - 10-10: `(K WHYKILL V) EQ 5`
   - 10-10: `(K WHYKILL V) EQ 6`
   - 10-10: `(K WHYKILL V) EQ 7`
   - 10-10: `(K WHYKILL V) EQ 9`
   - 10-10: `(K WHYKILL V) EQ 0`
   - `RULE`:
     - `PRINT "****ERROR: NO MOTIVE"
     - `PRINT K`
     - `PRINT V`
     - `END`

`FACES`:

`STARTING YOUR SPOUSE FOR ADULTERY`:

`RULE`:

- `INSERT (K KNOW THAT I V COMMIT ADULTERY)`
- `INSERT (K KNOW THAT I V COMMIT ADULTERY)`
- `INSERT (K KNOW THAT I V COMMIT ADULTERY)`
- `INSERT (K KNOW THAT I V COMMIT ADULTERY)`
- `INSERT (K KNOW THAT I V COMMIT ADULTERY)`
- `INSERT (K KNOW THAT I V COMMIT ADULTERY)`
- `DAY IS SUNDAY`
- `TIME IS 2AM`
INSERT (V AWAKEN)(AWAKE EARLY)
INSERT (V DECIDE)(DECIDE GO FOR WALK)
INSERT (V GETUP)(GETUP QUIETLY)
INSERT (V THINK THAT)(I ASLEEP)

RULE:
LIST XXI

RULE:
V GETUP

RULE:
LIST XXII

RULE:
V DUTEAR

RULE:
V DUTEAR 2

RULE:
V GTOT DARDEN

RULE:
K FOLLOW K

RULE:
V SEC K

RULE:
.

RULE:
INSERT (K HAVE KNIFE)(KNIFE LONG)

RULE:
.

RULE:
INSERT (K HAVE KNIFE)(HAVE WILDLY)

RULE:
K STAB V

RULE:
M X Q2 = 1

RULE:
V SCREAM

RULE:
INSERT (KNIFE SINK)(SINK DEEP)

RULE:
.

RULE:
INSERT (V STRUGGLE)(STRUGGLE WEAKLY)

RULE:
.

RULE:
V HIT K

RULE:
.

RULE:
INSERT (K SLASH V)(SLASH AGAIN)

RULE:
INSERT (K SAY THAT)(I BETRAY K)

RULE:
V COVER WITH BLOOD

RULE:
M X Q2 = 1

RULE:
V DIE

RULE:
K HIDE KNIFE

RULE:
K RETURN TO LAssROOM

RULE:
INSERT (K WASH)(WASH OFF BLOOD)

RULE:
MOVE JEALOUSY TO NOTIVE

RULE:
MOVE CAROLN TO ROOM

RULE:
MOVE KNIFE TO EVIDENCE

RULE:
MOVE KNIFE TO WEAPON

RULE:

RULE:
SHOOTING YOUR SPOUSE'S LOVER

RULE:
MOVE GUN TO WEAPON

RULE:
MOVE JEALOUSY TO NOTIVE

RULE:
MOVE LIBRARY TO ROOM

RULE:
INSERT (K KNOW THAT)(I FUCK SPOUSE(K))

RULE:
K AFFECTION = - 1

RULE:
K WANT REVENGE

RULE:
INSERT (K DECIDE)(DECIDE KILL V)

RULE:
K WRITE NOTE

RULE:
INSERT (V GET NOTE)(NOTE FROM K)

RULE:
V MEET K

RULE:
DAY IS SUNDAY

RULE:
TIME IS DAY

RULE:
K SETUP

RULE:
K GTOT DARDEN

RULE:
V GTOT LIBRARY

RULE:
V GTOT LIBRARY

RULE:
INSERT (V THINK THAT)(I UNAWARE)

RULE:
INSERT (V THINK THAT)(I UNAWARE)

RULE:

RULE:
INSERT (V TRY)(TRY CALM K)

RULE:
.

RULE:
INSERT (K SAY THAT)(I EVIL)(I STEAL SPOUSE(K))

RULE:
.

RULE:
INSERT (V POINT GUN)(POINT AT V)

RULE:
V SELF GUN:

RULE:
FX

RULE:
ATTACK K

RULE:
INSERT (V HIT V)(HIT IN STOMACH)

RULE:
INSERT (V TRY)(TRY GRAB GUN)

RULE:
V VIOLENT + 5

RULE:
K HIT V

RULE:
.

RULE:
K STRUGGLE WITH V

RULE:
.

RULE:
K KEEP GUN

RULE:
K SHOOT V

RULE:
INSERT (V STAGGER)(STAGGER BACK)

RULE:
V DIE

RULE:
K HIDE GUN

RULE:
K LOOK FOR NOTE

RULE:
NOTE CONE

RULE:
K RETURN TO GROOM

RULE:
(TENDGROUP)

RULE:
MOVE NOTE TO EVIDENCE

RULE:
.

RULE:
(TENDGROUP)

RULE:
MOVE GUN TO EVIDENCE

RULE:

RULE:
HITTING SOMEONE OVER THE HEAD WITH A HEAVY OBJECT FOR BLACKMAILING YOU

RULE:
H PICK HEAVY OBJECT

RULE:
MOVE H TO EVIDENCE

RULE:
MOVE H TO WEAPON

RULE:
MOVE FEAR TO MOTIVE

RULE:
MOVE HALL TO ROOM

RULE:
V BLACKMAIL K

RULE:
INSERT (K HADAT VI)(HADAT VERY)

RULE:
INSERT (K AFRAID)(AFRAID OF V)

RULE:
INSERT (V DECIDE)(DECIDE KILL V)

RULE:
DAY IS SUNDAY

RULE:
TIME IS DAY

RULE:
K SETUP

RULE:
K GTOT HALL

RULE:
M X Q2 = 1

RULE:
HALL DARK

RULE:
K HIDE

RULE:
K HAVE H

RULE:
INSERT (V AWAKE)(AWAKE EARLY)

RULE:
INSERT (V EVERY)(EACHUALLY)

RULE:
V COFOR VAL

RULE:
K WAIT FOR V

RULE:
K SURPRISE V

RULE:
INSERT (K HIT V)(HIT IN K)

RULE:
INSERT (V CIRK)(GORDAN WEAKLY)

RULE:
V DIE
"RULES:" 
"INSERT (K REMOVE FPINTS) (FPINTS ON H)"

"RULES:" 
"K 38) 1SDI"

"RULES:" 
"SENDGROUP"

"RULES:" 
"K RETURN TO BEDROOM"

"SENDLOOP:" 
"POISONING A RELATIVE FOR THE INHERITANCE"

"RULES:" 
"MOVE POISON TO WEAPON"

"RULES:" 
"MOVE BOTTLE TO EVIDENCE"

"RULES:" 
"MOVE SPOON TO MOTIVE"

"RULES:" 
"MOVE BATHROOM TO ROOM"

"RULES:" 
"INSERT IV RICH (RICH VERY)"

"RULES:" 
"K WEALTH = 3"

"RULES:" 
"K WANT MONEY"

"RULES:" 
"K RELATECT V"

"RULES:" 
"INSERT (K DECIDE) (DECIDE POISOM V)"

"RULES:" 
"INSERT (K THINK THAT IV INHERIT MONEY)"

"RULES:" 
"INSERT (K KNOW THAT IV DRINK MILK)"

"RULES:" 
"K POISOM MILK"

"RULES:" 
"V GRINK MILK"

"RULES:" 
"V GOTO EED"

"RULES:" 
"V DIE"

"RULES:" 
"INSERT (OTHERS THINK THAT IV ASLEEP)"

"LOOP:" 
"S PEOPLE"

"RULES:" 
"INSERT (IS THINK THAT IV ASLEEP)"

"RULES:" 
"IS EEL K"

"SENDLOOP:" 
"LIST XX"

"RULES:" 
"TESENDGROUP"

"RULES:" 
"K REMOVE FPINTS"

"RULES:" 
"K RETURN BOTTLE"

"RULES:" 
"K 28) 1SDI"

"RULES:" 
"SENDGROUP"

"RULES:" 
"K MAKE MISTAKE"

"RULES:" 
"K THROWAWAY BOTTLE"

"RULES:" 
"INSERT (FPINTS ON BOTTLE) (BOTTLE IN TRASH)"

"RULES:" 
"PUSHING YOUR BUSINESS PARTNER DOWN STAIRS TO GAIN CONTROL OF THE BUSINESS"

"RULES:" 
"K WANT BUSINESS"

"RULES:" 
"INSERT (K DECIDE) (DECIDE KILL V)"

"RULES:" 
"INSERT (K ASK THAT IV MELT K)"

"RULES:" 
"DAY IS SUNDAY"

"RULES:" 
"TIME IS CANN"

"RULES:" 
"V SETUP"

"RULES:" 
"V SETTRASH"

"RULES:" 
"V HEADSTAIRS"

"RULES:" 
"V SURPRISE V"

"RULES:" 
"K ATTACK V"

"RULES:" 
"V STAIRS WITH K"

"RULES:" 
"INSERT IV HIT V WITH HIT ON JAW"

"RULES:" 
"K CHECK V"

"RULES:" 
"K HIT V WITH HIT IN STOMACH"

"RULES:" 
"INSERT IV STAGGER (STAGGER BACK)"

"RULES:" 
"SENDGROUP"

"RULES:" 
"K PUSH V"

"RULES:" 
"V GRAB K"

"RULES:" 
"INSERT (KUCTION PIPFROK SHIRT) (SHIRT POS K)"

"RULES:" 
"MOVE BUTTON TO EVIDENCE"

"RULES:" 
"MOVE FALL TO WEAPON"

"RULES:" 
"MOVE BUTTON TO MOTIVE"

"RULES:" 
"MOVE STAIRS TO ROOM"

"RULES:" 
"V FALLOUT STAIRS"

"RULES:" 
"INSERT (NECK BREAK) (NECK POS V)"

"RULES:" 
"V DILL"

"RULES:" 
"K RETURN TO BEDROOM"

"RULES:" 
"KILLING LACY BUXLEY DURING A ROBBERY ATTEMPT"

"RULES:" 
"MOVE SMOTHERING TO WEAPON"

"RULES:" 
"MOVE BLOOD TO EVIDENCE"

"RULES:" 
"MOVE CREEP TO MOTIVE"

"RULES:" 
"MOVE LEXUM TO ROOM"

"RULES:" 
"INSERT (K KNOW THAT) (LADYBUX OWN JEWELS)"

"RULES:" 
"MY GO = 1"

"RULES:" 
"JEWELS IN GRABER"

"RULES:" 
"MY GO = 1"

"RULES:" 
"JEWELS VALUABLE"

"RULES:" 
"INSERT (K DECIDE) (DECIDE STEAL JEWELS)"

"RULES:" 
"INSERT (K CETUP) (CETUP QUIETLY)"

"RULES:" 
"INSERT (K SNEAK) (SNEAK INTO LEROOM)"

"RULES:" 
"LADYBUX SNEAK"

"RULES:" 
"INSERT (K LOOK FOR JEWELS) (LOOK FOR CAREFULLY)"

"RULES:" 
"K OPEN CRAWERS"

"RULES:" 
"OPACER GRABER"

"RULES:" 
"LADYBUX AWAKEN"

"RULES:" 
"LADYBUX SEC K"

"RULES:" 
"INSERT (K SEE THAT) (LADYBUX MOWT)"

"RULES:" 
"K PANIC"

"RULES:" 
"K COMFORTER = 6.1"

"RULES:" 
"LADYBUX STARFOR GUN"

"RULES:" 
"K AFRAID"

"RULES:" 
"K ATTACK LADYBUX"

"RULES:" 
"LADYBUX STABLE"

"RULES:" 
"INSERT (LADYBUX STARTED) (START NO SCREAM)"

"RULES:" 
"INSERT (K SMOTHELP LADYBUX) (SMOTHER WITH PILLOW)"

"RULES:" 
"LADYBUX SCRATCH K"

"RULES:" 
"K SEE"

"RULES:" 
"LADYBUX SEE"

"RULES:" 
"INSERT (K SORRY) (SORRY KILL LADYBUX)"

"RULES:" 
"K GOD145 = 7.3"

"RULES:" 
"SENDGROUP"

"RULES:" 
"K RETURN TO BEDROOM"

"RULES:" 
"INSERT (K WASH) (WASH OFF CLOG)"

"RULES:" 
"K GOD5 SEC5"
SECTION F CONTROLS THE SOLVING OF THE MURDER.
NOTE THAT THE CLASS "DETECT" HOLDS THE
GUEST WHO WILL SOLVE THE CRIME. WHILE THE
INSPECTOR REFER TO THE FAMILIY HEAD OF THE
POLICE'S INVESTIGATING TEAM.

IN GROUP FIND SOMEONE FINDS THE VICTIM AND THE
POLICE ARE CALLED. IF THE PRESELECTED HERO
FOR MURDER TURNS OUT TO BE THE VICTIM OR THE
KILLER, SOMEONE ELSE IS RANDOMLY CHOSEN TO
SOLVE THE CRIME.

GROUP FINDING:

IN/OUT:

%SPECIAL:

%RULE:

%GROUP POLICARCY:

%RULE:

%GROUP SOLVING:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:

%RULE:
THE OTHER GUESTS SIT AROUND AND TALK WHILE THE
CRIME IS BEING SOLVED.

