KNOWLEDGE MEDIA INSTITUTE

From Aristotle to Gabriel: A Summary of the Narratology Literature for Story Technologies

Technical Report KMI-08-01
Feb. 2008

Joanna Kwiat

Kwiat, J. (2008). From Aristotle to Gabriel: A Summary of the Narratology Literature for Story Technologies. *Technical Report KMI-08-01*, Knowledge Media Institute, The Open University, UK. Available at: http://kmi.open.ac.uk/publications/pdf/kmi-08-01.pdf

The Open University

Tables

Figures

Overview

This purpose of this report is to provide a practical guide for story technologists. The report is organised in two parts. In the first part we explore, more or less chronologically, past and contemporary story models and in the second part we look at more recent theories and implementations examined in a story-making context.

In recent years there has been resurgence of interest in the both the medium and message of the story. However, we shall confine our discussion to structural theories and models because we assume firstly, that the main concerns for the story technologist are: story **generation**, **annotation** and **organisation**; secondly, we also want to offer the interested reader, a basic introduction to the still emerging discipline of **narratology**.

One reason for concentrating in Part 1 on past and contemporary story models is that it provides us with a vocabulary just in order to discuss this most familiar form of human communication; secondly it will help us identify whether and how originating theories have influenced those that are more applied which we shall discuss in Part 2.

In order to confine the search, we tend in Part 1 to disregard more abstract models and to concentrate solely on originating theories but which are described in concrete structural terms. Thus we are able to identify three broad research domains: **literature**, **culture** and **cognition**, each of which can be subdivided into three phases of development. Starting with the Aristotelian argument that the story to be appreciated as such, must meet certain structural criteria we follow an almost inevitable path from what we call the **grammatical models** to a period when the story

was regarded as having a structure that could be paralleled to the linguistic structure of the sentence and, moreover, could be generated from a similar rule set. A powerful counter argument was that perfect syntax does not guarantee a story product and that matters of **discourse** are just as important to consider. Beyond the **story grammars**, there is a very active period and a diversity of theories but one thing most of them have in common is that the plot, no longer regarded as paramount, gives way to such things as **narrator motive** and **audience response**. We have in our own research used these more sophisticated models to identify and lift out stories from general online discussion threads; in addition they are informing our design and development of markup schemas for digital storybases.

Whereas Part 1 follows the rise and development of narratology, Part 2 brings our review of the literature up-to-date. Here, however, we are less concerned with the origin of ideas and more concerned with how they have informed contemporary applications. The concept of **story-making** offered by Harvey and Martin (1995) allows us to examine these later models from four perspectives: **construction**, **recall**, **understanding** and **telling**. We use these four perspectives as a basis for making judgements about which models are principally oriented towards, address or succeed in each of these areas.

Part 1 – From Aristotle to Gabriel

In order to build tools for supporting storytellers and their audiences, it is first necessary to establish what the story is. Necessary for human social development (Hardy, 1977; Preece, 1987; Miller & Sperry, 1988; Nelson 1989, 1993; Engel, 1996; Jervay-Pendergrass & Brown, 1999; Bruner, 1991, 2002) and perhaps for other social species (Read & Miller, 1995; Dautenhahn, 1999, 2001, 2002, 2003), it is hardly surprising that it is the subject of research in several academic areas. Rather than attempting to discuss each and every theory, we will map out the territory in the form of a diagram, taking as end points, two landmark theories: Aristotle's *Poetics* [circa 350BC] and the complementary models of Gabriel [2000]. One reason for awarding these two landmark status is that they offer insights as to why structural models are terminologically ambiguous and also highlight the differing opinions as to what separates story from non-story. Examples will be drawn from the diagram if they are considered particularly pertinent to our problem, namely, and in this order: the identification, abstraction and annotation of stories.

The organisation of Part 1 is as follows. First to be presented is the map of story models. Two of these: historic and current, and highlighted in the table will be discussed in turn. Returning to the map, we will select from it in the general order of progression, other intervening influential models.

Section 1 – Map of story models

From Aristotle to the present day there have been numerous theories of narrative. Some of them are brought together in Table 1 below. Much, of the work, and in particular, that referenced in the upper part of the table is now situated within Narratalogy, a vast yet still emerging discipline that is concerned with narrative in every aspect and of all kinds. Born out of French Structuralism and Russian Formalism, its founding principle is that narrative and narration are separable. Once separated moreover, narrative is observed as having certain structural regularities, and therefore offers itself for modelling. The table follows the evolution of these ideas from the earliest grammatical theories through the formalised grammar theories and on to more recent theories which at least to some degree reunite narrative and narration. There are three columns for three broad research areas although there will inevitably be overlap, also with areas of applied research, not shown in this table because we are more concerned with founding principles. The table is a minimalist in the sense that development time from an initial idea may be long, and there may also be, merging of ideas from earlier models. The attempt has been to take for an entry in the table, the first clear account, and only if the work of an author or group has changed significantly will they reappear in the table although these other works may be discussed subsequently. Where an original work provides the source for a later publication, as in the case of a PhD thesis or a translation, its date is shown in square brackets alongside the respective author.

Table 1

Categorised Story Models within Story Research Domain

	LITERARY	CULTURAL	COGNITIVE
Grammatical Models			
Schema	***Aristotle [350BC]*** Freytag [1863] Propp [1928] Greimas [1966] Bremond [1966] Barthes [1966] Todorov [1968] Greimas 1971	Levi-Strauss [1958] Dundes [1963] Labov & Waletzky 1966	Bartlett 1932
Grammar Models			
Phrase-structure			Rumelhart 1975 Thorndyke [1975] Mandler & Johnson 1977 Stein & Glenn 1979 Shen 1989
Transformational	Prince 1973 Ryan 1979 Pavel 1985	van Dijk 1972 Colby 1973	Johnson & Mandler 1980
Beyond Grammar Models			
Network			Black & Bower 1980 Trabasso Secco & van den Broek 1984
Feature	Forster, 1927		Stein 1982 Zwaan et al. 1995
Plot, Gist and Macrostructure	Brooks, 1984	van Dijk 1975	Kintsch 1977 Lehnert 1981/2 Schank 1990
Dual	Chatman 1975, 1978		
Points	Prince 1983 Vipond & Hunt 1984 Rigney 1992	Labov 1972 Polanyi 1979	Wilensky 1982/3 Dorfman & Brewer 1994/2004
Affect	Miall 1989	***Gabriel 2000***	Brewer & Lichtenstein 1982
Reader	Barthes [1970]		

Section 2 – Selected story models

The obvious place to start is with Aristotle for what he had to say on the matter in his *Poetics* (Butcher [1895]; Hammond, 2001; Potts, 1968) continues to influence literary research in at least four ways. It was the earliest attempt to distinguish literary kinds by means of their structure. Secondly, it gave what Aristotle believed to be the necessary conditions for what might, for want of a better word, be called 'storyness'. By that is meant the special qualities that turn what most people would regard as non-story into something that most people would instinctively recognise as a story. The third reason concerns its discussion on language: the analogy drawn between the statement as the basic syntactical and semantic unit, and the story, and the merits of metaphor in the contexts of narrative and dramatic performance. Finally, in comparing history unfavourably with poetry, Aristotle's reference to 'fiction' (Potts), it argued that the latter revealed universal truths while history only revealed particular ones; also the chronological structure of history makes it unsuited to fiction.

Section 2.1 – Aristotle

The defining characteristic of a poetic work was according to Aristotle, imitation, but there were three ways in which the various forms of the day differed:

(1) **objects** of imitation: character, emotion, action

(2) **medium** of imitation: rhythm, harmony, language

(3) **manner** of imitation: first-person narration, dramatic dialogue, character acting

The narrative forms of poetry that Aristotle discusses are tragedy, comedy and epic. Tragedy and comedy are different kinds, having evolved from two narrative forms:

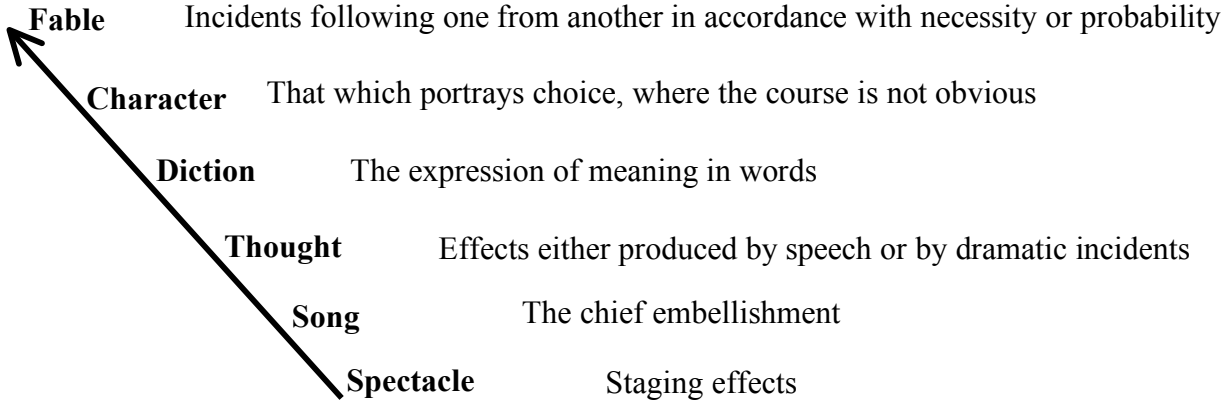
these were epic and lampoon respectively. The principle difference between tragedy and comedy on the one hand and epic poetry on the other is that the first were particularly suited to dramatic production whereas the latter, due to its length and multiplicity of plot, was not. That said, Aristotle was quite clear on the matter that a well constructed tragedy should succeed even when read from the page. The tragedy was considered by Aristotle to be superior for the reason that all the elements of the epic were to be found there, and more. Technically, therefore, an epic could be remade as several tragedies, one for each plot line.

The principle difference between comedy and tragedy is in respect of the objects of imitation; the first in depicting men as worse than they are, generates laughter but the second in depicting men as better than they are, evokes pity and fear. In other words the audience will identify with the latter but not the former, for "…pity is aroused by unmerited misfortune, fear by misfortune of a man like ourselves" (Butcher [1895]).

Aristotle described tragedy as imitation of an action that is serious, complete, and of a length that can easily be embraced by the memory. Its six elements are listed in order of necessity in Figure 1.

Figure 1

The elements of tragedy, arranged in order of necessity.



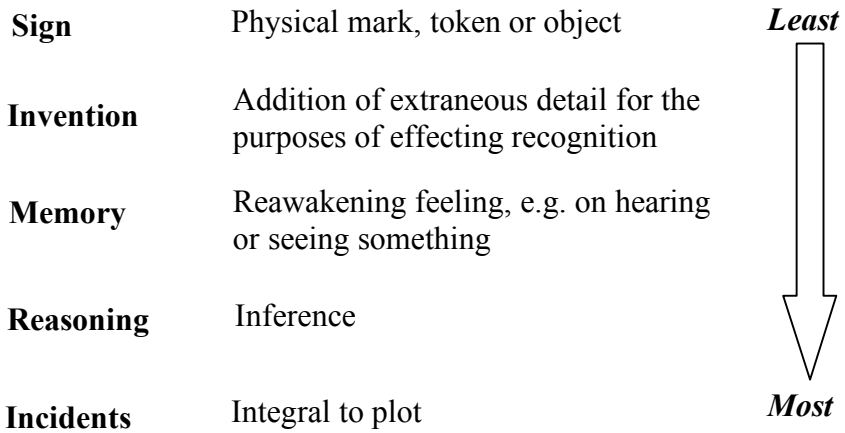
These six combine to an all important unity and that makes it difficult to understand the sense in which he used the term fable: whether referring to that oneness or its most important element. For Aristotle could conceive of tragedy without character and was very dismissive of the importance of spectacle. Of the six, three (plot, character and thought) comprise the objects of imitation, one (diction) the manner if imitation and two (song and spectacle) the medium of imitation. Epic poetry contains the first four elements but the medium differs.

As the most important component of tragedy, the fable (plot) always comes in two parts, separated by a turning point. The turning point is a change of fortune either from bad to good or from good to bad. There are two kinds of plot: simple and complex. The complex plot is the superior of the two as it involves disclosure, irony of events, i.e. reversal of the situation (peripeteia), or both. A simple plot involves neither.

Disclosure refers to a change from ignorance to knowledge through recognition, of which there can be five kinds, listed in Figure 2, in order of sophistication.

Figure 2

Means of recognition, listed in order of increasing sophistication.



Every tragedy then consists of a single, preferably complex, plot consisting of two parts: complication and unravelling (denouement). The complication includes all those actions up to but not including the turning point, and the unravelling includes everything from the beginning of the turning point. Everything outside the plot is regarded as inessential episode.

Like the epic, the tragedy can in addition be either pathetic (motivated by passion) or ethical (motivated by ethics). In judging whether two tragedies are the same, Aristotle advised that one should look to the plot. If they are identical in their respective complications and denouements, then the two can be called the same.

Even in current applied story research there is still a great deal of ambiguity if not uncertainty surrounding fundamental terms such as *story*, *narrative* and *plot*. People tend to confuse *plot* and *story*; they also tend to confuse *story* and *narrative*. One reason for the first confusion is that *fabula* is the Latin for *story* and it is also a translation for the Greek *mythos* which has been interpreted by many translators of *Poetics* as *plot*, but which has also been translated as *fable* (Potts):

"For him [Aristotle, in contrast to Plato], the myths were a truthful revelation of the importance of human actions." (Potts)

Even given that Aristotle was referring to works of a particular kind, there can be little doubt that he used the word in two senses, i.e. to refer to the whole, and a part. This is because he talked in terms of differentiation among works and identity between their corresponding parts, i.e. the purpose and process of abstraction.

Turning now to the second confusion, perhaps too because it comes from the Latin for telling (narratus) a story, *narrative* is on the one hand regarded as the discourse, i.e. the delivered text, be it oral or written (Genette, [1972, 1983]), although it is also just as frequently used synonymously with story (Barthes, [1966]). Other researchers make a distinction between these two; Ryan (1979) for example requires the story to have closure whereas the narrative does not.

Narratological definitions of these terms (e.g. Bal 1997, Prince 2003) suggests a layered model with plot providing the forward dynamic, story providing the setting,

characters and a logical arrangement of events, and narrative providing the stance of the teller where the teller is distinct from the author.

Because we are chiefly concerned with modelling issues, it helps us to think in terms of properties and dependencies. We therefore borrow from Gabriel (2000), whose model of the story is next described, and regard plot as necessary for story and story as a strict subset of narrative. Gabrielle's model is convenient; our borrowing from it should not be taken as a rejection of other theories. Forster (1927) for example, whose focus of enquiry is the novel, has argued just as convincingly that it is quite possible for there to be stories, and good ones at that, without plot. From this angle of the viewing lens, the story is a narration of chronologically linked events that succeeds in arousing curiosity in the audience who will question 'what next?' The difference that plot makes is that cause and effect event pairs at best only implicit in the story, become explicit:

"The king died, and then the queen died," is a story.

"The king died, and then the queen died of grief" is a plot.

In Gabrielle's property and dependency model a story requires a number of elements. Plot on its own does not guarantee a story but a story would be incomplete without one. Narrative then can be thought of as an encompassing potential; with a little work, any narrative can be made into a story. Ultimately however, story appreciation depends on narration, matters of how and why it is being told, who by, and to whom. It is at this discourse level that the story is at once concretised and multiplied.

Section 2.2 - Gabriel

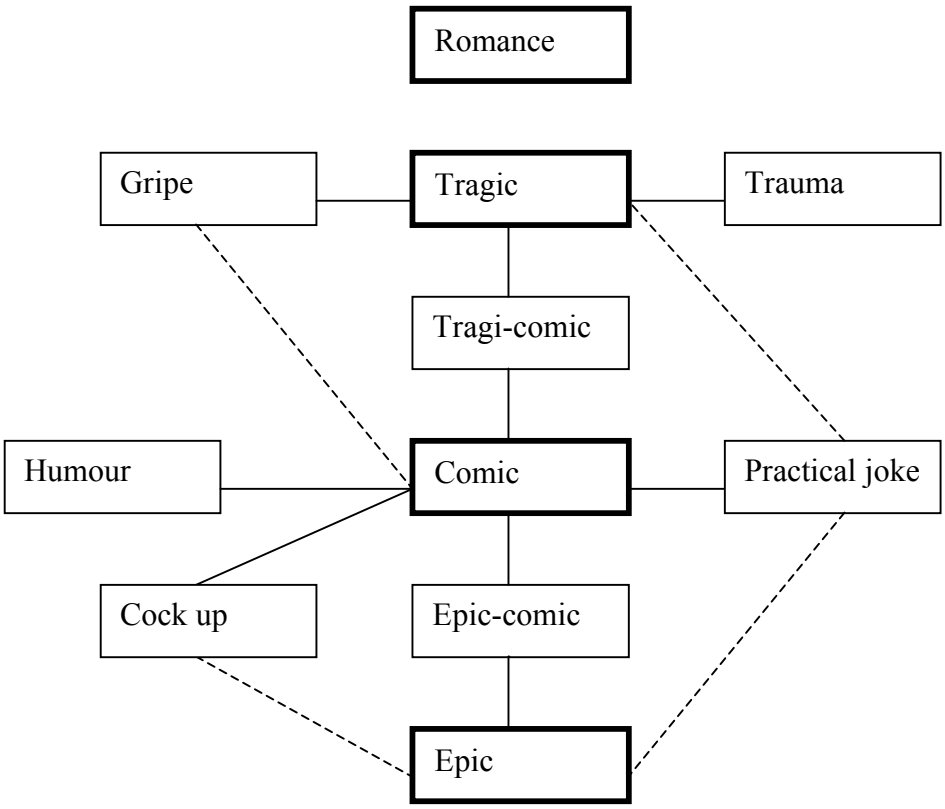
Because Gabriel was specifically researching storytelling within organisations, the analysis of the stories he collected suggested a particular typology and a focus on particular qualities. His chief concern was to differentiate stories from narrative more broadly, and then to differentiate stories from more report like 'protostories', those that were somehow lacking.

"Stories are narratives with *plots* and *characters*, generating *emotion* in narrator and audience, through a poetic elaboration of *symbolic* material. This material may be a product of fantasy or experience, including an experience of earlier narratives. Story plots entail conflicts, predicaments, trials, coincidences, and crises that call for choices, decisions, *actions*, and interactions, whose actual outcomes are often at odds with the characters' intentions and purposes." (Italics added)

Figure 3 below is a diagrammatic representation of Gabriel's basic (bold) and hybrid story types and their inheritance relationships.

Figure 3

Representation of Gabriel's story types and their inheritance relations:



The romantic classification is for those stories that involve the protagonists in acts of generosity, feelings of gratitude, nostalgia etc. The dashed lines show potential connections between story types, e.g. a practical joke is always comic but may also have elements of the epic and the tragic story. Gabriel was able to arrive at this model by observing that there are certain points of potential variance among stories. For Aristotle, the epic and the tragic were only structurally different but for Gabriel they are also different with regard to their characters and themes. Briefly, both tragedy and comedy cast the protagonist as undeserving and deserving (passive) victim of events

respectively. The epic casts the protagonist as a hero (agent) of events. The variables suggested by Gabriel that taken together, establish a story's type are shown in Figure 4 below.

Figure 4

The variable dimensions of the story.

Protagonist **Other characters**

Poetic tropes **Plot:**
Focus

Emotion **Predicament**

Of these, the only one that needs to be explained is *poetic tropes*. These are analogous to the rhetorical tropes within dialogue, i.e. the attributes by which storyteller and audience interpret a story. Gabriel describes eight positive and four negative ones which in Figure 5 are indicated by italics.

Figure 5

The poetic tropes.

Motive Provides an explanation for character behaviours and actions	***Motive denied***
Causal links Allows the occurrence of one event to bring about a subsequent event	
Responsibility (credit and blame) Distinguishes villain from hero, right from wrong	
Unity Allows that a group of individuals can be regarded as undifferentiated	***Unity denied***
Fixed qualities Characters acting predictably and in accordance with stereotype	
Emotion Distinguishes between characters' emotions and those generated by the story	***Emotion denied***
Agency Attributing intentionality to inanimate as well as animate entities	***Agency denied***
Providential significance Allows incidents to occur outside the control of characters	

Table 2 below is a representation of Gabriel's attribution of poetic trope to story type. The first thing to notice is that some poetic tropes are shared among the types more than others (horizontal totals). Also notice that hybrid types have relatively fewer (vertical totals). In fact Gabriel has said that to overly mix story types negatively effects audience understanding. For Aristotle, as we saw earlier, unity referred to completeness and wholeness but Gabriel is using it in the sense of unity among people, especially with regard to oppositional situations. Attribution of causal

connection has not been included in the diagram, probably for the reason that it is common to all story types. Other omissions are the denial of motive ("it was an accident") and unity ("not one of them").

Table 2

Representation of Gabriel's Poetic tropes by story type:

Poetic Trope	**Comic**	**Tragic**	**Epic**	**Romantic**	**Tragi-comic**	**Epic-comic**	**Cock-up**	**Humour**	
Agency	√ (before misfortune)		√			√	√		4
Agency denied	√ (during misfortune)								1
Blame		√							1
Credit			√	√ (worthy love object)		√	√		4
Emotion			√ (loving, caring)						1
Emotion denied								√	1
Fixed qualities	√ (pomposity, arrogance, vanity, etc.)	√ (victim: noble, decent, etc. villain: evil, devious etc.)	√ (nobility, courage, loyalty, selflessness, honour, ambition)	√ (gratitude, caring, loving, vulnerable, pathetic)	√ (fortitude, moral courage, defiance, wit)	√ (sense of humour, irony, imagination, bravado)	√ (wit, imagination, cunning, speed, common sense)	√ (grace, sense of humour, self-possession, fortitude)	8
Malevolent fate		√							1
Motive		√ (to the villain)	√	√		√			4
Providential significance	√				√				2
Unity	√	√							2
	5	5	5	3	2	4	3	2	

We have found Gabriel's definition of story to be very useful in our identification and classification of stories within online discussion, even given that his interest in stories is specifically to gain a better understanding of how organisations operate. To a degree at least, this will have influenced his chosen criteria for storyness. For

example, disallowing factual or overly opinionated narratives, for from them, the researcher of organisations learns little.

Section 3 – Expanding the table

Returning to the map (Table 1, Section 1), it is possible to trace the progression of story models from Aristotle through to Gabriel, though not necessarily chronologically. The labelling of the horizontal divisions needs explaining. In the first division are collected together the schema models. Although some researchers refer to these models as grammars, we shall restrict that term to formalised grammars with explicit rewrite rules which comprise the second division. A schema on the other hand is any formal or semi-formal specification of the components of story, serially ordered. In other words, the grammar generates the schema. Moving downward through the table it may be argued that certain later models also fit the criteria for schema membership, but here they appear just once, and always as exemplar of the more recent theories.

It is common in story research to differentiate only feature models and affect models but this produces categories that are too large to be useful. For us, the criterion for affect models is the relative emphasis on emotion contained or evoked. In the case of an evocative model, there is less concern with the story per se and more concern with the narrating, listening and reading experience. This is why in the third division, the affects models are flanked by points and reader models; they too have this same concern. Generally speaking, the lower down the table, the greater is the emphasis on the discourse level of narrative.