GROUP DEATH TALKS

SIDE OFF:

SPOOP:
P PICK(PEOPLE)

SLOOP B:
P A PICK(PEOPLE)

SWITCH:
T(9)

10+10:
(PE EOL P)

RULE:
*INSERT (P TALK WITH PA TALK ABOUT MURDER)

FILS:
*INSERT (P SAY THAT) (VICTIM GOOD = 2)

SOUL:
P A AGREE

RULE L:
*INSERT (PA UPSET) (UPSET ABOUT MURDER)

SLOOP:
(PE EOL KILLER)

RULES:

SPouse (VICTIM EOR)

VICTIM MARRIED

SLOOP:
(PE EOL FEMALE)

SLOOP:
P PICK(PEOPLE) TALK ABOUT MURDER

SWITCH:
F(8)

SLOOP:
P PICK(PEOPLE)

SLOOP:
(PE EOL KILLER)

SWITCH:
T(8)

10+10:
(PE EOL KILLER)

RULES:

RULE:
*INSERT (KILLER SAY THAT) (P KILL VICTIM)

P DEATH ACCUSATION

*INSERT (P SAY THAT) (KILLER ID = 80)

SLOOP:
P PICK(PEOPLE) UPSET

SLOOP:
(PE EOL)

SLOOP:
(PE EOL)

SLOOP:
P PICK(PEOPLE)

SWITCH:
(9)

RULES:

RULE:
*INSERT (IN TRYING CALM SPOuse (VICTIM))

FIL:

RULES:

RULE:
*INSERT (IN CARRY F) (CARRY TO COUCH)

P COURAGE = 0 + 0.5

RULES:

RULE:
F AWAKEN

*INSERT (IS CLUE? (CLUE IS MISLEADING))

61
THE HERO FINDS THE ESSENTIAL CLUE AND ACCUSES THE MURDERER OF THE CRIME. THE KILLER MAY REACT IN VARIOUS WAYS DEPENDING ON HIS PERSONALITY.

$GROUP SOLUTION:
$SOLUTION: IDN/OFF:
$SOLUTION: DETECT GOTO MROOM:
$SOLUTION: DETECT GOTO MROOM:
$SOLUTION: +DISABLE SOLUTION:
$SOLUTION: -DISABLE SOLVING:
$SOLUTION: +DISABLE DEATH/FAKEN:
$SOLUTION: DETECT FIN/ EVIDENCE:
$SOLUTION: DETECT KNOW MURDERER:
$SOLUTION: *INSERT (DETECT SAY THAT) (MURDERER IN ROOM)
$SOLUTION: *INSERT (DETECT SAY THAT) (MURDERER IN ROOM)
$SOLUTION: EVERYONE SURPRISED.
$SOLUTION: EVERYONE TALKS.
$SOLUTION: +INSERT (DETECT SAY THAT) (VICTIM KILLED BY WEAPON)
$SOLUTION: (DETECT FIND EVIDENCE): 1 M = 1
$SOLUTION: (DETECT FIND EVIDENCE): 2 M = 60
$SOLUTION: (DETECT FIND EVIDENCE): 3 D = 1440
$SOLUTION: (DETECT FIND EVIDENCE): 4 W = 10080
$SEND;

$ENDGROUP;

$SWITCH:
$SWITCH: /SAYS: (KILLER CONFESS/ACC)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: *INSERT (KILLER SAY THAT) (DETECT IS LIAR)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)
$SWITCH: /SAYS: (KILLER DENY ACCUSATION)

$SOLUTION: KILLER COLLAPSE:
$SOLUTION: MY GG = 1;
$SOLUTION: KILLER CRY:
$SOLUTION: /SAYS: (KILLER SAYS/DOES/SAYS/DOES/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)
$SOLUTION: /SAYS: (KILLER DENY ACCUSATION/DOES)

$SOLUTION: KILLER ESCAPES:
$SOLUTION: KILLER GETS GUN:
$SOLUTION: KILLER HEADS FOR CORR:
$SOLUTION: DETECT TRIP KILLER:
$SOLUTION: KILLER FALLS;
$SOLUTION: DETECT STUPID WITH KILLER:

$END:
8.6 Sample Murder Mystery Texts

We offer a 2100 word story, complete with semantic deep structure, generated in under 19 seconds. We also offer selected murder scenes from other runs that used different random number sequences and/or different character trait specification for Dr. Hume. (In some runs he was made very lustful and evil.)

The change stack listing does show all triple linkages that are tabulated by the system.

8.6.1 A 2100 Word Murder Mystery Story
UGLY OVERSEIZED LADY BUXLEY WAS SINGLE.
JOHN WAS LADY BUXLEY'S NEPHEW.
IMPOVERISHED IRRITABLE JOHN WAS EVIL.
HANDSOME OVERSEIZED JOHN BUXLEY WAS SINGLE.
JOHN HATED EDWARD.
JOHN BUXLEY HATED DR. BARTHOLOMEW HUME.
BRILLIANT BRAVE HUME WAS EVIL.
HUME WAS OVERSEIZED.
HANDSOME DR. BARTHOLOMEW HUME WAS SINGLE.
KIND EASY GOING EDWARD WAS RICH.
OVERSEIZED LORD EDWARD WAS UGLY.
LORD EDWARD WAS MARRIED TO LADY JANE.
EDWARD LIKED LADY JANE.
EDWARD WAS NOT JEALOUS.
LORD EDWARD DISLIKED JOHN.
PRETTY JEALOUS JANE LIKED LORD EDWARD.

WONDERFUL SMART LADY BUXLEY WAS RICH.
WELL TO GO RONALD WAS KIND.
LUSTY RONALD WAS MARRIED TO CATHY.
HANSON RONALD LOVED CATHERINE.
RONALD LIKED MARY.
RONALD HATED JAMES.
EASY GOING LUSTY CATHY WAS KIND.
BEAUTIFUL JEALOUS CATHERINE LOVED RONALD.
JAMES WAS RONALD'S PARTNER.
JAMES MATED RONALD.
EVIL VIOLENT JAMES WAS DUMB.
IMPOTENT UGLY JAMES WAS MARRIED TO MARY.
WELL TO GO JEALOUS JAMES DISLIKED MARY.
JAMES DISLIKED HIS EARL. (MUM). 
UNPLEASANT VIOLENT MARY WAS SMART.
BEAUTIFUL MARY HATED EVIL VIOLENT.
JEALOUS OVERSEXED MARY HATED JAMES.
MARY DISLIKED FLORENCE.

FLORENCE WAS LADY BUXLEY'S COMPANION.
WONDERFUL FLORENCE WAS EASY GOING.
BEAUTIFUL OVERSEXED FLORENCE WAS SINGLE.
THE SMART UNPLEASANT BUTLER WAS LUSTY.
POOR BRAVE BUTLER WAS SINGLE.
THE DUMB MAID WAS GOOD.
PRETTY POOR HEATHER WAS SINGLE.
UGLY VIOLENT COOK WAS SINGLE.
The COOK WAS POOR.

CHANGE STACK FOR TIME 19W3D10H10M

1: (DAY IS MONDAY) SET AT 19W3D10H10M
2: (WEATHER SUNNY) SET AT 19W3D10H10M
3: (WEATHER PLEASANT) SET AT 19W3D10H10M
4: (LADYDUX IN PARK) SET AT 19W3D10H10M
5: (JAMES RUN INTO LADYDUX) SET AT 19W3D10H10M
6: (JAMES TALK WITH LADYDUX) SET AT 19W3D10H10M
7: (LADYDUX FLIRT WITH JAMES) SET AT 19W3D10H10M
8: (JAMES INVITE LADYDUX) SET AT 19W3D10H10M
9: (JAMES AFFECT LADYDUX) SET AT 19W3D10H10M
10: (LADYDUX AFFECT JAMES) SET AT 19W3D10H10M
11: (LADYDUX WITH JAMES) SET AT 19W3D10H10M
12: (JAMES IN HICL) SET AT 19W3D10H10M
13: (LADYDUX NEAR JAMES) SET AT 19W3D10H10M
14: (JAMES CARRESS LADYDUX) SET AT 19W3D10H10M
15: (CARRESS WITH PASSION) SET AT 19W3D10H10M
16: (JAMES IS LOVER) SET AT 19W3D10H10M
17: (LOVER POS LADYDUX) SET AT 19W3D10H10M

1: (NURSE IS COMPANION) SET AT 19W3D10H2M
2: (COMPANION POS LADYDUX) SET AT 19W3D10H2M
3: (NURSE VIOLENT) SET AT 19W3D10H2M
4: (MX QO) SET AT 19W3D10H2M
5: (NURSE SINGLE) SET AT 19W3D10H2M
6: (MX QO) SET AT 19W3D10H2M
7: (NURSE ATTRACT) SET AT 19W3D10H2M
8: (NURSE SEXCRV) SET AT 19W3D10H2M
9: (NURSE SEXCRV) SET AT 19W3D10H2M
10: (NURSE SEXCRV) SET AT 19W3D10H2M
11: (MX QO) SET AT 19W3D10H2M
12: (NURSE VIOLENT) SET AT 19W3D10H2M
13: (NURSE VIOLENT) SET AT 19W3D10H2M
14: (NURSE VIOLENT) SET AT 19W3D10H2M
15: (NURSE VIOLENT) SET AT 19W3D10H2M
16: (NURSE VIOLENT) SET AT 19W3D10H2M
17: (NURSE VIOLENT) SET AT 19W3D10H2M
18: (NURSE VIOLENT) SET AT 19W3D10H2M
19: (NURSE VIOLENT) SET AT 19W3D10H2M
20: (NURSE VIOLENT) SET AT 19W3D10H2M
21: (NURSE VIOLENT) SET AT 19W3D10H2M
22: (NURSE VIOLENT) SET AT 19W3D10H2M
23: (NURSE VIOLENT) SET AT 19W3D10H2M
THE DAY WAS MONDAY.
The pleasant weather was sunny.
Lady Buxley was in a park.
James ran into lady Buxley.
James talked with Lady Buxley.
Lady Buxley flirted with James.
James invited Lady Buxley.
James liked Lady Buxley.
Lady Buxley was with James in a hotel.
Lady Buxley was near James.
James caressed Lady Buxley with passion.
James was lady Buxley's lover.
Marion following them saw the affair.
Marion saw the affair.
Marion was jealous.

Ronaldo met Hume by a chance.
Ronaldo greeted Dr. Hume with affection.
Hume invited Ronaldo to play tennis.
Dr. Bartholomew Hume asked Ronaldo to bring Cathy.
They met Dr. Bartholomew Hume at a club.
Dr. Bartholomew Hume liked Catherine well.
Cathy found that Hume was handsome.
Lady Catherine played tennis well with Hume against Ronaldo.
Dr. Bartholomew Hume talked with Catherine.
They laughed.
Ronaldo was jealous.
Ronaldo was mad at Dr. Bartholomew Hume.

CHANGE STACK FOR TIME 19W3D12H10M

1: (RONALDO MEET DRHUME) SET AT 19W3D12H10M
2: (MEET BY CHANCE) SET AT 19W3D12H10M
3: (RONALDO GREET DRHUME) SET AT 19W3D12H10M
4: (GREET WITH AFFECTION) SET AT 19W3D12H10M
5: (DRHUME INVITE RONALDO) SET AT 19W3D12H10M
6: (INVITE PLAY TENNIS) SET AT 19W3D12H10M
7: (DRHUME ASK RONALDO) SET AT 19W3D12H10M
8: (ASK BRING CATHY) SET AT 19W3D12H10M
9: (THEY MEET DRHUME) SET AT 19W3D12H10M
10: (MEET AT CLUB) SET AT 19W3D12H10M
11: (ULST XX) SET AT 19W3D12H10M
12: (RONALDO MEET DRHUME) SET AT 19W3D12H10M
13: (MEET AT CLUB) SET AT 19W3D12H10M
14: (CATHY MEET DRHUME) SET AT 19W3D12H10M
15: (MEET AT CLUB) SET AT 19W3D12H10M
16: (LST XX) SET AT 19W3D12H10M
17: (DRHUME LIKE CATHY) SET AT 19W3D12H10M
18: (CATHY FIND THAT) SET AT 19W3D12H10M
19: (DRHUME HANDSOME) SET AT 19W3D12H10M

CHANGE STACK FOR TIME 19W4D10H10M

1: NOT (DAY IS MONDAY) SET AT 19W4D10H10M
2: (DAY IS TUESDAY) SET AT 19W4D10H10M
3: NOT (WEATHER SUNNY) SET AT 19W4D10H10M
4: (WEATHER RAINY) SET AT 19W4D10H10M
5: (MARION IN PARK) SET AT 19W4D10H10M
6: (DRHUME RUN INTO MARION) SET AT 19W4D10H10M
7: (DRHUME ASK MARION) SET AT 19W4D10H10M
8: (MARION FLIRT WITH DRHUME) SET AT 19W4D10H10M
9: (DRHUME INVITE MARION) SET AT 19W4D10H10M
10: (DRHUME AFFECTATION MARION) = 1.0000
11: (MARION AFFECTATION DRHUME) = 1.0000
12: (MARION WITH DRHUME) SET AT 19W4D10H10M
13: (DRHUME IN HOTEL) SET AT 19W4D10H10M
14: (MARION NEAR DRHUME) SET AT 19W4D10H10M
15: (DRHUME CARESS MARION) SET AT 19W4D10H10M
16: (CARES WITH PASSION) SET AT 19W4D10H10M
17: (DRHUME IS LOVER) SET AT 19W4D10H10M
18: (LOVER POS MARION) SET AT 19W4D10H10M
19: (LADYJANE SEE AFFAIR) SET AT 19W4D10H10M
20: (LADYJANE FOLLOW THEY) SET AT 19W4D10H10M
THE DAY WAS TUESDAY.