Definitive separation of the various areas is difficult but most noticeable in the literature is the tremendous influence Structuralism has had, even outside literary theory, in particular the view of the story as conforming to certain rules. Whereas Formalism separates structure from content, almost disregarding the latter, Structuralism has these two as mutually reaffirming one another. However, Structuralism has its roots in Formalism, and this is most evident in the work of Propp [1928]. Post-structuralism in its turn came out of Structuralism, the turn being that structure and content do not account for a text's meaning. These labels aren't used in Table 1 because that would exclude Aristotle who articulated the necessary conditions for story grammars. To organise discussion therefore, the three divisions represent three broad periods: the grammatical, the grammar and beyond the grammar. The models of these three periods are described in Sections 4, 5 and 6 below respectively.

Section 4 - The Grammatical Models

The development of story grammars long preceded the advent of Structuralism, and to show this more clearly the pioneering models that will be discussed in this section have been separated from those directly inspired by linguistic theory, in particular, Chomsky's context-free and transformational grammars, i.e. those expressed in terms of explicit rewrite and transformation rules. These later models will be discussed in Section 5. How might this first division be ordered? Most noticeable about these early models is their relative level of abstraction. In that they are all grammatical, they are all syntagmatic structures, whether relatively deep or surface. The syntagm describes a horizontal plane of narrative at any given depth of analysis. However,

some models also include a vertical plane, the structure is paradigmatic in addition; such models enable perspective and choice, difference and opposition.

A syntagmatic model is syntactic; the concern is the granularity of the constituent units of narrative and their sequencing. A paradigmatic model is semantic; it concerns the instantiation of those units that are variable. To aid discussion, Table 3 below reproduces the relevant top section of Table 1 above.

Table 3

Schema Models within Story Research Domain

Schema Models		
LITERARY	**CULTURAL**	**COGNITIVE**
Aristotle [350BC] Freytag [1863] Propp [1928] Greimas [1966] Bremond [1966] Barthes [1966] Todorov [1968] Greimas 1971	Levi-Strauss [1958] Dundes [1963] Labov & Waletzky 1966	Bartlett 1932

Section 4.1 - Syntagmatic models

On the basis that he gave meticulous definitions of 'beginning', 'middle', and 'end', and also because his plot had a definitive structure and direction, Aristotle's model can be regarded as syntagmatic. Another syntagmatic model, and one explicitly referred to as a grammar, was that of Propp [1928]: Of the 31 functions that could occur in a Russian folk [fairy] tale, no two could be mutually exclusive, and those that did occur, would do so in a strict sequence.

Section 4.1.1 – The influence of Russian Formalism

Propp's work was a reaction to his dissatisfaction with early 20th century theories as to what constituted motif (the most fundamental unit of narrative) and also, dissatisfaction with the arbitrary methods of the classification of literary tales into types and themes:

"The most common division is a division into tales with fantastic content, tales of everyday life, and animal tales…involuntarily the question arises, 'Don't tales about animals sometimes contain elements of the fantastic to a very high degree?' And conversely, 'Don't animals actually play a large role in fantastic tales?'"

"[A] theme is usually defined in the following fashion: a part of the tale is selected (often haphazardly, simply because it is striking), the preposition "about" is added to it, and the definition is established. In this way a tale which includes a fight with a dragon is a tale 'about fights with dragons'…there being no single principle for the selection of decisive elements."

For Propp, it was impossible to hope to classify objects without first establishing their fundamental parts and separating these into constants and variables.

The former were the 31 functions, a function being a character action independent of the character, independent too of its manner of fulfilment, but dependent on its consequence. It will take too much space to reproduce them all but they read as a logical event sequence as shown in Figure 6. Apart from the functions, there are seven main character roles, what he called *dramatis personae*; each has a sphere of action, i.e. a set of functions that form a particular action sequence, as shown in Figure 7. This amount of detail as a minimum is necessary to show since Propp's

work has been very influential, informing many of the structuralist theories that will be discussed in this and later sections.

Figure 6

Propp's abbreviated definitions of functions, number of main variants (in parentheses alongside) and their groupings:

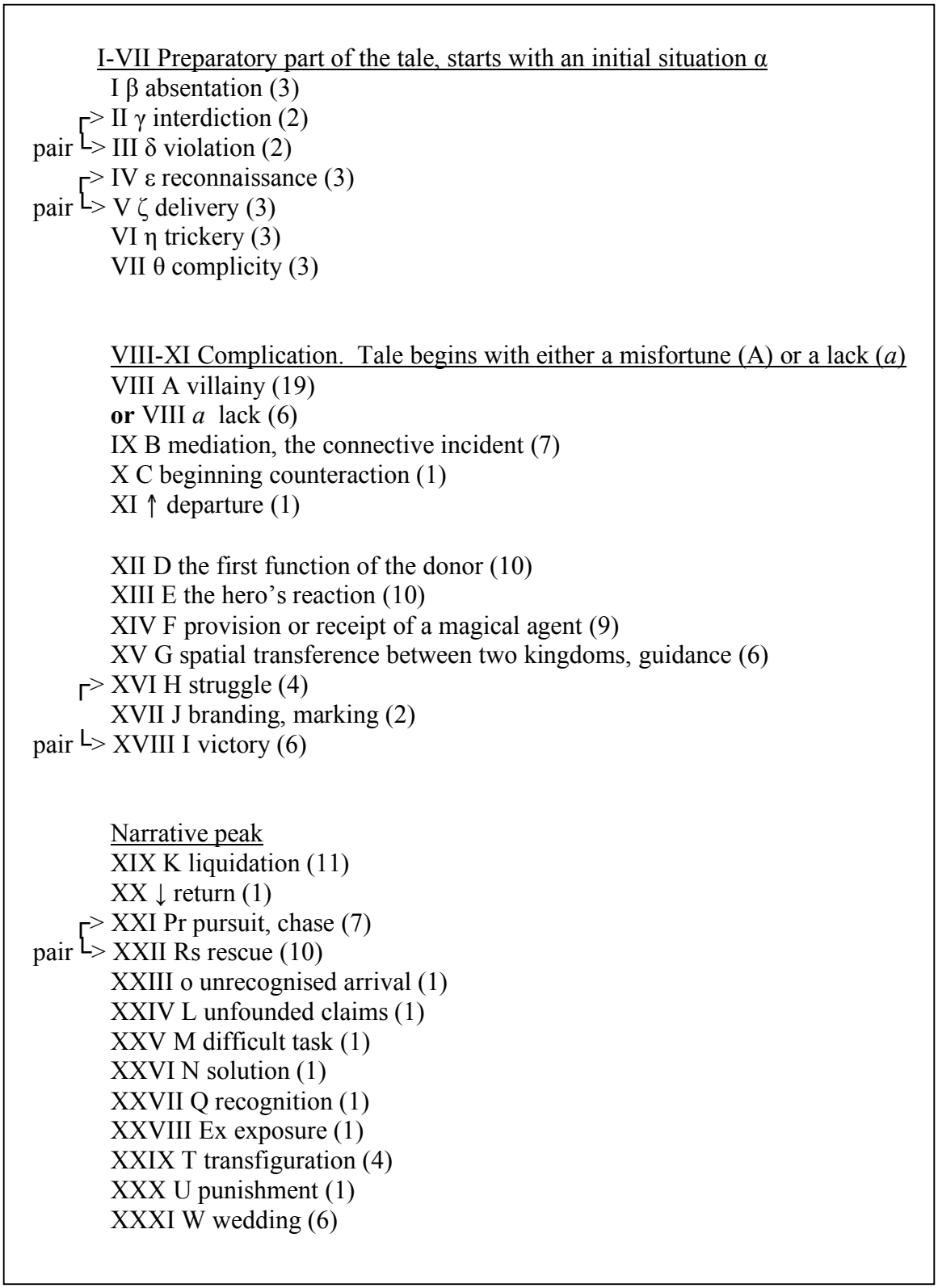


Figure 7

The seven character roles [dramatis personae] and spheres of action

Villain A+H+Pr

Donor (provider) D+F

Helper G+K+Rs+N+T

Princess (a sought for person) shares action with princess' father J+M+Q+Ex+U+W

Dispatcher B

Hero: VIIIA allows victim-hero (↑+E+W)

VIIIa allows seeker-hero (C+↑+E+W)

False hero C+↑+E+L

This linear arrangement of the 31 functions did not preclude repetition and omission however. As can be seen in Figure 6, the first function after the introduction allows a branching to stories about search and stories about villainy. Whilst remaining within the rules, a tale can be organised as a number of moves, concurrent or sequential, where each corresponds to a forward movement from somewhere between VIII and XXXI.

Propp concluded by his analysis, that he had established a definition of theme; it was entirely a structural matter. If a given fairytale had this common structure, then it was of the theme. Then for any such pair of fairytales, no matter how slightly or greatly they differed in the detail of their respective structures, they would be regarded as merely variant one from another.

Dundes ([1963], 1964[1]) in addressing the argument that North American folktales were unstructured, applied Propp's morphological framework, modified to allow a

restricted choice of function [allomotif] to fit a particular motifemic slot in a given sequence. He discovered that they did indeed have predictable structures, but this was masked by highly variable content. The most minimal sequence was disequilibrium (Lack) followed by equilibrium (Lack Liquidated). A common sequence was 'Interdiction → Violation → Consequence', with an optional 4th motifeme: '→ Attempted Escape'. Another common sequence was the concatenation of these two: Lack →Lack Liquidated → Interdiction → Violation → Consequence (→ Attempted Escape).

Section 4.1.2 – Selective remembering

Another very early model that has likewise received perhaps more attention in recent years than when first published came about as a result of a study conducted to find how people recall stories. The actual story used was a folktale of about 300 words in length, selected partly on the basis that it belonged to a culture quite different to that of the subjects. The most striking thing that Bartlett [1932] found was a 'rule of structure' operating not only as versions were recalled but during the perceiving stage too. A story had a 'general outline' and gave a 'general impression' of type. Certain details that were outstanding to begin with were present in subsequent recalled versions without transformation or rearrangement. It was these salient details and their fixed order over reproduction that allowed one to say that stories have repeatable, predictable structures. Other less salient details in that they did undergo transformation and rearrangement on subsequent recall, provided evidence that style, rhythm, precise mode of construction were less persistent.

Section 4.1.3 – Freytag [1863]

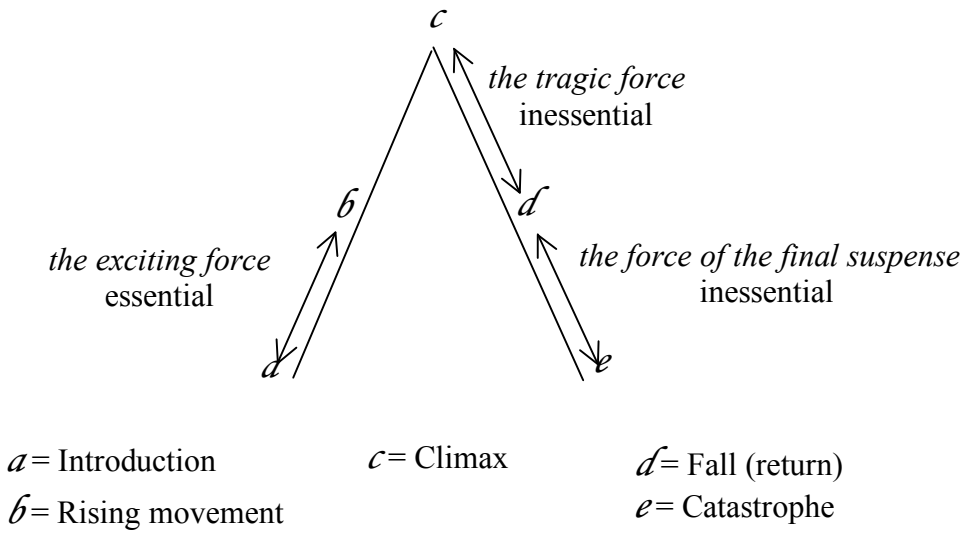
A still popular model, securely based on Aristotle's tragedy, is Freytag's pyramid. Incidentally, in his description of the tragedy as a dramatic form, Freytag also brushes against an issue as to whether Aristotle's identification of tragedy subgenres, included the 'spectacular' as well as the pathetic and the ethical (Potts). For Freytag, the spectacular and the tragedy, occupy the same level, both being subgenres of the 'serious' where the latter occupies the same level as the comedy. The spectacular drama dispenses with the inevitable death at conclusion that is the hallmark of the tragedy but in such a way as to not disappoint the spectator.

Freytag proposed five parts, each corresponding to an angle or a vertical side. From the lower left *Introduction* there is a *rise* to the *Climax* apex then a *fall* to the lower right *Catastrophe*. These five parts, each of which can contain one or a series of scenes, are bound and separated by three dramatic forces. The arrows in Figure 8 show the position and span of the forces. The first force is essential for any tragedy whereas the other two are recommended adornments. The *exciting force* corresponds to the complication and the *tragic force* corresponds to the irony which marks the beginning of the denouement. The *force of the final suspense* is a preparation for the catastrophe.

The pyramid serves only as the basic structure of tragedy however; the downward slope is not always so direct. When either or both the optional parts are included, the *tragic force* can give the effect of a double apex and the *force of final suspense* always involves a secondary rise.

Figure 8

Freytag's Triangle



Section 4.1.4 – Triad model

The main difference in the model of Bremond [1966] and most others looked at in this section is that perspective is paramount "Each agent is his own hero. His partners are defined from his point of view as allies, adversaries etc." but the following quote contains a description of what narrative consists of besides.

> "All narrative consists of a discourse which integrates a sequence of events of human interest into the unity of a single plot. Without succession there is no narrative, but rather description (if the objects of the discourse are associated through spatial contiguity), deduction (if these objects imply one another), lyrical effusion (if they evoke one another through metaphor or metonymy.

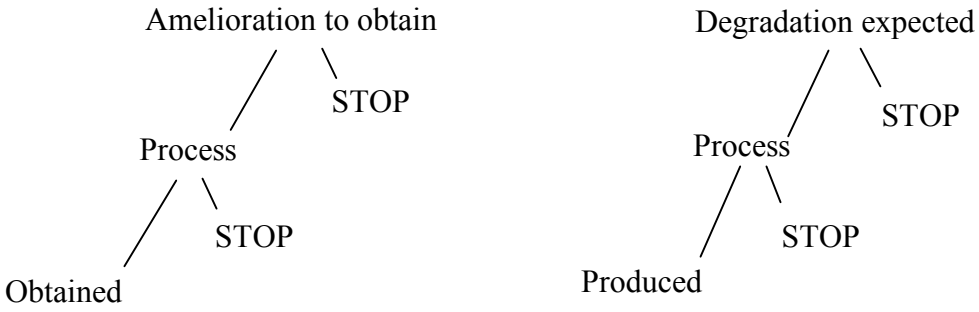
> Neither does narrative exist without integration into the unity of a plot, but only chronology, an enunciation of a succession of uncoordinated facts.
>
> Finally, where there is no implied human interest (narrated event neither being produced by agents nor experienced by anthropomorphic beings), there can be no narrative, for it is only in relation to a plan conceived by man that events gain meaning and can be organized into structured temporal sequence."

Bremond was inspired by Propp to imagine a comprehensive classification system similar in its utility to those developed for botany and biology. His theory takes as a starting point and without any modification whatsoever, Propp's *function* as the basic narrative unit. An elementary sequence comprises a function triad, where the first function opens a process with an action or event potential, the second is the realization of the action or event, and the third closes the process with a result of the action or event. The departure now from Propp is that the narrator determines whether and how these functions execute: that once in a position of potentiality, the narrator chooses whether to remain there or to proceed to realization. Likewise, the narrator is free to choose whether to then proceed to a result or to stop. These freedoms might however, present a problem of how to ensure and maintain narrative flow. There are three mechanisms for dealing with this and these are described next.

Firstly, the elementary sequence itself presents a dichotomy. On the one hand it can describe an amelioration (movement towards equilibrium), and on the other hand it can describe a degradation (movement towards disequilibrium).

Figure 9

Narrative choice and the elementary sequence, adapted from Bremond (1980)



Bremond's model also departs from other theories in that it doesn't as we might expect, accommodate the minimal narrative as the elementary sequence. Instead, narrative is regarded as cyclical: an initial disequilibrium is followed by equilibrium or vice versa. It is then an optional matter whether the cycle is repeated and for how long. This joining of elementary sequences produces a complex sequence; three configurations are possible: *end-to-end series*, *enclave* and *coupling*.

Figure 10

End-to-end series, adapted from Bremond (1980)

$$\text{Potential}_1 \rightarrow \text{Realization}_1 \rightarrow \text{Result}_1$$

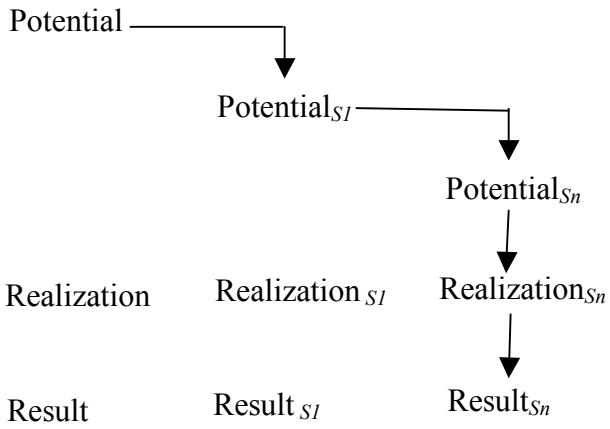
$$=$$

$$\text{Potential}_2 \rightarrow \text{Realization}_2 \rightarrow \text{Result}_2$$

An end-to-end series links two or more elementary sequences. In this example, the equality symbol indicates that the *Result* function of one is simultaneous with, yet distinct from and from the same perspective as the *Potential* function of another.

Figure 11

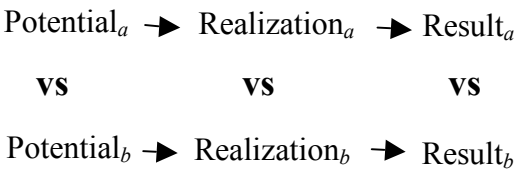
Enclave, adapted from Bremond (1980)



The enclave is where two or more simultaneous sequences describe the same process but at different levels of specificity (*Sx*). In the diagram, the most general is positioned on the left and the most specific on the right.

Figure 12

Coupling, adapted from Bremond (1980)



Coupling makes possible, alternative perspectives. In the diagram the elementary sequence as seen from perspective *a*, is distinct from but simultaneous with the elementary sequence as seen from perspective *b*. More specifically, these differing perspectives apply to all three simultaneous functions as indicated by the symbol vs. Amelioration and degradation as opposing forces can apply to any of the three configurations. In the coupling for example, perspective *a* might describe a

worsening situation and perspective *b* an improving one; in the enclave, increasing specificity calls for more detail and the introduction of new polarities; in the end-to-end sequence a previously regarded bad situation, when followed by an even worse one is in retrospect regarded as good in comparison.

Using these rules, Bremond suggests schemas for the following narrative situations:

Pursuing a goal – This typically involves a single perspective, the beneficiary, who by some chosen means must eliminate an obstacle in their path.

Credit and Debt – At it simplest, this would require two perspectives: that of the receiver and the giver. End-to-end series extension allows the original beneficiary to become obligated and the original benefactor to become a beneficiary which gives four perspectives in total.

Negotiation – A seduction and a conception of need would involve at least two perspectives, but by developing a pact the seducer and the seduced also share a common perspective. Two enclaves describe in more detail, the actions of the seducer and the seduced respectively. Two end-to-end series are required to describe the pact.

Aggression – The infliction and the avoidance of injury requires two perspectives: aggressor and a victim. One enclave is used to describe in more detail, the actions of the aggressor.

Entrapment – A more specific form of aggression still requires a perspective for the deceiver and victim respectively. The schema also contains three enclaves to describe

in more detail, the entrapment from the deceiver's perspective. Two end-to-end series are needed for this more complex situation.

Deception – A yet more specific example of entrapment has an enclave showing how the deceiver makes one thing appear as another. Meanwhile, the dupe develops false belief.

Section 4.1.5 – Regularity in natural narrative

Although Bremond was ultimately concerned with classifying the literary, he pointed out that anthropology was the bedrock for a structural analysis of narrative and that the basic narrative situations he was able to describe schematically are just those found in human behaviour, the source of narrative material. In contrast, Labov and Waletzky (1966) were working directly with oral personal experience narratives taken from a particular community. They too were concerned to identify the basic functional units of narrative, and also to determine the overall structure. Examination of the narratives collected gave rise to two further questions:

How can one tell whether a narrative is partial, complete, singular or multiple?

How does verbal clause sequence relate to experiential event sequence?

There are according to Labov and Waletzky, two functions of narrative: to refer to events experienced and to evaluate the experience. Narrative consisting only in the former is "empty"; this is an argument that will be picked up in Section 6.2.1. Here concentration is on the referential function, in particular what the various elements

are, how they function and how they combine into the normalised narrative structure that these authors have identified.

The temporal interpretation of a narrative can differ from the clause sequence as spoken by the narrator. That is, a constant semantic structure underlies a variable surface structure. The essential temporal link between narrative clauses, whether explicit or implicit, is *then*.

They define a *narrative* clause as one that must occupy a given position in a temporal sequence of clauses, that if moved to another position would alter the original meaning of the narrative. A clause which can be repositioned anywhere throughout the narrative without affecting the original temporal interpretation is a *free* clause. One that can be repositioned with less freedom is a *restricted* clause. Clauses with identical repositioning scope are *coordinate* clauses; all free clauses are therefore coordinate clauses, they are unordered with respect to each other. A *time juncture* marks the temporal link between any pair of narrative clauses in the event that one or more free or restricted clauses are repositioned there. A string of such clauses, with time junctures manifested by an explicit or implicit *then* is the *primary sequence*. Isolating the primary sequence is achieved by firstly, merging any coordinate clauses; secondly, abstracting and bringing to the leftmost position, any contained free clauses; next, as far as their respective repositioning scopes will allow, any contained restricted clauses.

For example, Figure 13 below shows on the right, the original narration and on the left, the arrangement obtained by isolating the primary sequence. At the topmost

position are the *free* clauses; the + symbol separator indicates that they are *coordinate*, unordered with respect to each other. Following the *free* clauses in the second paragraph are the *restricted* clauses. Restricted clauses that are also *coordinate* are separated by the + symbol; those that are part of the *primary sequence* are marked *(P_x)*.

Figure 13

Isolating the primary sequence, adapted from Labov and Waletzky (1966)

Yeah, I was in the Boy Scouts at the time. + And we was doing the 50-yard dash, + racing, + but we was at the pier, marked off, + and so we was doing the 50-yard dash. + There was about eight or nine of us, you know, going down, coming back. + Scoutmaster was up there. He was watching me. + But he didn't pay me no attention either. And, going down the **third** time, I caught cramps *(P_1)* and I started yelling "Help!", but the fellows didn't believe me, you know. + They thought I was just trying to catch up, because I was going on or slowing down. So all of them kept going. + They leave me and so I started going down. *(P_2)* And for no reason at all there was another guy, who had just walked up that minute... *(P_3)* He just jumped over *(P_4)* and grabbed me.	Yeah, I was in the Boy Scouts at the time. And we was doing the 50-yard dash, racing, but we was at the pier, marked off, and so we was doing the 50-yard dash. There was about eight or nine of us, you know, going down, coming back. And, going down the **third** time, I caught cramps and I started yelling "Help!", but the fellows didn't believe me, you know. They thought I was just trying to catch up, because I was going on or slowing down. So all of them kept going. They leave me. And so I started going down. Scoutmaster was up there. He was watching me. But he didn't pay me no attention either. And for no reason at all there was another guy, who had just walked up that minute... He just jumped over and grabbed me.