THE WEATHER WAS RAINY.

MARION WAS IN THE PARK.

DR. BARTHOLOMEW HUME Ran INTO MARION.

HUME TALKED WITH MARION.

MARION FLIRTED WITH HUME.

HUME INVITED MARION.

DR. HUME LIKED MARION.

MARION LIKED DR. BARTHOLOMEW HUME.

MARION WAS WITH DR. BARTHOLOMEW HUME IN THE HOTEL.

MARION Was NEAR HUME.

DR. HUME CAressed MARION WITH PASSION.

HUME WAS MARION'S LOVER.

LADY JANE FOLLOWING THEM SAW THE AFFAIR.

JANE BLACKMAILED MARION.

MARION WAS IMPoverISHED.

JANE WAS RICH.

CHANGE STACK FOR TIME 19W4D12H10M

1: (MARION PHONE LADYJANE) SET AT 19W4D12H10M
2: (PHONE IN MORNING) SET AT 19W4D12H10M
3: (MARION INVITE LADYJANE) SET AT 19W4D12H10M
4: (INVITE GOTO THEATRE) SET AT 19W4D12H10M
5: (LADYJANE ACCES) SET AT 19W4D12H10M
6: (LADYJANE GETDRESS) SET AT 19W4D12H10M
7: (GETDRESS FOR EVENING) SET AT 19W4D12H10M
8: (THEY MEET) SET AT 19W4D12H10M
9: (MEET IN THEATRE) SET AT 19W4D12H10M
10: (ULST XX) SET AT 19W4D12H10M
11: (MARION MEET LADYJANE) SET AT 19W4D12H10M
12: (MEET IN THEATRE) SET AT 19W4D12H10M
13: (MARION MEET JAMES) SET AT 19W4D12H10M
14: (MEET IN THEATRE) SET AT 19W4D12H10M
15: (LORD MEET LADYJANE) SET AT 19W4D12H10M
16: (MEET IN THEATRE) SET AT 19W4D12H10M
17: (LORD MEET JAMES) SET AT 19W4D12H10M
18: (MEET IN THEATRE) SET AT 19W4D12H10M
19: (ULST XX) SET AT 19W4D12H10M
20: (LADYJANE INTROD LORDED) SET AT 19W4D12H10M

21: (INTROD TO MARION) SET AT 19W4D12H10M
22: (INTRODURING INTERMIS) SET AT 19W4D12H10M

MARION PHONED JANE IN THE MORNING.

MARION INVITED JANE TO GO TO A THEATER.

JANE AGREED.

JANE GOT DRESSED FOR THE EVENING.

THEY MET THEM IN THE THEATER.

JANE INTRODUCED LOR EDWARD DURING AN INTERMISSION TO MARION.

CHANGE STACK FOR TIME 19W5D10H10M

1: NOT (DAY IS TUESDAY) SET AT 19W4D10H10M
2: (DAY IS WEDNESDAY) SET AT 19W5D10H10M
3: NOT (WEATHER RAINY) SET AT 19W4D10H10M
4: (WEATHER WINDY) SET AT 19W5D10H10M
5: (LADYJANE IN TENNIS) SET AT 19W5D10H10M
6: (JOHNBUX RUN INTO LADYJANE) SET AT 19W5D10H10M
7: (JOHNBUX TALK WITH LADYJANE) SET AT 19W5D10H10M
8: (LADYJANE FLIRT WITH JOHNBUX) SET AT 19W5D10H10M
9: (JOHNBUX INVITE LADYJANE) SET AT 19W5D10H10M
10: (JOHNBUX AFFECT LADYJANE) SET AT 19W5D10H10M
11: (LADYJANE AFFECT JOHNBUX) SET AT 19W5D10H10M
12: (JOHNBUX WITH LADYJANE) SET AT 19W5D10H10M
13: (LADYJANE IN MEZE) SET AT 19W5D10H10M
14: (JOHNBUX NEAR LADYJANE) SET AT 19W5D10H10M
15: (LADYJANE CARL SS JOHNBUX) SET AT 19W5D10H10M
16: (CARESS WITH PASSION) SET AT 19W5D10H10M
17: (LADYJANE IS LOVER) SET AT 19W5D10H10M
18: (LOVER POS JOHNBUX) SET AT 19W5D10H10M
19: (CATHY SEE AFFAIR) SET AT 19W5D10H10M
20: (CATHY FOLLOW THEM) SET AT 19W5D10H10M
21: (ULST XX) SET AT 19W5D10H10M
22: (CATHY FOLLOW JOHNBUX) SET AT 19W5D10H10M
23: (CATHY FOLLOW LADYJANE) SET AT 19W5D10H10M
24: (ULST XX) SET AT 19W5D10H10M
25: (CATHY BLACKMA L LADYJANE) SET AT 19W5D10H10M
26: (LADYJANE WEALTH) SET AT 2,0000
27: (CATHY WEALTH) SET AT 3,0000

THE DAY WAS WEDNESDAY.

THE WEATHER WAS WINDY.

LADY JANE WAS IN THE TENNIS COURT.
LADY CATHERINE INVITED JANE TO PLAY BRIDGE.
LADY CATHERINE TOLD MARION TO COME WITH LADY BUXLEY.
JANE ASKED THEM TO SET DOWN.
LADY JANE BROUGHT THE CARDS.
JANE OFFERED DRINKS.
LADY BUXLEY ASKED FOR WHISKEY ON THE ROCKS.
THE OTHERS HAD COFFEE WITH COOKIES.
JANE SHUFFLED THE CARDS.
LADY JANE STARTED A GAME.
MARION CASUALLY SIGNALS LADY BUXLEY WITH HANDS.
JANE NOTICED IT.
LADY JANE SUSPECTED THAT THEY CHEATED.
JANE WATCHED THEM CLOSELY.
MARION WON THE GAME WITH LADY BUXLEY.
JANE WAS UPSET WITH CATHERINE.
LADY JANE DISLIKED MARION.

CHANGE STACK FOR TIME 19WS012H10M

1: NOT (DAY IS WEDNESDAY) SET AT 19WS012H10M
2: NOT (DAY IS THURSDAY) SET AT 19WS012H10M
3: NOT (WEATHER WINDY) SET AT 19WS012H10M
4: WEATHER RAINY SET AT 19WS012H10M
5: (CANTEN ON CORNER) SET AT 19WS012H10M
6: (CANTEN SMALL) SET AT 19WS012H10M
7: JOHN BUXLEY IN CANTEN SET AT 19WS012H10M
8: (CATHY MESS WITH MARION) SET AT 19WS012H10M
9: (LADYJANE SUSPECT THAT) SET AT 19WS012H10M
10: (THEY CHEAT) SET AT 19WS012H10M
11: (ULST XX) SET AT 19WS012H10M
12: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
13: (WATCH CLOSELY) SET AT 19WS012H10M
14: (ULST XX) SET AT 19WS012H10M
15: (LADYJANE WATCH MARION) SET AT 19WS012H10M
16: (WATCH CLOSELY) SET AT 19WS012H10M
17: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
18: (ULST XX) SET AT 19WS012H10M
19: (LADYJANE WATCH MARION) SET AT 19WS012H10M
20: (ULST XX) SET AT 19WS012H10M
21: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
22: (ULST XX) SET AT 19WS012H10M
23: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
24: (ULST XX) SET AT 19WS012H10M
25: (LADYJANE WATCH MARION) SET AT 19WS012H10M
26: (ULST XX) SET AT 19WS012H10M
27: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
28: (ULST XX) SET AT 19WS012H10M
29: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
30: (ULST XX) SET AT 19WS012H10M
31: (LADYJANE WATCH MARION) SET AT 19WS012H10M
32: (ULST XX) SET AT 19WS012H10M
33: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
34: (ULST XX) SET AT 19WS012H10M
35: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
36: (ULST XX) SET AT 19WS012H10M
37: (MARION SIGNAL LADYBU) SET AT 19WS012H10M
38: (ULST XX) SET AT 19WS012H10M
39: (LADYJANE SUSPECT THAT) SET AT 19WS012H10M
40: (THEY CHEAT) SET AT 19WS012H10M
41: (ULST XX) SET AT 19WS012H10M
42: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
43: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
44: (ULST XX) SET AT 19WS012H10M
45: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
46: (ULST XX) SET AT 19WS012H10M
47: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
48: (ULST XX) SET AT 19WS012H10M
49: (LADYJANE WATCH MELINA) SET AT 19WS012H10M
50: (ULST XX) SET AT 19WS012H10M
51: (LADYJANE WATCH LADYLU) SET AT 19WS012H10M
52: (ULST XX) SET AT 19WS012H10M
53: (MARION WIN GAME) SET AT 19WS012H10M
54: (LADYJANE BUILT LADYLU) SET AT 19WS012H10M
55: (ULST XX) SET AT 19WS012H10M
56: (LADYJANE AFFECTS MARION) = 1.0000
57: (LADYJANE AFFECTS MARION) = 1.0000

CHANGE STACK FOR TIME 19WS012H10M

1: (CATHY INVITE LADYJANE) SET AT 19WS012H10M
2: (INVITE PLAY BRIDGE) SET AT 19WS012H10M
3: (CATHY TELL MARION) SET AT 19WS012H10M
4: (TELL CONEWITH LADYBU) SET AT 19WS012H10M
5: (LADYJANE ASK THEY) SET AT 19WS012H10M
6: (ASK SETDOWN) SET AT 19WS012H10M
7: (ULST XX) SET AT 19WS012H10M
8: (LADYJANE ASK CATHY) SET AT 19WS012H10M
9: (ASK SETDOWN) SET AT 19WS012H10M
10: (LADYJANE ASK MARION) SET AT 19WS012H10M
11: (ASK SETDOWN) SET AT 19WS012H10M
12: (LADYJANE ASK LADYBU) SET AT 19WS012H10M
13: (ASK SETDOWN) SET AT 19WS012H10M
14: (ULST XX) SET AT 19WS012H10M
15: (LADYJANE BRING CARDS) SET AT 19WS012H10M
16: (LADYJANE OFFER DRINKS) SET AT 19WS012H10M
17: (LADYBU ASK FOR WHISKY) SET AT 19WS012H10M
18: (WHISKY ON ROCKS) SET AT 19WS012H10M
19: (MARION ASK FOR WHISKY) SET AT 19WS012H10M
20: (WHISKY WITH SOJA) SET AT 19WS012H10M
21: (OTHERS HAVE COFFEE) SET AT 19WS012H10M
22: (COFFEE WITH COOKIES) SET AT 19WS012H10M
23: (ULST XX) SET AT 19WS012H10M
24: (LADYJANE HAVE COFFEE) SET AT 19WS012H10M
25: (COFFEE WITH COOKIES) SET AT 19WS012H10M
26: (CATHY HAVE COFFEE) SET AT 19WS012H10M
27: (COFFEE WITH COOKIES) SET AT 19WS012H10M
28: (ULST XX) SET AT 19WS012H10M
29: (LADYJANE ADD CAY CELLS CARDS) SET AT 19WS012H10M
30: (LADYJANE START GAME) SET AT 19WS012H10M
31: (MARION SIGNAL LADYBU) SET AT 19WS012H10M
32: (SIGNAL WITH HANDS) SET AT 19WS012H10M
33: (SIGNAL CASUALLY) SET AT 19WS012H10M
34: (LADYJANE NOTICE IT) SET AT 19WS012H10M
35: (ULST XX) SET AT 19WS012H10M
36: (LADYJANE NOTICE THAT) SET AT 19WS012H10M
THE DAY WAS THURSDAY.
THE WEATHER WAS RAINY.
A SMALL PIGEON WAS ON A CORNER.
JOHN BUXLEY WAS IN THE PUB.
JOHN BUXLEY ASKED FOR WHISKEY ON THE ROCKS.
JOHN TALKED WITH HUME NEAR THE BAR.
JAMES SAID THAT LORD EDWARD WAS DRUNK.
JAMES LEAVE THE PUB.
JAMES LEFT THE PUB.
EDWARD SAID THAT LADY JANE COMMITTED ADULTERY.
JOHN BUXLEY THOUGHT THAT LORD EDWARD WAS DRUNK.
LORD EDWARD WAS DRUNK.
LORD EDWARD LEFT THE PUB.

THE DAY WAS FRIDAY.

CHANGE STACK FOR TIME 20W13H10M

CHANGE STACK FOR TIME 20W20H

LADY BUXLEY HAD A BIG HOUSE.
LADY BUXLEY'S HOUSE HAD A PRETTY FRAGRANT GARDEN.
A GREEN HOUSE WAS IN THE GARDEN.
The garden was near the tennis court.
The house also had a pleasant parlor.
A cool dark musty library was near the parlor.
The time was the evening.
LADY BUXLEY GAVE A PARTY.
The party lasted for a weekend.
LADY BUXLEY TALKED WITH FLORENCE.

MARION ARRIVED WITH JAMES.

CATHERINE ARRIVED WITH RONALD.
Catherine talked with Dr. Bartholomew Hume.
Dr. Bartholomew Hume flirted with Lady Catherine.
Dr. Bartholomew Hume said that Lady Catherine was beautiful.
Dr. Hume wanted to seduce Catherine.
Hume told a joke.
Catherine laughed.