The minimal requirement of a *singular* narrative is that it consists of a sequence of clauses containing at least one time juncture, i.e. event-*then*-event.

The overall narrative structure was generally found to consist of five parts: orientation, complication, evaluation, resolution and coda.

The *orientation* part is so named because it orients the listener by establishing such things as person, place, time and situation. The clauses comprising the orientation are generally free, a flexibility that has been built into more formalised story grammars, as will be seen in Section 5.

It is in the *complication* part that the presence of *multiple* narratives may be identified. That is, it is possible for the complication part to consist of perhaps several cycles of simple narratives. A narrative that only comprises a part of the complication and/or a resolution is *minimal*.

The *evaluation* part if present is the means by which the narrator's perspective on the events narrated is revealed.

The *resolution* either comes after or is coincident with the evaluation.

The function of the *coda* is to mark the end of the narrative time and a return to the present moment in time. If a coda is present, it necessarily follows the resolution, with the link being a temporal juncture.

Section 4.2 - Paradigmatic models

The division into the syntagmatic and the paradigmatic is perhaps more a division into the sequential and the synchronous. Only in this way can there be differentiation of

theories which arguably, place relatively less emphasis on the sequence of functions and more on the potentiality of functions as variables. Research in this subsection is less concerned with the logical sequence of relatively low level functions, and more concerned with what constitutes a function at a high level of abstraction.

Section 4.2.1 – Structure of myth

Structuralism as a broad movement has influenced predominantly, three areas of research: linguistics, literary theory and cultural anthropology. In case it is complained that investigation of the structure of myth must be so different to that of the story, that it should not be pursued here, Levi-Strauss [1973] reminds us that Propp's division of the "fairy tale" and the folk tale was firstly quite arbitrary, and then goes on to consider the folk tale as a form of myth but lacking an evolutionary dimension and consequently, the extremes of opposition found in the myth.

In his earlier structural study of myth, Levi Strauss [1958] provides a paradigmatic model. A mythical story has at least three dimensions, and a given version comprises two of these. The first task was to isolate the smallest structural unit, of the order of the smallest possible sentence, the mytheme. The next stage was to arrange the mythemes following the order in which they appeared in a given version of the myth into columns and rows, such that the mythemes comprising a given column had a common feature, making them a category of mytheme. In order to read a given version of a myth, one would proceed from left to right, mytheme by mytheme from top to bottom. In order to *understand* that version one would proceed not elementally but category by category, left to right. Viewed in this way, the category

simultaneously entails all its variants. Using this model, the understanding of a given myth in its entirety would be to proceed category by category from front to back through a stack of similarly constructed versions. That is, meaning would be found it was argued, in a myth's many variations, not in any one of them and not in any archetypal subset.

Section 4.2.2 – The actantial model

The actantial model of narrative structure proposed by Greimas [1966] drew on at least four theories. The first is Levi-Strauss' theory of opposition which states that a given concept *A* is impossible to comprehend without the equal and opposite concept *Not A*, and how *A* necessarily entails *Not A*, and thereby every possibility between. The second is the syntactical functioning of discourse. The third and fourth are the inventories of [actants] proposed by both Propp and Souriau[2], referred to as "dramatis personae" and "dramaturgic functions" respectively. Although Souriau's six actants apply to theatre, they are shown in Figure 14 below so that they can be compared to the seven suggested by Propp in Figure 7 above.

Figure 14

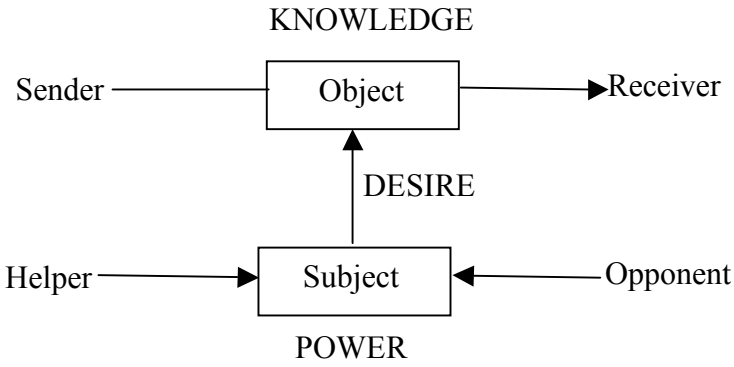
Souriau's six dramaturgic functions with corresponding Dramatis Personae, adapted from Porter (1977)

Dramaturgic Function	Symbol	Signification	Dramatis Personae
Directed Thematic Force	Lion	Pitting of wills	Hero
Opponent	Mars		Villain
A desired Good	Sun		Princess
Recipient of that Good	Earth		
Helper	Moon		Helper
Arbiter	Balance	Authority figure grants the Good	

There are six actants in Greimas' model that form three pairs: subject vs. object, sender vs. receiver and helper vs. opponent. These pairings in turn constitute three relations: desire (felt by the subject for the object), knowledge (communication between sender and receiver) and power (struggle between helper and opponent).

Figure 15

The actantial model, adapted from Greimas (1983)



When instantiated, Subject and Receiver may combine and so can Sender and Object. That is, there can be a duality of roles: (one desires and receives something in the

other who sends). Helper and Opponent may likewise combine with Subject, being at once the will yet resistance to act in fulfilling desire. Conversely, a single actant may be instantiated with more than one actor.

Applied to the universal plot of a story, it has a hero who in wanting to achieve, must become more knowing and thus able.

Section 4.3 - Combination models

The combination model views the story as having a more or less constant sentential structure on the one hand, and on the other hand, as accommodating variability through deep instantiation and interdependency.

Section 4.3.1– Linguistic parallels and non-parallels

Todorov's much cited work is his analysis of plot structure in Bocaccio's Décaméron[3], a collection of stories that come close to an "ideal" he set forth just one year earlier. To take a noun and a verb says Todorov [1968] is to take the first step towards narrative. The "ideal" narrative, he explains, and not all narratives are "ideal", begins with an equilibrium that is disturbed by a directed force, resulting in disequilibrium; this is followed by a second force acting in the opposite direction and bringing about a new equilibrium similar to the first. This requires two kinds of episode: one to describe the relatively static and potentially iterative states and another to describe the non-iterative transition states. These kinds of episodes have their parallels in speech: the adjective and the verb respectively. Proper nouns

meanwhile, being devoid of properties, are analogous to agents, which have no intrinsic meaning, only acquiring it by being associated with a predicate. Todorov also suggests that certain secondary categories of linguistic grammar are just as applicable to a narrative grammar. However, new categories must be forged when one moves beyond the level of individual propositions (statements) to considering how they are related. There can be three kinds of relationship: temporal, logical (implication and presupposition) and spatial (resemblance). At this new *sequence* level, different types of propositions are distinguishable: alternative, optional and obligatory. The obligatory propositions must appear at designated places in the sequence; it is these that are essential to the plot. The optional propositions can appear anywhere or not at all; it is these that provide "the salt of the story". Of the alternative propositions, only one can appear; and it is these alternative propositions that one would look to if one were to attempt to establish a typology of narrative.

Section 4.3.2– Three level narrative model

Barthes [1966] offered a model of narrative that was in keeping with the research of the time. He proposed that a narrative work consisted of three levels: narration, actions and units. The narration level is correspondent with to Todorov's 'discourse' and the actions with the 'actants' of Greimas. As for the units, there can be two kinds: integrative and distributive. The latter correspond to the functions of Propp and Bremond.

Generally, the model allows that units at the lowest level can depend for their meaning on the actions at the intermediate level, which in turn obtain meaning from the narration level.

A functional unit, by definition, is never accidental or extraneous; whether immediately or subsequently, it will have significance for the reader or listener. Functional units are not linguistic units although the latter must carry them. Each takes as its value, the connotative value of its carrier.

The second kind of unit, Barthes refers to as indexical. The difference between it and the distributive kind is that indices are semantically dependent on higher narrative levels, even extending outside the narrative altogether, in the case of metaphor for example, whilst the distributional are semantically dependent on the same narrative level. This classification of the unit also divides narrative kinds. The functional narrative (e.g. popular tales) requires the reader or listener only to look ahead; the indexical narrative (e.g. psychological novels) requires them to search up and out in addition.

Functions and indices are further divisible, making four classes in all; and a given basic narrative unit can at the same time, fall into more than one class.

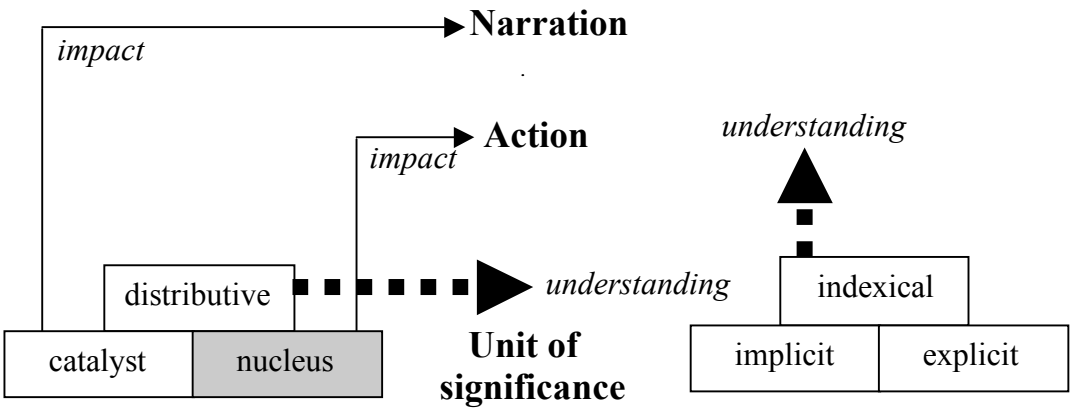
Functions divide into nuclei (cardinal functions) and catalyses. Nuclei are consecutive and consequential; catalyses are just consecutive. To delete a nucleus would be to alter the story whereas to delete a catalyst would be to alter its telling.

Indices likewise divide into indices proper and bits of information (informants); the difference between them being that they signify implicitly and explicitly respectively.

The nuclei are the necessary and sufficient basic units; the other three provide optional expansion.

Figure 16

Diagrammatic interpretation of Barthes' operation and levels of narrative



An argument that we will present in Section 6.2.5 below is that chronological ordering of events is but one of many possible ways to organise narrative. The significance of time in a culture may explain the seeming necessity for narrative to assume overall, a logical chronology. Still, it may be that individual actions have a particular sequence; and for Barthes this was a logical string of nuclei, linked by choice. However, he was concerned to ask, "Does the operation of naming sequences belong exclusively to the analyst? …one could argue that it is part of a metalanguage elaborated by the reader (or listener) himself … to read is to name; to listen is not only to perceive a language but to construct that language." Nevertheless, Barthes does name them but in such a way that they could cover a great variety of meanings and nuances. These sequences do not necessarily complete; there is that element of choice separating the hand held out in greeting and the hand that accepts the hand and

completes the greeting sequence. Because "narrative pulls in new material even as it holds on to previous material" these sequences can also overlap. A clean break between sequences marks a functionally independent episode or subplot, and it is here that the reader or listener, to get a sense of continuity, must access the action level above.

Because all action ultimately derives from them, there can be no narrative without characters. The problem faced though is what should merit this classification, and how should they be regarded, as *who* they are (psychological beings), *what* they are (relational beings), or what they *do* (participatory beings). Perspective is an issue, even when one treats characters as participating in actions: both between characters, vying for ownership of a shared sequence, and within the same character. One needs also to consider the various possible character arrangements: single (hero) or double (opposition). In any case, the suggestion is that linguistic referents: *you*, *I*, *he*, *they* would provide the keys to the character units at the action level. Once again, it is at the next level, that these action units become intelligible.