Change stack for time 20W21H40M

Change stack for time 20W21H50M

1: (Ladysux talk with Ronald) set at 20W21H50M
2: (Nurse talk with Dr. Hume) set at 20W21H50M
3: (Catherine flirt with Nurse) set at 20W21H50M
4: (Dr. Hume flatter nurse) set at 20W21H50M
5: (Nurse arouse) set at 20W21H50M
6: (Aroused very) set at 20W21H50M
7: (Dr. Hume affectio nurse) = 2.0000
8: (Nurse affectio Dr. Hume) = 2.0000

Ladysux talked with Ronald.
Florence talked with Dr. Bartholomew Hume.
Dr. Hume flirted with Florence.
Dr. Bartholomew Hume flattered Florence.
Florence was very aroused.
Dr. Bartholomew Hume liked Florence.
Florence liked Hume.

Change stack for time 20W22H00M

1: (Ladysux talk with Ladysux) set at 20W22H00M
2: (Ladysux mention politics) set at 20W22H00M
3: (Mention casually) set at 20W22H00M
4: (Ladysux discuss politics) set at 20W22H00M
5: (Discuss with Ladysux) set at 20W22H00M
6: (Ladysux say that) set at 20W22H00M
7: (Weather nice) set at 20W22H00M
8: (Ladysux tire) set at 20W22H00M
9: (Ladysux tire) set at 20W22H00M
10: (Ladysux tire) set at 20W22H00M
11: (Ladysux tire) set at 20W22H00M
12: (Not Ronald tire) set at 20W22H00M
13: (Ronald goto bed) set at 20W22H00M
14: (Ladysux goto bed) set at 20W22H00M

John Buxley arrived.
Lady Buxley greeted John Buxley.
John joined the conversation.

Change stack for time 20W22H10M

1: (Johnbux arrive) set at 20W22H10M
2: (Ladysux greet Johnbux) set at 20W22H10M
3: (Johnbux join conversa) set at 20W22H10M
4: (Ladysux set at 20W22H10M)
5: (Ladysux set at 20W22H10M)
6: (Dr. Hume tired) set at 20W22H10M
7: (Ladysux set at 20W22H10M)
8: (Ladysux set at 20W22H10M)

John Buxley arrived.
Lady Buxley greeted John Buxley.
John joined the conversation.

Change stack for time 20W22H20M

1: (Johnbux talk with Ladysux) set at 20W22H20M
2: (Johnbux mention politics) set at 20W22H20M
3: (Mention casually) set at 20W22H20M
4: (Ladysux discuss politics) set at 20W22H20M
5: (Discuss with Johnbux) set at 20W22H20M
6: (Ladysux say that) set at 20W22H20M
7: (Weather nice) set at 20W22H20M
8: (Ladysux tire) set at 20W22H20M
9: (Ladysux tire) set at 20W22H20M
10: (Ladysux tire) set at 20W22H20M
11: (Ladysux tire) set at 20W22H20M
12: (Not Ronald tire) set at 20W22H20M
13: (Ronald goto bed) set at 20W22H20M
14: (Ladysux goto bed) set at 20W22H20M
JOHN BUXLEY CASUALLY MENTIONED POLITICS.
LADY JANE DISCUSSED POLITICS WITH JOHN BUXLEY.
LADY JANE SAID THAT THE WEATHER WAS NICE.

CHANGE STACK FOR TIME 20W22H3OM

1: (ULST XX) SET AT 20W22H3OM
2: (ULST XX) SET AT 20W22H3OM
3: (ULST XX) SET AT 20W22H3OM
4: NOT (JUHUME TIRED) SET AT 20W22H1OM
5: (JUHUME GOTO BED) SET AT 20W22H3OM
6: (ULST XX) SET AT 20W22H3OM

LORD EDWARD TALKED WITH LADY JANE.
FLORENCE TALKED WITH EDWARD.
EDWARD FLIRTED WITH FLORENCE.
LORD EDWARD WANTED TO SEQUEL FLORENCE.
LORD EDWARD SMILE AT FLORENCE.
FLORENCE SMILE AT LORD EDWARD.
JANE SAW THAT EDWARD WHISPER TO FLORENCE.
LADY JANE WAS ANGRY.
LORD EDWARD SAW THAT LADY JANE WAS ANGRY.

CHANGE STACK FOR TIME 20W22H1OM

1: (ULST XX) SET AT 20W22H1OM
2: (JOHNBUX TIRED) SET AT 20W22H1OM
3: (ULST XX) SET AT 20W22H1OM
4: (ULST XX) SET AT 20W22H1OM
5: NOT (LAEYEUX TIRED) SET AT 20W22H2OM
6: (LAEYEUX GOTO BED) SET AT 20W22H1OM
7: (ULST XX) SET AT 20W22H1OM

CHANGE STACK FOR TIME 20W22H5OM

1: (LORDED TALK WITH LADYJANE) SET AT 20W22H5OM
2: (NURSE TALK WITH LORDED) SET AT 20W22H5OM
3: (LORDED FLIRT WITH NURSE) SET AT 20W22H5OM
4: (LORDED WANT IN) SET AT 20W22H5OM
5: (JANINO FUCK NURSE) SET AT 20W22H5OM

CHANGE STACK FOR TIME 20W23H1OM

1: (MARION TALK WITH LORDED) SET AT 20W23H1OM
2: (LORDED FLIRT WITH MARION) SET AT 20W23H1OM
3: (LORDED SAY THAT) SET AT 20W23H1OM
4: (MARE0 AtTRACTION = 3.0000)
5: (LORDED SMILE AT MARION) SET AT 20W23H1OM
(-LORED TOUCH MARION) SET AT 20W23H10M
(-TOUCH SENTLY) SET AT 20W23H10M
(-LORED WISPERIO MARION) SET AT 20W23H10M
(-LORED AFFECTIO MARION) = 2,000D
(-MARION AFFECTIO LORED) = 2,000D
(-JAMES SEE THAT) SET AT 20W23H10M
(-MARION TALKWTH LORD) SET AT 20W23H10M
(-MARION SMILEAT LORED) SET AT 20W23H10M
(-LORED FLATTER MARION) SET AT 20W23H10M
(-LADYJANE SEE THAT) SET AT 20W23H10M
(-LADYJANE SMILEAT LORD) SET AT 20W23H10M
(-LADYJANE SMILEAT LORED) SET AT 20W23H10M
(-LADYJANE ANGRY) SET AT 20W23H10M
(-LADYJANE SEE THAT) SET AT 20W23H10M
(-LORED SMILAT MARION) SET AT 20W23H10M
(-LORED FLIRTWIT MARION) SET AT 20W23H10M
(-ULST XX) SET AT 20W23H10M
(-NURSE TIRED) SET AT 20W23H10M
(-LST XX) SET AT 20W23H10M
(-LST XX) SET AT 20W23H10M

CHANGE STACK FOR TIME 20W23H30M
1:
(-ULST XX) SET AT 20W23H30M
2:
(-LST XX) SET AT 20W23H30M
3:
(-ULST XX) SET AT 20W23H30M
4:
(-NURSE TIRED) SET AT 20W23H30M
5:
(-NURSE GOTO BED) SET AT 20W23H30M
6:
(-LST XX) SET AT 20W23H30M

CHANGE STACK FOR TIME 20W23H40M
1:
(-ULST XX) SET AT 20W23H40M
2:
(-JAMES TIRED) SET AT 20W23H40M
3:
(-MARION TIRED) SET AT 20W23H40M
4:
(-LST XX) SET AT 20W23H40M
5:
(-LST XX) SET AT 20W23H40M

CHANGE STACK FOR TIME 20W23H50M
1:
(-ULST XX) SET AT 20W23H50M
2:
(-LST XX) SET AT 20W23H50M
3:
(-LST XX) SET AT 20W23H50M

CHANGE STACK FOR TIME 20W1D

CHANGE STACK FOR TIME 20W102H

CHANGE STACK FOR TIME 20W103H

CHANGE STACK FOR TIME 20W104H

CHANGE STACK FOR TIME 20W105H

CHANGE STACK FOR TIME 20W106H

CHANGE STACK FOR TIME 20W107H

1: NOT (DAY IS FRIDAY) SET AT 20W1010M
2: (DAY IS SATURDAY) SET AT 20W107H
3: (SUN RISE) SET AT 20W107H
4: (LST XX) SET AT 20W107H
5: (BUTLER GETUP) SET AT 20W107H
6: (COOK GETUP) SET AT 20W107H
7: (MAID GETUP) SET AT 20W107H
8: NOT (BUTLER GOTO BED) SET AT 20W22H
9: NOT (COOK GOTO BED) SET AT 20W22H
10: NOT (MAID GOTO BED) SET AT 20W22H
11: (LST XX) SET AT 20W107H
12: (SERVANTS GETUP) SET AT 20W107H
13: NOT (SERVANTS GOTO BED) SET AT 20W22H
14: (COOK GOTO KITCHEN) SET AT 20W107H
15: (COOK PREPARE BREAKFAST) SET AT 20W107H
16: (BUTLER FOLLOW COOK) SET AT 20W107H
17: (BUTLER FOCUS COOK) SET AT 20W107H
18: (FUCK IN KITCHEN) SET AT 20W107H

EVERYONE WENT TO BED.

CHANGE STACK FOR TIME 20W101H

THE DAY WAS SATURDAY.
THE SUN ROSE.
THE SERVANTS GOT UP.
THE COOK WENT TO THE KITCHEN.
THE COOK PREPARED A BREAKFAST.
CLIVE FOLLOWED THE COOK.
CHANGE STACK FOR TIME 20W108H

1: (LST XX) SET AT 20W108H
2: (DAY BEAUTIFUL) SET AT 20W108H
3: (THEY GETUP) SET AT 20W108H
4: (THEY GETDRESS) SET AT 20W108H
5: (THEY GO) SET AT 20W108H
6: (GO TO BREAKFAST) SET AT 20W108H
7: (GO DOWNNO) SET AT 20W108H
8: (ULST XX) SET AT 20W108H
9: (CATHY GETUP) SET AT 20W108H
10: (DRHUME GETUP) SET AT 20W108H
11: (JAMES GETUP) SET AT 20W108H
12: (JOHNBUX GETUP) SET AT 20W108H
13: (LADYBUX GETUP) SET AT 20W108H
14: (LADYJANE GETUP) SET AT 20W108H
15: (LORDDEG GETUP) SET AT 20W108H
16: (MARION GETUP) SET AT 20W108H
17: (NURSE GETUP) SET AT 20W108H
18: (RONALD GETUP) SET AT 20W108H
19: NOT (DRHUME GOTO BED) SET AT 20W22H30M
20: NOT (JAMES GOTO BED) SET AT 20W104H
21: NOT (JOHNBUX GOTO BED) SET AT 20W22H3M
22: NOT (LADYBUX GOTO BED) SET AT 20W22H40M
23: NOT (LORDDEG GOTO BED) SET AT 20W104H
24: NOT (NURSE GOTO BED) SET AT 20W22H30M
25: NOT (RONALD GOTO BED) SET AT 20W22H20M
26: (CATHY GETDRESS) SET AT 20W104H
27: (DRHUME GETDRESS) SET AT 20W104H
28: (JAMES GETDRESS) SET AT 20W104H
29: (JOHNBUX GETDRESS) SET AT 20W104H
30: (LADYBUX GETDRESS) SET AT 20W104H
31: (LADYJANE GETDRESS) SET AT 20W104H
32: (LORDDEG GETDRESS) SET AT 20W104H
33: (MARION GETDRESS) SET AT 20W104H
34: (NURSE GETDRESS) SET AT 20W104H
35: (RONALD GETDRESS) SET AT 20W104H
36: (CATHY GO) SET AT 20W104H
37: (GO TO BREAKFAST) SET AT 20W104H
38: (GO DOWNNO) SET AT 20W104H
39: (DRHUME GO) SET AT 20W104H
40: (GO TO BREAKFAST) SET AT 20W104H
41: (GO DOWNNO) SET AT 20W104H
42: (JAMES GO) SET AT 20W104H
43: (GO TO BREAKFAST) SET AT 20W104H
44: (GO DOWNNO) SET AT 20W104H
45: (JOHNBUX GO) SET AT 20W104H
46: (GO TO BREAKFAST) SET AT 20W104H
47: (GO DOWNNO) SET AT 20W104H
48: (LADYBUX GO) SET AT 20W104H
49: (GO TO BREAKFAST) SET AT 20W104H

THE DAY WAS BEAUTIFUL.
THEY GOT UP.
THEY GOT DRESSED.
THEY WENT DOWN TO THE BREAKFAST.

CHANGE STACK FOR TIME 20H108M

CHANGE STACK FOR TIME 20W108H20M

CHANGE STACK FOR TIME 20W108H30M
CHANGE STACK FOR TIME 20W10B0H4DM

CHANGE STACK FOR TIME 20W10B0H5DM

1: (NURSE TALK WITH RONALD) SET AT 20W10B0H5DM
2: (RONALD SAY THAT) SET AT 20W10B0H5DM
3: (NURSE LOOK WELL) SET AT 20W10B0H5DM
4: (NURSE MENTION BUSINESS) SET AT 20W10B0H5DM
5: (MENTION CASUALLY) SET AT 20W10B0H5DM
6: (RONALD AFFECTED) CONVERT = -2.000
7: (CONVERT ABOUT BUSINESS) SET AT 20W10B0H5DM

FLORENCE TALKED WITH RONALD.
RONALD SAID THAT FLORENCE LOOKED WELL.
FLORENCE CASUALLY MENTIONED BUSINESS.
RONALD HATED CONVERSATIONS ABOUT BUSINESS.