When it comes to the narration level, Barthes finds inadequate the three accepted conceptions of narrator: the personal, the omniscient, and the character. This treats character and narrator as if they were real, when they are properly 'paper' beings.
Narration like language only admits two systems: personal and apersonal. One can identify which system is in operation by replacing the marks of the apersonal e.g. 'he' with the marks of the personal e.g. 'I'. If the result reads or sounds sensible, then the personal system is in operation, otherwise it is the apersonal. There can also be a mix of the personal and the apersonal, even within a single sentence.

Section 4.3.3 – Narrative units and narrative objects

Greimas' actant model described above, used originally to model myth, was later used as the basis for formulating a generalised narrative grammar which tried to reconcile Levi-Strauss' and Propp's conceptions of narrative structure (Greimas, 1971). He observed that narrative structures generally and not just myth and folktale "present characteristics that are remarkably *recurrent*…allow[ing] for the recording of distinguishable *regularities*…thus lead[ing] to the construction of a *narrative grammar*". The grammar would consist of narrative units and rules for their combination and functioning, and would produce narrative objects. These narrative objects would be deep structures relative to narrative signs at the surface structure. A narrative grammar would require two levels analogous to, but more fundamental than the two levels of linguistic grammar.

Two elementary units were identifiable. The first was the narrative unit; it comprised two actants (nouns) combined by a function where the function was an action (doing) verb. The second was the non-narrative unit, which would not be part of the grammar; it comprised just one actant and one function where the function was a stative (being) verb.

Two kinds of doing were *active* and *commutative*.

Active doing relates *subject* and *object* actants ($S \rightarrow O$)

Commutative doing relates *sender*, *receiver*, and *object* actants ($D_1 \rightarrow O \rightarrow D_2$).

These two, in the order given, constitute the basic narrative object, wherein the *active* doing refers to *event* and the *commutative* doing refers to *contract*.

The functions on their own are not sufficient for describing modal verbs. These require a subclass of narrative unit where the *object* actant is replaced by an elementary narrative unit. In this way, such actions as 'wanting', 'knowing how' and 'being able' are accommodated by the grammar. Now, the logical sequence only implicit in the actantial model described in Section 4.2.2 is made explicit by the grammar: 'being able' presupposes 'knowing how' which presupposes 'wanting'.

Section 4 Notes

1. Alan Dundes, *The Morphology of North American Indian Folktales*, Folklore Fellows Communications, No. 195, Helskinki: Suomalainen Tiedeakatemia, 1964.
2. Étienne Souriau, *Les deux cent mille situations dramatiques*. Paris, Flammarion, 1950.
3. Grammaire du Décaméron, Mouton, 1969.

Section 5 - The Grammar Models

As noted in Section 3 above, an arbitrary line has been drawn between grammars that are expressed in the form of explicit rewrite rules and those that aren't. The sole

reason for doing so is to try to organise a great many, very similar theories. In Section 4 it was to some extent possible to separate the pioneering grammar and schema theories into syntagmatic, paradigmatic and combination models. Here, they can similarly be divided according to whether they have a transformational component or are entirely context-free. In addition there can be differentiation between those that are goal-directed and those which are not. It is found that grammars from literary and cultural studies tend to be more accommodating, whereas research in story understanding tends to produce goal-directed grammars. The reason this is so is that according to experimental evidence (Mandler and Johnson, 1977), recall for stories with goal paths and canonical structure is greater than for stories without. The reason they give is that the story is originally an oral medium and so there needs to be some mechanism for ensuring it does not degrade during exchange.

Table 4

Grammar Models within Story Research Domain

Grammar Models			
Grammar Type:	**LITERARY**	**CULTURAL**	**COGNITIVE**
Phrase-structure			Rumelhart 1975 Thorndyke [1975] Mandler & Johnson 1977 Stein & Glenn 1979 Shen 1989
Transformational	Prince 1973 Ryan 1979 Pavel 1985	van Dijk 1972 Colby 1973	Johnson & Mandler 1980

Section 5.1 - Goal directed and context-free

All the models in this subsection were developed as a means or result of story understanding research. Because they are only slightly different, just one (Thorndyke,

1977a, 1977b) is selected for detailed description and four more for discussion (Rumelhart, 1975; Mandler & Johnson, 1977; Stein & Glenn, 1979 and Shen, 1989). All at the highest level of analysis specify a static part (setting) followed by a dynamic part (episode) and these two are always on the same syntactic and semantic level. The story grammar consists of successive syntactic and semantic levels, where each adjacent pair is associated by a particular rewrite rule. The input to a rule is always a single non-terminal node. The output from a rule may be one or more terminal and/or non-terminal nodes. Certain rewrite rules specify how these conjoin, others specify choice, sequence and so on. Ultimately, the nodes at the most specific level of description, the terminal nodes, are instantiated by the propositions comprising the story text. The parsing of a story's text by the grammar creates as output, a tree where each node represents a structural component of the story and each branch a relationship between them. Horizontal branching indicates sequence, while vertical branching indicates movement from the general to the particular.

Section 5.1.1 – A pioneering story grammar

Rumelhart (1975) developed a grammar for simple stories where story was defined as *a kind of structured discourse which centres around the reactions [i.e. responses of a wilful being to prior events] of one or more protagonists to events [i.e. state changes or actions or the causing of state changes or actions] in the story.*

According to the grammar, a simple story consists of a setting and the episode. The setting contains the time and the place of the story and introduces the main characters. Syntactically, the setting is precursor to episode but semantically, it can be dispersed

within it. There are eighteen syntactical terms and eleven rules, one of which permits recursive event sequences. Most of the rules have a semantic component that describes the relationships comprising its output part. The semantic vocabulary consists of six terms: AND, ALLOW, INITIATE, MOTIVATE, CAUSE and THEN.

Stein and Glenn (1979) after encountering limitations in the applicability of Rumelhart's grammar developed their own. They simplified the grammar by amalgamating the semantic and syntactic components. Another difference is that in their model, episodes can be conjoined but not embedded, whereas the reverse is true in Rummelhart's grammar. Perhaps for the very reason that it is a finite state grammar, it is still the chosen model for teaching children how to write stories (Harris, Graham and Mason, 2006).

Section 5.1.2 – A concise grammar

One difference between Rummelhart's grammar and the one proposed by Thorndyke [1975], also for simple stories, is that the latter defines plot and theme. Both permit recursion, but it is only Thorndyke's story grammar that explicitly provides for a complex or embedded plot. Partly for that reason and partly because it is more concise than the others it is reproduced here.

Figure 17

Reproduction of Thorndyke's grammar (1977a, 1977b) with explanations added.

Rule 1: Story → Setting + Theme + Plot + Resolution
I.e. a story is composed of a setting, theme, plot and resolution

Rule 2: Setting → Characters + Location + Time
I.e. a story's setting is composed of characters, location and time

Rule 3: Theme → Event(s) *optional* + Goal
I.e. a story's theme is composed of zero or more events and the story's goal

Rule 4: Plot → Episode(s)
I.e. a story's plot is composed of one or more episodes

Rule 5: Episode → Subgoal + Attempt(s) + Outcome
I.e. a plot episode has a subgoal, one or more attempts and an outcome

Rule 6: Attempt → Event(s) | Episode
I.e. an attempt to attain a subgoal is either one or more events or an episode

Rule 7: Outcome → Event(s) | State
I.e. an outcome of an attempt is either one or more events or a state

Rule 8: Resolution → Event | State
I.e. a story's resolution is either an event or a state

Rule 9: Subgoal | Goal → Desired State
I.e. both the subgoal of an episode and the goal of the story's theme are desired states

Rule 10: Characters | Location | Time → State
I.e. a story's characters, location and time all involve state

Section 5.1.3 – Basic nodes

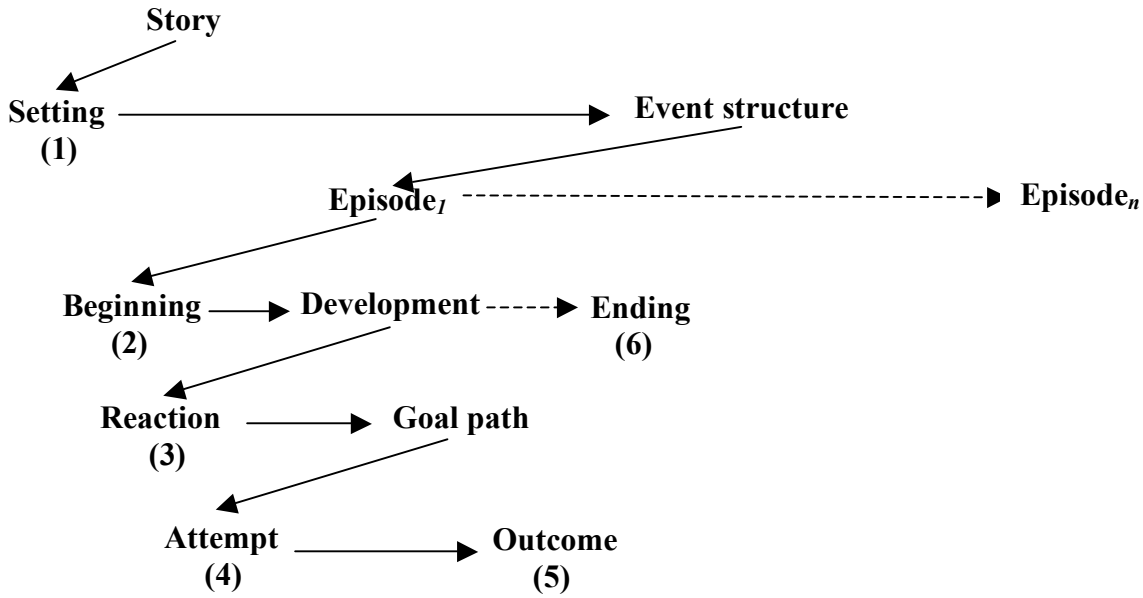
Rumelhart's grammar has also been adapted by Mandler and Johnson (1977). Apart from permitting recursion, other differences between theirs and that of Stein and Glenn (1979) is that it has in its ENDING rule a provision for EMPHASIS, and this makes it suitable for generating stories that have a moral or a lesson, e.g. fables. Secondly, the grammar allows as a minimal story, one that does not include a goal, although this is very rare according to Mandler (1978). Regardless, there must be a

protagonist, and a restriction in this respect is that there can only be one or several acting in concert per episode. The ideal story has a setting and one or more episodes. An episode is a causal linkage of beginning, development, and ending. The development can be either a simple reaction causing an action or a complex reaction causing a goal path.

The six most important nodes in terms of encoding and retrieval are the basic nodes, numbered in the order of their processing in Figure 18 below where solid and dashed arrows represent direct and indirect paths respectively.

Figure 18

Structure diagram, adapted from Mandler (1978)



Section 5.1.4 – X-Bar story grammar

The final grammar discussed in this section is not inherently goal directed but is presented in those terms. Shen (1989) finds several shortcomings with the standard story grammar described above. He refutes the claims made of it: firstly, that its hierarchical structure provides a predictive model for recall, with the higher and lower nodes being predictably remembered and forgotten respectively, and that the higher nodes provide a story's essence while the lower nodes are more superfluous. Secondly, that it can distinguish the story and the non-story. He is also concerned that the standard story grammar theories lack adequate parsing procedures, the capability of assigning with confidence, a piece of text to the correct syntactic category. At the same time however, he ascribes these powers to a grammar that originates in linguistics. The X-Bar grammar when applied to stories comprises HEADS which incorporate the essence, and MODIFIERS that just elaborate the HEADS. The grammar is also compared to other goal-directed discourse processing models; the constituents of EPISODE being PROBLEM, TRY and OUTCOME. The HEAD node of the EPISODE is OUTCOME, whilst PROBLEM and TRY are MODIFIERS of the HEAD. The X in the grammar refers to the category: PROBLEM, TRY or OUTCOME and the bar refers to the number of projections there are from a given X to categories of the same type; e.g. PROBLEM″ entails PROBLEM′ which entails PROBLEM. The claim is that the greater the number of projected dependencies, the more central the projecting node is. The most central EPISODE is the first one sequentially encountered that meets the following three conditions:

(1) The PROBLEM is for a protagonist.