CHANGE STACK FOR TIME 20W10B0H

1: (BREAKFAST OVER) SET AT 20W10B0H
2: (JAMES TALK WITH LADYBUX) SET AT 20W10B0H
3: (JAMES MENTION MUSIC) SET AT 20W10B0H
4: (MENTION CASUALLY) SET AT 20W10B0H
5: (LADYBUX DISCUSS MUSIC) SET AT 20W10B0H
6: (DISCUSS WITH JAMES) SET AT 20W10B0H

THE BREAKFAST WAS OVER.
JAMES TALKED WITH LADY BUXTON.
JAMES CASUALLY MENTIONED A MUSIC.
LADY BUXTON DISCUSSED THE MUSIC WITH JAMES.

CHANGE STACK FOR TIME 20W10B0H10M

1: (FULL XX) SET AT 20W10B0H10M
2: (NOT (CATHY GOTO DININGRM) SET AT 20W10B0H
3: (CATHY GOTO PARLOR) SET AT 20W10B0H10M

4: (DRHUME GOTO DININGRM) SET AT 20W10B0H10M
5: (DRHUME GOTO PARLOR) SET AT 20W10B0H10M
6: (JAMES GOTO DININGRM) SET AT 20W10B0H10M
7: (JAMES GOTO PARLOR) SET AT 20W10B0H10M
8: (JOHNBUX GOTO DININGRM) SET AT 20W10B0H10M
9: (JOHNBUX GOTO PARLOR) SET AT 20W10B0H10M
10: (LADYBUX GOTO DININGRM) SET AT 20W10B0H10M
11: (LADYBUX GOTO PARLOR) SET AT 20W10B0H10M
12: (LADYJANE GOTO DININGRM) SET AT 20W10B0H10M
13: (LADYJANE GOTO PARLOR) SET AT 20W10B0H10M
14: (LORDED GOTO DININGRM) SET AT 20W10B0H10M
15: (LORDED GOTO PARLOR) SET AT 20W10B0H10M
16: (MARION GOTO DININGRM) SET AT 20W10B0H10M
17: (MARION GOTO PARLOR) SET AT 20W10B0H10M
18: (NURSE GOTO DININGRM) SET AT 20W10B0H10M
19: (NURSE GOTO PARLOR) SET AT 20W10B0H10M
20: (RONALD GOTO DININGRM) SET AT 20W10B0H10M
21: (RONALD GOTO PARLOR) SET AT 20W10B0H10M
22: (LST XX) SET AT 20W10B0H10M
23: (EVERYONE GOTO PARLOR) SET AT 20W10B0H10M

EVERYONE WENT TO THE PARLOR.

CHANGE STACK FOR TIME 20W10B0H20M

CHANGE STACK FOR TIME 20W10B0H30M

CHANGE STACK FOR TIME 20W10B0H40M

CHANGE STACK FOR TIME 20W10B0H50M

1: (JAMES TALK WITH DRHUME) SET AT 20W10B0H50M
2: (DRHUME ARGUWITH JAMES) SET AT 20W10B0H50M
3: (JAMES SAY THAT) SET AT 20W10B0H50M
4: (DRHUME TOLD) SET AT 20W10B0H50M
5: (DRHUME THREATEN) SET AT 20W10B0H50M
6: (THREATEN HIT JAMES) SET AT 20W10B0H50M
7: (DRHUME CURSE JAMES) SET AT 20W10B0H50M
8: (JAMES HIT DRHUME) SET AT 20W10B0H50M
JAMES TALKED WITH DR. HUME.
HUME ARGUED WITH JAMES.
JAMES SAID THAT HUME WAS IDIOTIC.
HUME THREATENED TO HIT JAMES.
DR. BARTHOLOMEW HUME CURSED JAMES.
JAMES HIT DR. BARTHOLOMEW HUME IN THE NOSE.
DR. BARTHOLOMEW HUME TRIED TO GRAB JAMES.
JAMES FUSHED HUME.
HUME THREATENED TO KILL JAMES.
DR. BARTHOLOMEW HUME HIT JAMES.
JAMES HATED DR. HUME.

CHANGE STACK FOR TIME 20W1010H

CHANGE STACK FOR TIME 20W1010H10M

CHANGE STACK FOR TIME 20W1010H20M

1:  (Drumie Ask Lorded) SET AT 20W1010H20M
2:  (Ask Play Chess) SET AT 20W1010H20M
3:  (Lored Adres) SET AT 20W1010H20M
4:  (Lored Goto Study) SET AT 20W1010H20M
5:  (Goto With Drumie) SET AT 20W1010H20M
6:  (Last XX) SET AT 20W1010H20M
7:  (Drumie Play Chess) SET AT 20W1010H20M
8:  (Lored Play Chess) SET AT 20W1010H20M
9:  (Lst XX) SET AT 20W1010H20M
10: (They Play Chess) SET AT 20W1010H20M
11: (Drumie Is Player2) SET AT 20W1010H20M
12: (Player2 20302) SET AT 20W1010H20M
13: (Lored Play Chess) SET AT 20W1010H20M
14: (Play Well) SET AT 20W1010H20M

FLORENCE TALKED WITH JOHN.
JOHN FLIRTED WITH FLORENCE.
JOHN WANTED TO SCREW FLORENCE.
FLORENCE SMILED AT JOHN BUXLEY.

CHANGE STACK FOR TIME 20W1011H

CHANGE STACK FOR TIME 20W1011H10M

1:  (James Talkwith Johnbusx) SET AT 20W1011H10M
2:  (Johnbusx Laugh) SET AT 20W1011H10M
3:  (JONHBUX SAY THAT) SET AT 20W1011H10M
4:  (JAMES LOOKWELL) SET AT 20W1011H10M

JAMES TALKED WITH JOHN.
JOHN LAUGHED.
JOHN SUXLEY SAID THAT JAMES LOOKED WELL.

CHANGE STACK FOR TIME 20W1011H20M

CHANGE STACK FOR TIME 20W1011H30M
1:  (RONALD TALKWITH JAMES) SET AT 20W1011H30M
2:  (JAMES ARGUWITH RONALD) SET AT 20W1011H30M
3:  (RONALD SAY THAT) SET AT 20W1011H30M
4:  (JAMES THREATEN) SET AT 20W1011H30M
5:  (THREATEN HIT RONALD) SET AT 20W1011H30M
6:  (RONALD HIT JAMES) SET AT 20W1011H30M
7:  (JAMES KICK RONALD) SET AT 20W1011H30M
8:  (KICK IN STOMACH) SET AT 20W1011H30M
9:  (RONALD GROAN) SET AT 20W1011H30M
10: (GROAN SOFTLY) SET AT 20W1011H30M
11: (RONALD HIT JAMES) SET AT 20W1011H30M
12: (HIT IN NOSE) SET AT 20W1011H30M
13: (RONALD TRY) SET AT 20W1011H30M
14: (TRY GRAB RONALD) SET AT 20W1011H30M
15: (RONALD PUSH JAMES) SET AT 20W1011H30M
16: (RONALD STRUGGL W JAMES) SET AT 20W1011H30M
17: (JAMES THREATEN) SET AT 20W1011H30M
18: (THREATEN KILL RONALD) SET AT 20W1011H30M
19: (JAMES HIT RONALD) SET AT 20W1011H30M
20: (RONALD AFFECTED JAMES) = -3.0000

RONALD TALKED WITH JAMES.
JAMES ARGUED WITH RONALD.
RONALD SAID THAT JAMES WAS IDIOTIC.
JAMES THREATENED TO HURT RONALD.
RONALD HIT JAMES.
JAMES KICKED RONALD IN THE BELLY.
RONALD CONSIDERED FIGHTING.

CHANGE STACK FOR TIME 20W1012H10M

CHANGE STACK FOR TIME 20W1011H50M
1:  (LADYBUX TALKWITH NURSE) SET AT 20W1011H50M

CHANGE STACK FOR TIME 20W1012H
1:  (COOK GOTO KITCHEN) SET AT 20W1012H
2:  (COOK PREPARE DINNER) SET AT 20W1012H

THE COOK WENT TO THE KITCHEN.
MAGGIE PREPARED LUNCH.

CHANGE STACK FOR TIME 20W1012H10M

CHANGE STACK FOR TIME 20W1012H20M
1:  (RONALD TALKWITH LADYBUX) SET AT 20W1012H20M
RONALD TALKED WITH LADY BUXLEY.

CHANGE STACK FOR TIME 20W1012H30M

CHANGE STACK FOR TIME 20W1012H40M

CHANGE STACK FOR TIME 20W1012H50M

CHANGE STACK FOR TIME 20W1013H

1: (BUTLER ANNOUNCE DINNER) SET AT 20W1013H
2: NOT (CHRUBE PLAY CHESS) SET AT 20W1010H20M
3: NOT (LORDIO PLAY CHESS) SET AT 20W1010H20M
4: NOT (THEY PLAY CHESS) SET AT 20W1010H20M
5: (LORDIO STOPNO) SET AT 20W1013H
6: (CHRUBE STOPNO) SET AT 20W1013H
7: (STOPNO PLAY CHESS) SET AT 20W1013H
8: (STOPNO PLAY CHESS) SET AT 20W1013H

OLIVE ANNOUNCED LUNCH.
EDWARD STOPPED PLAYING CHESS.
ER. BARTHOLOMEW HUME STOPPED PLAYING CHESS.

CHANGE STACK FOR TIME 20W1013H10M

CHANGE STACK FOR TIME 20W1013H15M

1: (ULST XX) SET AT 20W1013H15M
2: NOT (CATHY GOTO PARLOR) SET AT 20W1013H15M
3: (CATHY GOTO DININGRM) SET AT 20W1013H15M
4: NOT (CHRUBE GOTO PARLOR) SET AT 20W1013H15M
5: (CHRUBE GOTO DININGRM) SET AT 20W1013H15M
6: NOT (JAMES GOTO PARLOR) SET AT 20W1013H15M
7: (JAMES GOTO DININGRM) SET AT 20W1013H15M
8: NOT (JOHN BUX GOTO PARLOR) SET AT 20W1013H15M
9: (JOHN BUX GOTO DININGRM) SET AT 20W1013H15M
10: NOT (LADY BUX GOTO PARLOR) SET AT 20W1013H10M
11: (LADY BUX GOTO DININGRM) SET AT 20W1013H15M
12: NOT (LADY JANE GOTO PARLOR) SET AT 20W1013H10M
13: (LADY JANE GOTO DININGRM) SET AT 20W1013H15M
14: NOT (LORDIO GOTO PARLOR) SET AT 20W1013H15M
15: (LORDIO GOTO DININGRM) SET AT 20W1013H15M
16: NOT (MARION GOTO PARLOR) SET AT 20W1013H10M
17: (MARION GOTO DININGRM) SET AT 20W1013H15M
18: NOT (NURSE GOTO PARLOR) SET AT 20W1013H10M
19: (NURSE GOTO DININGRM) SET AT 20W1013H15M
20: NOT (RONALD GOTO PARLOR) SET AT 20W1013H10M
21: (RONALD GOTO DININGRM) SET AT 20W1013H15M
22: (CATHY SIT) SET AT 20W1013H15M
23: (SIT DOWNNO) SET AT 20W1013H15M
24: (CHRUBE SIT) SET AT 20W1013H15M
25: (SIT DOWNNO) SET AT 20W1013H15M
26: (JAMES SIT) SET AT 20W1013H15M
27: (SIT DOWNNO) SET AT 20W1013H15M
28: (JOHN BUX SIT) SET AT 20W1013H15M
29: (SIT DOWNNO) SET AT 20W1013H15M
30: (LADY BUX SIT) SET AT 20W1013H15M
31: (SIT DOWNNO) SET AT 20W1013H15M
32: (LADY JANE SIT) SET AT 20W1013H15M
33: (SIT DOWNNO) SET AT 20W1013H15M
34: (LORDIO SIT) SET AT 20W1013H15M
35: (SIT DOWNNO) SET AT 20W1013H15M
36: (MARION SIT) SET AT 20W1013H15M
37: (SIT DOWNNO) SET AT 20W1013H15M
38: (NURSE SIT) SET AT 20W1013H15M
39: (SIT DOWNNO) SET AT 20W1013H15M
40: (RONALD SIT) SET AT 20W1013H15M
41: (SIT DOWNNO) SET AT 20W1013H15M
42: (ULST XX) SET AT 20W1013H15M
43: NOT (EVERYONE GOTO PARLOR) SET AT 20W1013H10M
44: (EVERYONE GOTO DININGRM) SET AT 20W1013H15M
45: (EVERYONE SIT) SET AT 20W1013H15M
46: (SIT DOWNNO) SET AT 20W1013H15M
47: (BUTLER SERVE FOOD) SET AT 20W1013H15M
48: (DINNER STARTNO) SET AT 20W1013H15M

EVERYONE WENT TO THE DINING ROOM.
EVERYONE SAT DOWN.
<table>
<thead>
<tr>
<th></th>
<th>Change Stack for Time 20W1D14H30M</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Nurse Talk with Ormune) SET AT 20W1C13H40M</td>
</tr>
<tr>
<td>2</td>
<td>(Nurse Mention Fashion) SET AT 20W1D13H40M</td>
</tr>
<tr>
<td>3</td>
<td>(Mention Casually) SET AT 20W1D13H40M</td>
</tr>
<tr>
<td>4</td>
<td>(Ormune Affection Convert) = -2,0000</td>
</tr>
<tr>
<td>5</td>
<td>(Convert About Fashion) SET AT 20W1D13H40M</td>
</tr>
</tbody>
</table>

**Florence Talked with Hume.**

Florence Casually Mentioned Fashion.

Dr. Bartholomew Hume Hated the Conversations About Fashion.

---

**Change Stack for Time 20W1D14H50M**

**Change Stack for Time 20W1D14H**

**Change Stack for Time 20W1D14H20M**
LUNCH WAS OVER.
THE MEN WENT TO THE PARLOR.
THE MEN SMOKED CIGARS.
THE WOMEN WENT TO THE DRAWING ROOM.
THE WOMEN DRANK WHISKEY.

CHANGE STACK FOR TIME 20W1D14M40M

CHANGE STACK FOR TIME 20W1D14H50M

CHANGE STACK FOR TIME 20W1D15H

CHANGE STACK FOR TIME 20W1D15M10M

CHANGE STACK FOR TIME 20W1D15H15M

1:  (ULST XX) SET AT 20W1D15H15M
2:  NOT (CATHY GOTO PARLOR) SET AT 20W1D14M30M
3:  (CATHY GOTO PARLOR) SET AT 20W1D15H15M
4:  (FORMUNE GOTO PARLOR) SET AT 20W1D15H15M
5:  (JAMES GOTO PARLOR) SET AT 20W1D15H15M
6:  (JONHUX GOTO PARLOR) SET AT 20W1D15H15M
7:  NOT (LADYJANE GOTO DRAWING) SET AT 20W1D14M30M
8:  (LADYJANE GOTO PARLOR) SET AT 20W1D15H15M
9:  NOT (LADYJANE GOTO DRAWING) SET AT 20W1D14M30M

10: (LADYJANE GOTO PARLOR) SET AT 20W1D15H15M
11: (LORDED GOTO PARLOR) SET AT 20W1D15H15M
12: NOT (MARION GOTO DRAWING) SET AT 20W1D14H30M
13: (MARION GOTO PARLOR) SET AT 20W1D15H15M
14: NOT (NURSE GOTO DRAWING) SET AT 20W1D14H30M
15: (NURSE GOTO PARLOR) SET AT 20W1D15H15M
16: (RONALD GOTO PARLOR) SET AT 20W1D15H15M
17: (ULST XX) SET AT 20W1D15H15M
18: (EVERYONE GOTO PARLOR) SET AT 20W1D15H15M
19: (MARION DECIDE) SET AT 20W1D15H15M
20: (DECIDE GOFOR WALK) SET AT 20W1D15H15M
21: (MARION SMILE AT LORDED) SET AT 20W1D15H15M
22: (LORDED SEE THAT) SET AT 20W1D15H15M
23: (MARION GOTO GARDEN) SET AT 20W1D15H15M
24: (LORDED FOLLOW MARION) SET AT 20W1D15H15M
25: (LADYJANE SEE THAT) SET AT 20W1D15H15M
26: (LORDED FOLLOW MARION) SET AT 20W1D15H15M
27: (LADYJANE THINK THAT) SET AT 20W1D15H15M
28: (LORDED AFFECTION MARION) = 2.0000
29: (MARION WALKIN GARDEN) SET AT 20W1D15H15M
30: (LADYJANE FOLLOW LORDED) SET AT 20W1D15H15M
31: (LORDED MEET MARION) SET AT 20W1D15H15M

EVERYONE WENT TO THE PARLOR.
MARION DECIDED TO GO FOR A WALK.
MARION SMILED AT EDWARD.
EDWARD SAW THAT MARION WENT TO THE GARDEN.
EDWARD FOLLOWED MARION.
JANE SAW THAT EDWARD FOLLOWED MARION.
JANE THOUGHT THAT LORD EDWARD LOVED MARION.
JANE FOLLOWED LORD EDWARD.
LORD EDWARD MET MARION.

CHANGE STACK FOR TIME 20W1D15H20M

1:  (LORDED KISS MARION) SET AT 20W1D15H20M
2:  (MARION CARESS LORDED) SET AT 20W1D15H20M
3:  (ULST XX) SET AT 20W1D15H20M
4:  NOT (LORDED GOTO PARLOR) SET AT 20W1D15H15M
5:  (LORDED GOTO GREENHS) SET AT 20W1D15H20M
6:  NOT (MARION GOTO PARLOR) SET AT 20W1D15H15M
7:  (MARION GOTO GREENHS) SET AT 20W1D15H20M
8:  (LADYJANE FOLLOW LORDED) SET AT 20W1D15H20M
9:  (LORDED MEET FOLLOW MARION) SET AT 20W1D15H20M
10: (ULST XX) SET AT 20W1D15H20M
11: (THEY GOTO GREENHS) SET AT 20W1D15H20M
12: (LADYJANE FOLLOW THEY) AT 20W1D15H20M
13: (MARION UNDESS) SET AT 20W1D15H20M
EDWARD KISSED MARION.
MARION CARESSED EDWARD.
THEY WENT TO THE GREEN HOUSE.
LADY JANE FOLLOWED THEM.
MARION UNCARESS.
EDWARD CARESSED MARION.
EDWARD COMMITTED ADULTERY.
LADY JANE WAS UNCARESS.
JANE ENTERED THE GREEN HOUSE.
JANE YELLED AT EDWARD.
JANE CRIED.
JANE THREATENED TO KILL LORD EDWARD.
MARION WAS ECARED.
LORD EDWARD ASKED LADY JANE TO FORGIVE LORD EDWARD.
EVERYONE WENT TO THE HOUSE.

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LORDED FUCK MARION) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LORDED COMMIT ADULTERY) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(MARION COMMIT ADULTERY) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LADYJANE ENRAGED) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LADYJANE ENTER GREENHOUSE) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LADYJANE YELL AT LORD) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LADYJANE CRY) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LADYJANE THREATEN) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(THREATEN KILL LORD) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(MARION EMBARRAS) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LORDED ASK LADYJANE) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(ASK FORGIVE LORD) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(EVERYONE GOTO HOUSE) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LST XX) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LADYJANE GOTO HOUSE) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LORDED GOTO HOUSE) SET AT 20W1015H20M</td>
<td></td>
</tr>
<tr>
<td>(LST XX) SET AT 20W1015H20M</td>
<td></td>
</tr>
</tbody>
</table>

MARION TALKED WITH JOHN BUXLEY.
JOHN BUXLEY FLIRTED WITH MARION.
JOHN BUXLEY GENTLY TOUCHED MARION.
MARION SMILED AT JOHN.
JOHN BUXLEY WANTED TO SEDUCE MARION.
MARION WANTED TO SEDUCE JOHN BUXLEY.
JAMES SAW THAT MARION TALKED WITH JOHN.
JAMES WAS MAD AT MARION.
JAMES WAS MAD AT JOHN.
JAMES OVERHEARD MARION WAS ANGRY.
MARION SAID THAT JAMES WAS UPSET.
MARION TALKED WITH JAMES.

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MARION TALK WITH JOHN BUXLEY) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(JOHN BUX FLIRT WITH MARION) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(JOHN BUX TOUCH MARION) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(TOUCH GENTLY) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARION SMILE AT JOHN BUX) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(JOHN BUX WANT NO) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(WANT NO SEDUCE MARION) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARIAN WANT NO) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARIAN WANT NO) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARIAN WANT NO) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(JAMES SEE THAT) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARIAN TALK WITH JOHN BUX) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARION SMILE AT JOHN BUX) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(JOHN BUX FLATTER MARION) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(JAMES MAD AT MARION) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(JAMES MAD AT JOHN BUX) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(LAST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(LST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARION SEE THAT) SET AT 20W1015H30M</td>
<td></td>
</tr>
<tr>
<td>(MARION RAGE) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MARIAN TALK WITH JAMES) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>

CHANGE STACK FOR TIME 20W1015H30M

CHANGE STACK FOR TIME 20W1015H30M

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(LST XX) SET AT 20W1015H30M</td>
<td></td>
</tr>
</tbody>
</table>
CHANGE STACK FOR TIME 20W1015H55M

CHANGE STACK FOR TIME 20W1016H

II. (BUTLER ANNOUNCE TEA) SET AT 20W1016H

THE BUTLER ANNOUNCED TEA.

CHANGE STACK FOR TIME 00M

CHANGE STACK FOR TIME 20W1016H10M

CHANGE STACK FOR TIME 20W1016H14M

1: (ULST XX) SET AT 20W1016H14M
2: NOT (CATHY GOTO PARLOR) SET AT 20W1016H15M
3: (CATHY GOTO PARLOR) SET AT 20W1016H14M
4: NOT (LADYJANE GOTO PARLOR) SET AT 20W1016H14M
5: (LADYJANE GOTO PARLOR) SET AT 20W1016H14M
6: NOT (JAMES GOTO PARLOR) SET AT 20W1016H15M
7: (JAMES GOTO PARLOR) SET AT 20W1016H14M
8: NOT (JOHNBUX GOTO PARLOR) SET AT 20W1016H15M
9: (JOHNBUX GOTO PARLOR) SET AT 20W1016H15M
10: NOT (LADYBUX GOTO PARLOR) SET AT 20W1016H15M
11: (LADYBUX GOTO PARLOR) SET AT 20W1016H15M
12: NOT (JAMES GOTO GARDEN) SET AT 20W1016H15M
13: (JAMES GOTO GARDEN) SET AT 20W1016H15M
14: NOT (LADYJANE GOTO GARDEN) SET AT 20W1016H15M
15: (LADYJANE GOTO GARDEN) SET AT 20W1016H15M
16: (MARION GOTO GARDEN) SET AT 20W1016H14M
17: NOT (MARION GOTO GARDEN) SET AT 20W1016H14M
18: (NURSE GOTO GARDEN) SET AT 20W1016H15M
19: NOT (NURSE GOTO GARDEN) SET AT 20W1016H15M
20: (RONALD GOTO PARLOR) SET AT 20W1016H15M
21: NOT (RONALD GOTO PARLOR) SET AT 20W1016H15M

EVERYONE WENT TO THE GARDEN.
THE BUTLER SERVED TEA.
THE DAY WAS COOL.
THE SKY WAS CLOUDY.
THE GARDEN WAS NICE.
THE FLOWERS WERE PRETTY.
MARION COMPLIMENTED LADY BUXLEY.

CHANGE STACK FOR TIME 20W1016H20K

1: (RONALD TALK WITH MARION) SET AT 20W1016H20M

RONALD TALKED WITH MARION.

CHANGE STACK FOR TIME 20W1016H30M

CHANGE STACK FOR TIME 20W1016H40M

CHANGE STACK FOR TIME 20W1016H44M

1: (TEATIME OVER) SET AT 20W1016H44M
CHANGE STACK FOR TIME 20W1017M
1: (COOK GOTO KITCHEN) SET AT 20W1017M
2: (COOK PREPARE SUPPER) SET AT 20W1017M

THE COOK WENT TO THE KITCHEN.
MAGGIE PREPARED DINNER.

CHANGE STACK FOR TIME 20W1017H5M

CHANGE STACK FOR TIME 20W1017H10M

CHANGE STACK FOR TIME 20W1017H15M

CHANGE STACK FOR TIME 20W1017H20M

CHANGE STACK FOR TIME 20W1017H25M
1: (DHURME ASK LORDED) SET AT 20W1017H25M
2: (ASK PLAY TENNIS) SET AT 20W1017H25M
3: (LORDED AGREE) SET AT 20W1017H25M
4: NOT (LORDED GOTO PARLOR) SET AT 20W1016M45M
5: (LORDED GOTO TENNIS) SET AT 20W1017H25M
6: (GOTO WITH DHURME) SET AT 20W1017H25M
7: (ULST XX) SET AT 20W1017H25M
8: (DHURME PLAY TENNIS) SET AT 20W1017H25M
9: (LORDED PLAY TENNIS) SET AT 20W1017H25M
10: (ULST XX) SET AT 20W1017H25M
11: THEY PLAY TENNIS SET AT 20W1017H25M
12: (DHURME IS PLAYER2) SET AT 20W1017H25M
13: (PLAYER2 GO002) SET AT 20W1017H25M
14: (LORDED PLAY TENNIS) SET AT 20W1017H25M
15: (PLAY WELL) SET AT 20W1017H25M

EVENYONE WENT TO THE PARLOR.

CHANGE STACK FOR TIME 20W1016M50M

CHANGE STACK FOR TIME 20W1016M55M
DR. HUME ASKED EDWARD TO PLAY TENNIS.
EDWARD AGREED.
LORD EDWARD WENT TO THE TENNIS COURT WITH DR. HUME.
THEY PLAYED TENNIS.
DR. HUME WAS THE GOOD PLAYER.
EDWARD PLAYED TENNIS WELL.

CHANGE STACK FOR TIME 20W1017H31M

CHANGE STACK FOR TIME 20W1017H35M

CHANGE STACK FOR TIME 20W1017H49M

CHANGE STACK FOR TIME 20W1017H55M

CHANGE STACK FOR TIME 20W1017H59M

CHANGE STACK FOR TIME 20W1018H1M

CHANGE STACK FOR TIME 20W1018H5M

CHANGE STACK FOR TIME 20W1018H15M

DR. BARTHOLOMEW HUME STOPPED PLAYING TENNIS.
EDWARD STOPPED PLAYING TENNIS.

THE BUTLER ANNOUNCED DINNER.
MARGARINE TALKED WITH FLORENCE.
FLORENCE ARGUED WITH MARION.
MARION SAID THAT FLORENCE WAS IDIOTIC.

CHANGE STACK FOR TIME 20W1019LH30M

1:  (NURSE TALK WITH LADYBUX) SET AT 20W1019LH30M

CHANGE STACK FOR TIME 20W1019H20M

FLORENCE TALKED WITH LADY BUXLEY.