(2) The PROBLEM is not a sub-PROBLEM

(3) The EPISODE does not trigger another EPISODE in which (1) and (2) are true.

Section 5.2 - Goal directed grammars with a transformation component

Lakoff is said to have proposed and submitted as an MA thesis in 1964, an early transformational story grammar. References to a rumoured later publication[4] are incomplete and direct requests to those that cite this work, the university and the author himself, have unfortunately yielded nothing. A significant contribution to early story grammars resulted from researching the oral stories within specific cultures, for example Dundes' work discussed above. The transformational grammar that will be described in this section is based on Fillmore's case grammar[5]; it likewise resulted from researching stories within a particular oral culture.

Section 5.2.1 Eskimo stories

A folktale as described by Colby (1973) has at least five basic components:

(1) *Plot*: providing the basic sequence (chronos) of narrative thought (eidos)

(2) *Symbolic*: providing metaphor, metonymy and synecdoche

(3) *Dramatic*: providing interest and meaning

(4) *Poetic*: providing the words and rhythm

(5) *Linguistic*: providing the phonemes, syntax and semantics

Hitherto according to Colby, analysts of folk narrative had failed to differentiate (1) and (3). He provides in this paper a partial grammar for plot, which he expected would apply to all and only Eskimo groups, for it is only in the stories of a homogenous culture that such regularities are found; if one sought regularities in the stories of more pluralistic cultures, they would need to look at circumscribed geographic areas or even to individual storytellers to find them.

Like all grammars, the plot consists of a hierarchy of units. The chief unit is the eidon and is equivalent to Propp's function except that it is defined in terms of higher order (*intermediate* and *move*) categories. Although the set of eidons are specific to Eskimo culture, some of them (villainy, departure, struggle, victory and return) are more universal. A concatenation of eidons in narrative sequence is called a base sequence.

There are three main categories of eidon: motivation, engagement, and resolution, and it is these that comprise a move.

There are sixteen rules in all; eleven are context-free and five are context sensitive. After showing the first two rules in Figure 19, the positions of the other fourteen are marked in Table 5 which is an adaptation of the original. It shows more clearly, the ordered hierarchical structure of narrative. In the leftmost column are listed the names of the three categories comprising a *move*. Only certain *intermediate* categories are relevant to a given *move* category, and these are shown in the centre column. In the final column listed in the sequence in which they must appear in the narrative, are the eidons themselves. Again, only certain eidon categories are relevant to a given *intermediate* category. All except rules 3, 6 and 7 which specify a choice of exactly one eidon, permit the choice of one or more eidons occurring in sequence. The context sensitive rules are numbered 12-16; these link motivation eidons to resolution eidons or resolution eidon sequences according to whether the protagonist's concern is affective (rules 12 and 13), effective (rules 14 and 15) or competitive (rule 16). In the sense that the context sensitive rules permit greater variation, we choose to classify the grammar as transformational even though the eidons once selected are strictly ordered. There are in addition to the 32 primary eidons shown, several

secondary eidons grouped under five more intermediate categories that are less strictly ordered.

At the level of the primary eidons however, what can be seen are similarities between this and Propp's schema; both emphasise the order of appearance of a relatively large set of plot elements that in some cases resemble one another. Greimas and Levi-Strauss on the other hand chose to reduce Propp's functions to a minimal set by rigorous and repeated abstraction so that there could be no likeness between members.

Figure 19

Rules 1 and 2, reproduced from Colby (1973)

Rule 1 $\text{Move} \rightarrow \text{M}\overset{\frown}{\ }\text{Resp}^{n}$

i.e. a Move comprises one Motivation followed by one or more Responses

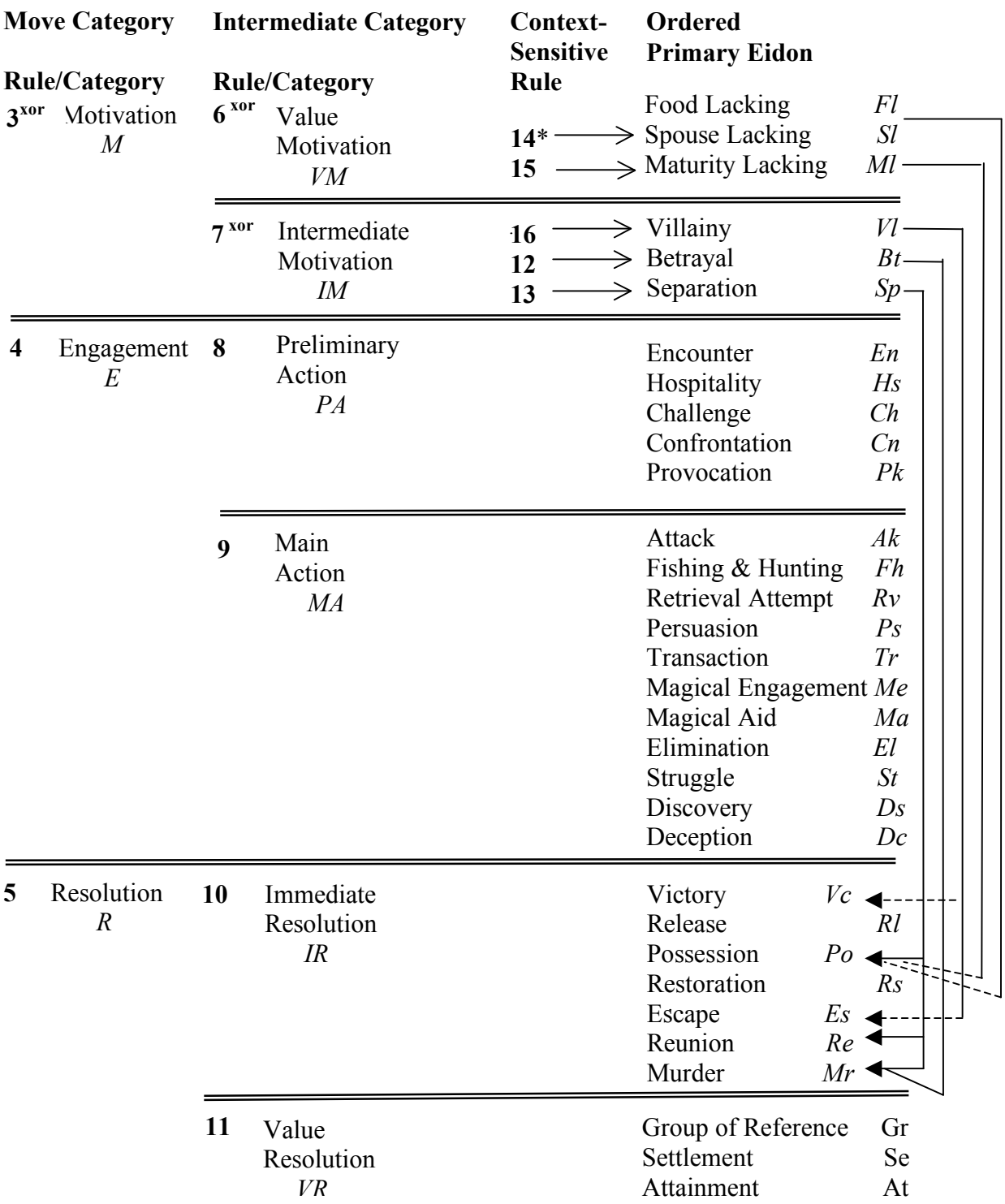
Rule 2 $\text{Resp} \rightarrow \text{E}^{m}\overset{\frown}{\ }\text{R}$

i.e. a Response comprises one or more Engagements followed by one Resolution

Because Engagement and Resolution act as the response to a Motivation, and because every Motivation requires a new move, the minimal Eskimo narrative consists of a single Move and a sequence Motivation, Engagement and Resolution eidons. Optionally, a given move may contain additional eidons from the Engagement category (E) and/or from the Engagement and Response (Resp) category.

Table 5

Rules 3 to 16, adapted from Colby (1973)



* inconsistency in the definition of rule 14 links *Wl* (nowhere defined) to *Po* (Possession). It may refer either to *Sl* (Spouse lacking) or *Fl* (Food lacking)

xor = exclusive OR

Section 5.2.2 – The extension of an earlier grammar

Rather more briefly now an extension of Mandler and Johnson's (1977) story grammar (see Section 5.1.3 above) will be discussed. Johnson and Mandler (1980) are concerned to provide just those transformations that do not in any way alter the meaning of the base story or adversely affect its form. Hence they have added a set of rules that allows the parsing of a surface structure that does not entirely conform to the ideal structure but which does not impede the reader's recovery of the canonical form. The alternative to allowing transformations of the base rules is to alter the base rules themselves, and thus make them unwieldy it is argued. The two major types of transformation considered are node deletion and node reordering. They identify three kinds of nodes that if deleted would still allow a story to be well formed, though subject to conditions of redundancy; these are beginnings, complex reactions and endings. Within a given episode, only one of these nodes can be deleted. Also within a given episode, they identify the goal as being the constituent that can be moved. Over a sequence of episodes which according to the base rules are conjoined by AND, they permit a kind of parallelism. There are various ways of doing this but essentially, the *beginnings* of episodes are moved to the front of a replacement single episode where they CAUSE the respective *developments* which in turn CAUSE the respective *endings*.

Section 5.3 - Non-Goal directed grammars with a transformation component

As remarked earlier, it is common for the researchers, authors and reviewers of narrative structure theories to refer to them abstractly as narrative grammars but in

this paper there is an attempt to separate these from examples that are actually based on linguistic grammars. The main structuralist argument for this is that narrative like language itself is rule governed and that once in possession of those rules one has a narrative competence akin to a linguistic competence, whether or not it is realised at a performance level. Just as a sentence grammar is capable of generating every conceivable grammatical sentence, a narrative grammar theoretically, has similar capability. However, the last section showed that in story understanding research, the generative potential is quite low, typically allowing just those stories with goal directed plots. The text grammar (van Dijk, 1972) was an ambitious effort to develop a grammar that would supersede the sentence grammar. It was argued that the latter was inappropriate for generating anything longer than a sentence and that the text was not just a concatenation of sentences. The text grammar as conceived would model human ability to generate and process every kind of discourse including literary, and even if confined to the literary, there are so many kinds that a schema theory would be insufficient. van Dijk's model though mostly theoretical is sufficiently detailed to warrant inclusion in this section. It is described in terms of macro- and micro-structures. The macro-structure has a set of context free rules for deriving the abstract logical form. The micro-structure refers to the sentences and their linear relations at the surface level. Transformational rules relate the two levels. One such potential transformation is the disambiguation of metaphor, a process that is complicated if the metaphor is not merely linguistic; i.e., where people interpret differently; it is for cases like these that the grammar would need to have a pragmatic component.

Section 5.3.1 – Simple and complex grammars

For a rather less ambitious grammar, attention turns now to an implementation, this time entirely based on Chomsky's generative and transformational grammars. The domain is literary and therefore the discussion takes into account different literary styles and devices revealed by the story's structure.

Prince (1973) builds the grammar gradually, starting with the minimal story then progressing through a kernel simple story to the simple and finally complex story.