CHANGE STACK FOR TIME 20W1019H10M

CHANGE STACK FOR TIME 20W1019H20M

CHANGE STACK FOR TIME 20W1019H30M

1:  (LIST XX) SET AT 20W1019H30M

CHANGE STACK FOR TIME 20W1019H40M

CHANGE STACK FOR TIME 20W1019H50M

CHANGE STACK FOR TIME 20W10118H30M

4:  (NURSE IQ) = 25.0000
THE WOMEN GOSSIPING DRANK COFFEE.

CHANGE STACK FOR TIME 20W1D19H40M

CHANGE STACK FOR TIME 20W1D19H50M

CHANGE STACK FOR TIME 20W1D20H0M

CHANGE STACK FOR TIME 20W1D20H10M

SUPPER WAS OVER.
THE MEN WENT TO THE PARLOR.
THE MEN SMOKED FAT SMELLY STORIES.
THE MEN DRANK SHERRY.
THE WOMEN WENT TO THE DRAWING ROOM.

EVERYONE WENT TO THE PARLOR.
CHANGE STACK FOR TIME 20W1D20H20M

CHANGE STACK FOR TIME 20W1D20H25M

CHANGE STACK FOR TIME 20W1D20H30M

CHANGE STACK FOR TIME 20W1D20H35M

CHANGE STACK FOR TIME 20W1D20H40M

1: (MARION TALK WITH LADYJANE) SET AT 20W1D20H40M

MARION TALKED WITH JANE.

CHANGE STACK FOR TIME 20W1D20H45M

CHANGE STACK FOR TIME 20W1D20H50M

CHANGE STACK FOR TIME 20W1D20H55M

CHANGE STACK FOR TIME 20W1D21H00M

CHANGE STACK FOR TIME 20W1D21H05M

1: NOT (JAMES GOTO PARLOR) SET AT 20W1D21H05M

2: (JAMES GOTO LIBRARY) SET AT 20W1D21H05M

3: (JAMES READ BOOK) SET AT 20W1D21H05M

4: (MCH 30) = 1.0000

5: (BOOK 00042) SET AT 20W1D21H05M

6: (LORDED ASK RONALD) SET AT 20W1D21H05M

7: (ASK PLAY TENNIS) SET AT 20W1D21H05M

8: (RONALD AGREE) SET AT 20W1D21H05M

9: NOT (RONALD GOTO PARLOR) SET AT 20W1D21H05M

10: (RONALD GOTO TENNIS) SET AT 20W1D21H05M

11: (GOTO WITH LORDE) SET AT 20W1D21H05M

12: (ULST XX) SET AT 20W1D21H05M

13: (LORDED PLAY TENNIS) SET AT 20W1D21H05M

14: (RONALD PLAY TENNIS) SET AT 20W1D21H05M

15: (ULST XX) SET AT 20W1D21H05M

16: (THEY PLAY TENNIS) SET AT 20W1D21H05M
JAMES WENT TO THE LIBRARY.
JAMES READ THE GOOD PAPERBACK.
EDWARD ASKED RONALD TO PLAY TENNIS.
RONALD AGREED.
RONALD WENT TO THE TENNIS COURT WITH LORD EDWARD.
THEY PLAYED TENNIS.

CHANGE STACK FOR TIME 20W1D21H55M

1: (JONASU SUGGEST GAME) SET AT 20W1D21H55M
2: (GAME OF BRIDGE) SET AT 20W1D21H55M
3: (LADYJAME AGREE) SET AT 20W1D21H55M
4: (DRAKE AGREE) SET AT 20W1D21H55M
5: (LADYJAME AGREE) SET AT 20W1D21H55M
6: (THEY PLAY BRIDGE) SET AT 20W1D21H55M
7: (UST XX) SET AT 20W1D21H55M
8: (DRAKE PLAY BRIDGE) SET AT 20W1D21H55M
9: (JONASU PLAY BRIDGE) SET AT 20W1D21H55M
10: (LADYJAME PLAY BRIDGE) SET AT 20W1D21H55M
11: (LADYJAME PLAY BRIDGE) SET AT 20W1D21H55M
12: (UST XX) SET AT 20W1D21H55M

John suggested the game of bridge.
Lady Buckley agreed.
Dr. Bartholomew Hume agreed.
Jane agreed.
They played bridge.

CHANGE STACK FOR TIME 20W1D22H

1: (NOT JAMES READ BOOK) SET AT 20W1D21H45M
2: (JAMES STOPNO) SET AT 20W1D22H55M
3: (STOPNO READ BOOK) SET AT 20W1D22H55M

James stopped reading the book.

CHANGE STACK FOR TIME 20W1D22H55M

1: (COOK GOTO BED) SET AT 20W1D22H
2: (MAID GOTO BED) SET AT 20W1D22H
3: (UST XX) SET AT 20W1D22H
4: (SERVANTS GOTO BED) SET AT 20W1D22H
5: (UST XX) SET AT 20W1D22H
6: (EVERYONE GOTO BED) SET AT 20W1D22H

The servants went to bed.
Everyone went to bed.

CHANGE STACK FOR TIME 20W1D22H55M

CHANGE STACK FOR TIME 20W1D22H55M

CHANGE STACK FOR TIME 20W1D22H25M

CHANGE STACK FOR TIME 20W1D22H55M

CHANGE STACK FOR TIME 20W1D22H35M

CHANGE STACK FOR TIME 20W1D22H55M

CHANGE STACK FOR TIME 20W1D22H45M

CHANGE STACK FOR TIME 20W1D22H55M

CHANGE STACK FOR TIME 20W1D22H55M
CHANGE STACK FOR TIME 20W1023H5M

CHANGE STACK FOR TIME 20W1023H5M

CHANGE STACK FOR TIME 20W1023H5M

1: (RONALD BEAT LORD) SET AT 20W1023H5M
2: (CHEAT AT TENNIS) SET AT 20W1023H5M
3: NOT (LORD BEAT TENNIS) SET AT 20W1023H45M
4: NOT (RONALD PLAY TENNIS) SET AT 20W1023H45M
5: NOT (THEY PLAY TENNIS) SET AT 20W1023H45M
6: (LORD BEAT TENNIS) SET AT 20W1023H5M
7: (STOPNO PLAY TENNIS) SET AT 20W1023H15M
8: (RONALD STOPNO) SET AT 20W1023H15M
9: (STOPNO PLAY TENNIS) SET AT 20W1023H15M

Ronald beat lord Edward at tennis.
Edward stopped playing tennis.
Ronald stopped playing tennis.

CHANGE STACK FOR TIME 20W1023H25M

CHANGE STACK FOR TIME 20W1023H25M

1: (JOHN CHEAT) SET AT 20W1023H25M
2: (CHEAT AT BRIDGE) SET AT 20W1023H25M

John Cheated at Bridge.

CHANGE STACK FOR TIME 20W1023H45M

CHANGE STACK FOR TIME 20W1023H45M

1: (JOHN CHEAT) SET AT 20W1023H45M
2: (CHEAT AT BRIDGE) SET AT 20W1023H45M

CHANGE STACK FOR TIME 20W1205M

CHANGE STACK FOR TIME 20W1205M

CHANGE STACK FOR TIME 20W1215M

CHANGE STACK FOR TIME 20W1215M

CHANGE STACK FOR TIME 20W1225M

CHANGE STACK FOR TIME 20W1225M

CHANGE STACK FOR TIME 20W1235M

CHANGE STACK FOR TIME 20W1235M

CHANGE STACK FOR TIME 20W2035M

CHANGE STACK FOR TIME 20W2035M

CHANGE STACK FOR TIME 20W2135M

CHANGE STACK FOR TIME 20W2135M

CHANGE STACK FOR TIME 20W2235M

CHANGE STACK FOR TIME 20W2235M

CHANGE STACK FOR TIME 20W2335M

CHANGE STACK FOR TIME 20W2335M
CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D1H15M

CHANGE STACK FOR TIME 20W2D1H23M

CHANGE STACK FOR TIME 20W2D1H15M

CHANGE STACK FOR TIME 20W2D2H20M

CHANGE STACK FOR TIME 20W2D2H20M

CHANGE STACK FOR TIME 20W2D2H20M

THE CALLS FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M

CHANGE STACK FOR TIME 20W2D2H15M
JOHN BUXLEY KISSED MARION.
MARION KISSED JOHN.
THEY WENT TO THE LIBRARY.
JAMES FOLLOWED THEM.
MARION UNDRESSED.
JOHN 9XLEY SCREWED MARION.
MARION COMMITTED ADULTERY.
JAMES WAS ENRAGED.
JAMES ENTERED THE LIBRARY.
JAMES YELLED AT JOHN.
JAMES THREATENED TO KILL JOHN BUXLEY.
MARION CRIED.
EVERYONE WENT TO BED.

CHANGE STACK FOR TIME 20W26H

CHANGE STACK FOR TIME 20W24H

CHANGE STACK FOR TIME 20W25H

CHANGE STACK FOR TIME 20W26H

JAMES IS VERY RICH.
Clive was impoverished.
Clive wanted the money.
The butler was relating to James.
The butler decided to poison James.
Clive thought that Clive inherited the money.
Clive knew that James drank milk.
Clive poisoned the milk.
JAMES DRANK THE MILK.
JAMES DIED.
JAMES THOUGHT THAT JAMES WAS ASLEEP.
Clive thought that James was asleep.
The butler removed the fingerprints.
The butler returned the bottle.

CHANGE STACK FOR TIME 20W27H
RONALD AWAKENED.
RONALD GOT UP.
RONALD THOUGHT THAT THE DAY WAS BEAUTIFUL.
RONALD FOUND JAMES.
RONALD SAW THAT JAMES WAS DEAD.
RONALD YELLED.
THE OTHERS AWAKENED.
THE OTHERS RAN TO RONALD.
THE OTHERS SAW JAMES.
EVERYONE TALKED.
HEATHER CALLED THE POLICEMEN.
NURSE EXAMINATED THE BODY.
DR. BARTHOLOMEN HUME SAID THAT JAMES WAS KILLED BY POISON.

CHANGE STACK FOR TIME 20W20DTH

1: (LADYBUG SEE JAMES) SET AT 20W20DTH
2: (LADYJANE SEE JAMES) SET AT 20W20DTH
3: (LADYJANE AWAKEN) SET AT 20W20DTH
4: (LADYJANE RUN) SET AT 20W20DTH
5: (RUN TO RONALD) SET AT 20W20DTH
6: (LADYJANE SEE JAMES) SET AT 20W20DTH
7: (LORDED AWAKEN) SET AT 20W20DTH
8: (LORDED RUN) SET AT 20W20DTH
9: (RUN TO RONALD) SET AT 20W20DTH
10: (LORDED SEE JAMES) SET AT 20W20DTH
11: (LORDED AWAKEN) SET AT 20W20DTH
12: (LORDED RUN) SET AT 20W20DTH
13: (RUN TO RONALD) SET AT 20W20DTH
14: (LORDED SEE JAMES) SET AT 20W20DTH
15: (LORDED SEE JAMES) SET AT 20W20DTH
16: (LORDED SEE JAMES) SET AT 20W20DTH
17: (LORDED SEE JAMES) SET AT 20W20DTH
18: (LORDED SEE JAMES) SET AT 20W20DTH
19: (LORDED SEE JAMES) SET AT 20W20DTH
20: (LORDED SEE JAMES) SET AT 20W20DTH
21: (LORDED SEE JAMES) SET AT 20W20DTH
22: (LORDED SEE JAMES) SET AT 20W20DTH
23: (LORDED SEE JAMES) SET AT 20W20DTH
24: (LORDED SEE JAMES) SET AT 20W20DTH
25: (LORDED SEE JAMES) SET AT 20W20DTH
26: (LORDED SEE JAMES) SET AT 20W20DTH
27: (LORDED SEE JAMES) SET AT 20W20DTH
28: (LORDED SEE JAMES) SET AT 20W20DTH
29: (LORDED SEE JAMES) SET AT 20W20DTH
30: (LORDED SEE JAMES) SET AT 20W20DTH
31: (LORDED SEE JAMES) SET AT 20W20DTH
32: (LORDED SEE JAMES) SET AT 20W20DTH
33: (LORDED SEE JAMES) SET AT 20W20DTH
34: (LORDED SEE JAMES) SET AT 20W20DTH
35: (LORDED SEE JAMES) SET AT 20W20DTH
36: (LORDED SEE JAMES) SET AT 20W20DTH
37: (LORDED SEE JAMES) SET AT 20W20DTH
38: (LORDED SEE JAMES) SET AT 20W20DTH
39: (LORDED SEE JAMES) SET AT 20W20DTH
40: (LORDED SEE JAMES) SET AT 20W20DTH
41: (LORDED SEE JAMES) SET AT 20W20DTH
42: (LORDED SEE JAMES) SET AT 20W20DTH
43: (LORDED SEE JAMES) SET AT 20W20DTH
44: (LORDED SEE JAMES) SET AT 20W20DTH
45: (LORDED SEE JAMES) SET AT 20W20DTH
46: (LORDED SEE JAMES) SET AT 20W20DTH
47: (LORDED SEE JAMES) SET AT 20W20DTH
48: (LORDED SEE JAMES) SET AT 20W20DTH
49: (LORDED SEE JAMES) SET AT 20W20DTH
50: (LORDED SEE JAMES) SET AT 20W20DTH
51: (LORDED SEE JAMES) SET AT 20W20DTH
52: (LORDED SEE JAMES) SET AT 20W20DTH
53: (LORDED SEE JAMES) SET AT 20W20DTH
54: (LORDED SEE JAMES) SET AT 20W20DTH
55: (LORDED SEE JAMES) SET AT 20W20DTH
56: (LORDED SEE JAMES) SET AT 20W20DTH
57: (LORDED SEE JAMES) SET AT 20W20DTH

CHANGE STACK FOR TIME 20W20DTH10N

1: (LORDED TALK WITH LORDED) SET AT 20W20DTH10N
2: (TALK WITH ABOUT MURDER) SET AT 20W20DTH10N

1: (LORDED TALK WITH LORDED) SET AT 20W20DTH10N
2: (TALK WITH ABOUT MURDER) SET AT 20W20DTH10N

JOHN TALKED WITH EDWARD ABOUT THE MURDER.
CHANGE STACK FOR TIME 20W2D7H30M

1: (POLICE ARRIVE) SET AT 20W2D7H30M
2: (POLICE IN 9 = 77,0000)
3: (INSPECTO EXAMINE CORPSE) SET AT 20W2D7H30M
4: (POLICE LOOK FOR CLUES) SET AT 20W2D7H30M
5: (LOOK FOR IN BATHROOM) SET AT 20W2D7H30M
6: (DR. HUME LOOK) SET AT 20W2D7H30M
7: (LOOK ALSO) SET AT 20W2D7H30M
8: (TALK WITH TRY) SET AT 20W2D7H30M
9: (TRY CALM MARION) SET AT 20W2D7H30M

THE COPS ARRIVED.
The cops were idiotic.
A detective examined the corpse.
The policemen looked for hints in the bathroom.
Dr. Bartholomew Hume also looked.
Edward tried to calm Marion.

CHANGE STACK FOR TIME 20W2D7H40M

1: (QUESTIONS STUPID) SET AT 20W2D7H40M
5: (DR. HUME SEARCH STAIRS) SET AT 20W2D7H50M
6: (DR. HUME LOOK FOR CLUES) SET AT 20W2D7H50M
7: (DR. HUME QUESTION LADYUX) SET AT 20W2D7H50M
8: (DR. HUME KNOW THAT) SET AT 20W2D7H50M
9: (LADYUX TELL TRUTH) SET AT 20W2D7H50M
10: (NURSE TALK WITH MARION) SET AT 20W2D7H50M
11: (TALK WITH ABOUT MURDER) SET AT 20W2D7H50M
12: (MARION CRY) SET AT 20W2D7H50M

Dr. Bartholomew Hume searched stairs.
Hume looked for hints.
Dr. Hume questioned Ladyux.
Dr. Hume knew that Ladyux told the truth.
Florence talked with Heather about the murder.
Marion cried.

CHANGE STACK FOR TIME 20W2D7H50M

1: (POLICE QUESTION DR. HUME) SET AT 20W2D7H50M
2: (INSPECTO SUSPECT RONALD) SET AT 20W2D8H
3: (INSPECTO ASK QUESTIONS) SET AT 20W2D8H
4: (NX 301 = 1,0000)
5: (QUESTIONS STUPID) SET AT 20W2D8H
6: (LIST XX) SET AT 20W2D8H

5: (QUESTIONS STUPID) SET AT 20W2D7H40M
6: (LIST XX) SET AT 20W2D7H40M
7: (POLICE SEARCH GARDEN) SET AT 20W2D7H40M
8: (POLICE TRY) SET AT 20W2D7H40M
9: (TRY FIND CLUES) SET AT 20W2D7H40M
10: (MARION CRY) SET AT 20W2D7H40M

Edward talked with Maggie about the murder.
Maggie was upset about the murder.

Edwards talked with Maggie about the murder.
Maggie was upset about the murder.

The policemen questioned Dr. Bartholomew Hume.
The detective asked questions.
The policemen searched the garden.
The policemen tried to find clues.
Marion cried.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE POLICEMEN SEARCHED THE PARLOR.
THE POLICEMEN TRIED TO FIND CLUES.
FLORENCE WAS UPSET.

THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INVESTIGATOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
THE INSPECTOR ASKED THE STUPID QUESTIONS.
Dr. Hume questioned Florence.

Hume knew that Florence told the truth.

Dr. Baltholomew Hume got information from Florence.

The cops searched the bathroom.

The cops found a thread.

The thread was misleading glue.

Lady Buckley talked with John about the murder.

Lady Buckley said that James was kind.

Dr. Hume was upset.

Change stack for time 20W203h50n

11 (Drhume Search Library) Set at 20W208h50n
21 (Police Question Johnbux) Set at 20W208h50n
31 (Inspecto AskQuests) Set at 20W208h50n
41 (Emk 03) = 1,000
51 (Questks Stupid) Set at 20W208h50n
61 (hist) Set at 20W203h50n
71 (Drhume Question Cook) Set at 20W208h50n
81 (Drhume Ask Now) Set at 20W208h50n
91 (Cook Tell Truth) Set at 20W208h50n
101 (Drhume Set Inform) Set at 20W208h50n
111 (Get From Cook) Set at 20W208h50n

Dr. Baltholomew Hume searched the library.

The cops questioned John Buckley.

The detective asked the stupid questions.

Hume questioned the cook.

Dr. Baltholomew Hume knew that Maggie told the truth.

Hume got information from the cook.

Change stack for time 20W203h
Hume went to the bathroom.
Dr. Hume found the bottle.
Hume knew the murderer.
Hume asked everyone to go to the parlor.
Dr. Bartholomew Hume said that the murderer was in the room.
Everyone was surprised.
Everyone talked.
Dr. Bartholomew Hume said that James was killed by poison.
Hume said that the butler killed James.
Everyone was shocked.
The butler drew a pistol.
Clive headed for the door.
Dr. Bartholomew Hume followed Clive.
The butler shot at Hume.
Dr. Bartholomew Hume grabbed a paperweight.
Dr. Bartholomew Hume threw the paperweight at Clive.
The paperweight hit Clive in the head.
Clive fell.
Dr. Bartholomew Hume took the gun.
The police took Clive.
Ronald congratulated Hume.
Clive or Hume solved the crime.
JAMES KNEW THAT HUME SCREWED MARION.
JAMES HATED DR. BARTHOLOMEW HUME.
JAMES WANTED A REVENGE.
JAMES DECIDED TO KILL DR. HUME.
JAMES WROTE A NOTE.
DR. HUME GOT THE NOTE FROM JAMES.
HUME KNEW JANES.
THE DAY WAS SUNDAY.
THE TIME WAS THE DAWN.
JAMES GOT UP.
JAMES WENT TO THE LIBRARY.
DR. BARTHOLOMEW HUME WENT TO THE LIBRARY.
JAMES THOUGHT THAT JAMES WAS UNAWARE.
JAMES SAID THAT DR. BARTHOLOMEW HUME WAS EVIL.
JAMES POINTED A PISTOL AT DR. BARTHOLOMEW HUME.
DR. HUME SAW THE PISTOL.
HUME ATTACKED JAMES.
DR. BARTHOLOMEW HUME HIT JAMES IN THE BELLY.
DR. BARTHOLOMEW HUME TRIED TO GRAB THE PISTOL.
JAMES HIT HUME.
JAMES STRUGGLED WITH DR. BARTHOLOMEW HUME.
JAMES KEPT THE PISTOL.
JAMES SHOT DR. BARTHOLOMEW HUME.
HUME STAGGERED JACK.
DR. BARTHOLOMEW HUME DIED.
JAMES HAD THE GUN.
JAMES LOOKED FOR THE NOTE.
The NOTE WAS GONE.
JAMES RETURNED TO THE BEDROOM.

LADY JANE AWAKENED.
LADY JANE GOT UP.
JANE THOUGHT THAT THE DAY WAS BEAUTIFUL.
JANE FOUND DR. BARTHOLOMEW HUME.
LADY JANE SAW THAT DR. HUME WAS DEAD.
LADY JANE SCREAMED LOUD.
LADY JANE PAINTED.
THE OTHERS AWAKENED.
THE OTHERS RAN TO LADY JANE.
THE OTHERS SAW DR. BARTHOLOMEW HUME.
EVERYONE TALKED.
EDWARD CALLED THE COPS.
FLORENCE EXAMINED THE CORPSE.
FLORENCE SAID THAT DR. BARTHOLOMEW HUME WAS KILLED BY THE GUN.

THE POLICEMEN ARRIVED.
THE COPS WERE IDIOITIC.
A DETECTIVE EXAMINED THE CORPSE.
THE COPS LOOKED FOR CLUES IN THE LIBRARY.
FLORENCE ALSO LOOKED.

FLORENCE TALKED WITH THE COOK ABOUT THE MURDER.
THE COOK WAS UPSET ABOUT THE MURDER.
JAMES SAID THAT RONALD KILLED DR. HUME.
RONALD DENIED THE ACCUSATION.
RONALD SAID THAT JAMES WAS STUPID.

THE COPS QUESTIONED FLORENCE.
THE DETECTIVE SUSPECTED FLORENCE.
THE INSPECTOR ASKED QUESTIONS.
LADY CATHERINE TALKED ABOUT THE MURDER.

FLORENCE SEARCHED THE PARLOR.
FLORENCE LOOKED FOR HINTS.
FLORENCE QUESTIONED THE BUTLER.
FLORENCE GOT INFORMATION FROM CLI.

FLORENCE SEARCHED THE LIBRARY.
FLORENCE LOOKED FOR HINTS.
THE COPS QUESTIONED LADY JANE.

FLORENCE SEARCHED THE LIBRARY.
FLORENCE FOUND ASHES.
The ASHES WERE VALUABLY CLUE.
The POLICEMEN QUESTIONED RONALD.
The INSPECTOR ASKED THE QUESTIONS.
JAMES TALKED ABOUT THE MURDER.

FLORENCE QUESTIONED MARION.
FLORENCE KNEW THAT MARION TOLD THE TRUTH.
FLORENCE GOT INFORMATION FROM MARION.
8.6.3 Murder Scene from Story 3

THE COP'S QUESTIONED HEATHER.
THE INSPECTOR ASKED THE QUESTIONS.
THE COP'S SEARCHED THE DRAWING ROOM.
THE POLICEMEN FOUND A THREAD.
THE THREAD WAS MISLEADING CLUE.
CATHERINE TALKED WITH THE BUTLER ABOUT THE MURDER.
CATHERINE SAID THAT DR. BARTHOLOMEW HUME WAS KING.
THE BUTLER AGREED.
CLEVE WAS UPSET ABOUT THE MURDER.

FLORENCE WENT TO THE LIBRARY.
FLORENCE FOUND THE NOTE.
FLORENCE KNEW THE KILLER.
FLORENCE ASKED EVERYONE TO GO TO THE PARLOR.
FLORENCE SAID THAT THE MURDERER WAS IN THE ROOM.
EVERYONE WAS SURPRISED.
EVERYONE TALKED.
FLORENCE SAID THAT DR. HUME WAS KILLED BY THE PISTOL.
FLORENCE SAID THAT JAMES KILLED DR. BARTHOLOMEW HUME.
EVERYONE WAS SHOCKED.
JAMES **** THE GUN.
JAMES HEADED FOR THE DOOR.
FLORENCE TRIPPED JAMES.
JAMES FELL.
FLORENCE STRUGGLED WITH JAMES.
THE GUN FIRED.
FLORENCE **** THE GUN.
THE COP'S TOOK JAMES TO THE JAIL.
THE POLICEMEN CONGRATULATED FLORENCE.
CLEVER FLORENCE SOLVED THE CRIME.

8.6.4 Murder Scene from Story 4

DR. BARTHOLOMEW HUME BLACKMAILED EDWARD.
EDWARD WAS AFRAID OF DR. HUME.
LORD EDWARD DECIDED TO KILL DR. BARTHOLOMEW HUME.
THE DAY WAS SUNDAY.
THE TIME WAS THE SUNRISE.
LORD EDWARD CAME UP.
LORD EDWARD WENT TO THE DARK CORRIDOR.
LORD EDWARD HID.
EDWARD HAD A CANDLE HOLDER.
DR. BARTHOLOMEW HUME AWAKENED EARLY.
DR. BARTHOLOMEW HUME WAS USUALLY EARLY.
DR. HUME WENT FOR THE WALK.
EDWARD SAT UP FOR HUME.
LORD EDWARD SURPRISED HUME.
EDWARD MURDERED HUME WITH THE CANDLE HOLDER.
DR. BARTHOLOMEW HUME CRIED WEAKLY.
DR. HUME DIED.
EDWARD RETURNED TO THE BEDROOM.

LORD EDWARD KNEW THAT LADY JANE COMMITTED ADULTERY.
LORD EDWARD WAS ENRAGED.
EDWARD DECIDED TO STAB JANE.
THE DAY WAS SUNDAY.
THE TIME WAS THE SUNRISE.
JANE AWAKENED EARLY.
LADY JANE DECIDED TO GO FOR THE WALK.
JANE CAME UP GAZILY.
JANE THOUGHT THAT EDWARD WAS ASLEEP.
JANE CAME UP.
JANE WENT TO THE GARDEN.
EDWARD FOLLOWED LADY JANE.
JANE SAW EDWARD.
LORD EDWARD HAD A LONG DAGGER.
EDWARD THREW THE DAGGER WILDLY.
LORD EDWARD STABBED JANE SCREAMING.
THE KNIFE SANK DEEP.
JANE STRUGGLED WEAKLY.
JANE M'T EDWARD.
LORD EDWARD SLASHED JANE AGAIN.
EDWARD SAID THAT LADY JANE BETRAYED LORD EDWARD.
JANE DIED COVERED WITH THE BLOOD.
LORD EDWARD HID THE KNIFE.
EDWARD RETURNED TO THE BEDROOM.
LORD EDWARD WASHED OFF THE BLOOD.