In order to fulfil the requirement of a minimal story, a text must contain exactly three conjoined events, where the first is a state, the second is an action, and the third is the inverse of the first. The first state would temporally precede the action, and the action would cause as well as temporally precede the inverse state. The minimal story requires exactly three conjunctions, two specifying chronology, e.g. *then* and one specifying causality, e.g. *as a result*. State events and action events respectively, are indicated by the presence of *being* verbs e.g. *was*, and *doing* verbs e.g. *met*.

The kernel simple story contains exactly one minimal story (now called narrative events) and is spatio-chronologically ordered. It consists of three or more conjoined episodes where an episode is any group of conjoined states or actions belonging to the same time sequence. An episode that contains a narrative event is called a narrative episode. The same time sequence is indicated by such conjunctions as *and*, *but* and *when*. A kernel simple story has less narrative, and is therefore less recognizable than

the minimal story. Generally, the more narrative events a story has, the more recognizable it will be.

The grammar obtained thus far is called grammar G. It is severely limited however because it only permits stories directed forward in time. Although oral stories tend to be more chronological than written stories, Prince observes that it is rare for a story to be entirely chronological. For example, cause and effect are not always presented in that order. To cope with chronological violations, grammar G must be extended with transformational rules.

The single requirement of a simple story is that it must contain exactly one minimal story (three narrative events). It is therefore less restricted than the kernal simple story. Depending on which transformation rule is applied, the sequence of events will rearrange and a *before* and/or *after* will be inserted in the appropriate position.

To get around the simple story restriction of containing exactly one minimal story, another set of transformation rules is added to grammar G. The simple story being the equivalent of one of Propp's moves can thereby be transformed into a component of a complex story.

There are three basic ways to combine component stories: conjoining, embedding and alternating. Conjoining is the most simple, it just appends component *B* to component *A* and inserts the appropriate conjunction(s) between them. Prince gives an example of this using the conjunctions *then* and *as a result*. An embedded component *A* is inserted entirely within component *B*. Alternating is where subcomponents interleave as in A_1, B_1, A_2, B_2.

It isn't profitable to discuss in detail, the rules themselves. More relevant to our enquiry are some of the observations Prince makes during this work.

Clues to a story's type can be gained by examining the relative distributions and concentrations of action events and state events because it reveals where the movement is and where the expository is. Likewise, the distribution patterns of episodes and events can reveal about a story, its pace and its rhythm. Stories with relatively many episodes unfold at a faster rate, and rhythm changes are devices for drawing readers' attention to specific parts of the text.

The degree of cohesiveness in a story has to do with the relative number of clusters there are, i.e. two or more conjoined events and one or more conjunctions. A highly cohesive story is one with a close-knit plot. Episodic plots are achieved by interspersing cohesive sections. Also, the style of a story can be gleaned by attending to the relative numbers of logical (e.g. *therefore* and *because*) to associational conjunctions (e.g. *however* and *though*) there are.

Oral stories rarely employ alternation or excessive embedding for the same reason that they are usually ordered chronologically; it makes them easier to follow. A complex story in which the component stories share events in common is more cohesive than one where they do not. Likewise, the more features (e.g. character, theme etc.) the component stories share, the more a complex story will cohere. On the other hand, a complex story where the components are either alternated or embedded will usually take longer to unfold than one in which the components are

just conjoined. There can of course be complex stories that use all three kinds of combination.

Prince's grammar although criticised by Ryan (1979) provides the basis for Ryan's own generative model which among other things, includes the rule that there must be an animate participant. Also, Ryan's model is said to be capable of generating complex stories by relaxing the rules that apply to simple stories rather than by imposing additional rules.

Section 5.3.2 – The move grammar (Pavel, 1985)

The difference between this grammar and the one suggested by Prince, is that by borrowing from game theory Pavel enables the plot to unfold according to strategy rather than logically. Also it is applied, not as is usually the case, to "ideal" plot structures but to more complex literary works. Even so, the syntax of the context-free component is the simplest seen so far. A story consists of one or more *Moves*, where each is triggered by a *Problem*, works towards a *Solution* and may involve an *Auxiliary*. Because of its simplicity, the base grammar requires very little explanation beyond what is provided in Figure 20 where the rules have been adapted slightly to ease reading.

Figure 20

Adaptation of Pavel's grammar (1985) with explanations added.

Rule 1: Move → Problem + (Auxiliary) + Solution
I.e. a Move is composed of a Problem, optional Auxiliary and a Solution

Rule 2: Problem → Move
I.e. a Problem can be composed of an embedded Move

Rule 3: Auxiliary → Move
I.e. an Auxiliary can be composed of an embedded Move

Rule 4: Solution → Move
I.e. a Solution can be composed of an embedded Move

Rule 5: Problem → $Problem_1$ + $Problem_2$ + ... + $Problem_n$
I.e. a Problem can be composed of a finite number of sub-problems

Rule 6: Auxiliary → $Auxiliary_1$ + $Auxiliary_2$ + ... + $Auxiliary_n$
I.e. an Auxiliary can be composed of a finite number of sub-auxiliaries

Rule 7: Solution → $Solution_1$ + $Solution_2$ + ... + $Solution_n$
I.e. a Solution can be composed of a finite number of sub-solutions

Rule 8: Solution → [± considered]
such that
[+ considered] → [± attempted] and
[+ attempted] → [± success]

Bremond stages for Solutions[6]

I.e. a Solution involves choice (Bremond); a positive consideration enables attempt; a positive attempt either succeeds or fails

Rule 9: Solution → (Pro-Solution + Counter-Solution)^n + (Solution)
I.e. a finite number of optional Pro– and Counter-solution pairs may precede a final Solution which will not execute if the Pro-solutions are weaker

Each *Move* is owned by a character or group and is initiated in response to the *Problem*. Those *Moves* initiated by the same character or group form a narrative domain. An *Auxiliary* is any character, group or circumstance that the owner of the *Move* uses to achieve the *Solution* to the *Problem*. Not every character action qualifies as a *Move*; to do so, it must be one that either ends the story, or at least indirectly, causes another *Move*. As usual, the rules representing a given narrative are

structured as a tree, where the first *Move* to execute is the one that is most deeply embedded and the last is the outermost *Move*. The leaf nodes carry the narrative propositions actually executed.

Various transformations are permitted in this grammar. The *Episode-Attachment Transformation* inserts an unconnected episode in the narrative tree. The *Solution-Generalisation Transformation* allows the last stage of the *Solution* (Rule 8) within the highest *Move* to be generalised to the *Solutions* of lower *Moves*. The *In medias Res Transformation* projects a *Move* backwards from a later position to its logical position in the unfolding of a plot.

Section 5 Notes

4. George Lakoff, *Structural Complexity in Fairy Tales*. The Study of Man, 1, 1972, pp. 128 -150
5. Charles Fillmore, *The case for case*. In E. Bach and R. Harms, Eds., Universals in Linguistic Theory, New York: Holt, Rinehart & Winston, 1968, pp. 1-90.
6. Pavel references two publications: Bremond [1966] and Bremond 1973, *Logique du recit*. Paris: Editions du Seuil

Section 6 - Beyond The Grammar Models

As persistent as story grammars continue to be, they have come under criticism by those who have argued that they take no account of content (Black and Wilensky, 1979). The core of this argument is that if the objective is story understanding, then

structure is actually irrelevant, since in order to judge whether a story is syntactically sound in the first place requires understanding of content. That is, there is no reason to believe that the structure of the story might aid understanding. While everything presented so far indicates that people have certain intuitions about the structure of stories, can one conclude therefore, that candidates having non-ideal structures must be classified as non-stories?

In Section 5 the story models were divided according to whether they were goal directed, and also according to whether they took into account context. Up until now, all models have had two things in common: they have all demanded of a story, that it be in possession of necessary and/or sufficient features, and they have all assumed it to have, at least a rudimentary plot. As well as looking at some less rigid plot and feature models, this section will investigate other models that are quite different. We choose to classify them broadly as content models, point models and context models. The first category collects those models that identify stories predominantly by virtue of their structural features. Models of the third category place greater emphasis on discourse matters, namely, delivery and reception. Structural affects can refer to reader or listener responses (Brewer and Lichtenstein, 1982) but can just as well refer to the responses of the protagonists (Stein, 1982). This explains why certain structural affect models are categorised here as content models, because character behaviours are important, and others are categorised as context models, because reader and listener behaviours are important.

Some models, for example, some of the Point models, are concerned with both the story's content and its context, things internal and things external to the text. We take

the view that this has been the main development of story models; they are mature enough that they no longer have meaning as some intrinsic, structurally ensured property but as a potential. In this section then, we will look at theories that gradually move us in this direction. In doing so, there may be slight departure from the order of the categories given in Table 6 and the lower third of Table 1, since it may be that models presented under one category may be more similar to models presented under another.

Table 6

Beyond Grammar Models within Story Research Domain

Beyond Grammar Models			
Model:	**LITERARY**	**CULTURAL**	**COGNITIVE**
Network			Black & Bower 1980 Trabasso Secco & van den Broek 1984
Feature	Forster, 1927		Stein 1982 Zwaan et al. 1995
Plot, Gist and Macrostructure	Brooks, 1984	van Dijk 1975	Kintsch 1977 Lehnert 1981/2 Schank 1990
Dual	Chatman 1975, 1978		
Points	Prince 1983 Vipond & Hunt 1984 Rigney 1992	Labov 1972 Polanyi 1979	Wilensky 1982/3 Dorfman & Brewer 1994/2004
Affect	Miall 1989	Gabriel 2000	Brewer & Lichtenstein 1982
Reader	Barthes [1970]		

Section 6.1 – Content models

Every story model looked at so far comes under this category; the difference in the content models described in this section is that the rules are less strict, the dynamic is less forward, and the feature set is less fixed.

Section 6.1.1 – Network models

According to Trabasso and Sperry (1985) and Trabasso and van den Broek (1985), story grammars on their own do not account for the selective recall of story events, in particular, why sub-goals can be more memorable than main goals. Neither can the story grammar explain the representation of story events in memory. Building on an existing model (Trabasso, Secco and van den Broek, 1984), they instead propose a network theory in which recalled events correspond to those that are directly and multiply causally related. They define a causal relation as requiring a non-agent person or object (patient) to undergo state changes resulting from a motivated action or a physical mechanism's process (agent). This in turn requires that agent and patient are temporally and spatially contiguous.

Each node in the network corresponds directly to a unit statement, usually less than a sentence in length, in the story text and each directed arc connects a cause statement to a consequence statement. It transpires that subsequent statements have outputs to prior statements, indicating that they logically precede them. Not all statements have outputs; these are the dead ends. The causal chain is the longest chain through the network; it comprises all statements either directly or indirectly linked to the story's opening which sets the scene and closing, which in Trabasso and Sperry's example is the moral.

Black and Bower (1980) criticise grammar theories on several fronts. One is that they fail to distinguish between texts intuitively classified as stories and those that are not; another is the separation of setting and plot. Their theory, this time based on a causal chain theory proposed by Schank (1975) emphasises the state transitions in a causal

chain of events. A hierarchical state transition model would explain how events towards the top of the hierarchy and on the critical path to the main goal, are most readily recalled. The model also allows expository parts to link to the relevant state changes within the story. Importantly, there is no question that the story could be anything other than goal directed. Characters and readers alike are engaged in a planning and problem solving process. The role of the reader is to identify with a particular protagonist, to compensate for states that are only implicit, and to follow the critical path.

Section 6.1.2 – Prototypical features

Stein (1982) in offering a prototype model based on a model of natural categories Rosch and Mervis (1975) did so whilst retaining her commitment to the story grammar. It was rather, an acknowledgement that there could never be a single definitive model; that it was not possible, not even now desirable, to draw a line between the story and the non-story. More likely it is that judgement as to category fit depends on the context in which the judgement is made, although what actually constitutes context is rather vague. The idea is that there is a prototype comprising the universe of story features, and in context *A*, the prototype highlights feature set *X* and in context *B*, it highlights feature set *Y*. The potential story can then align its features with those highlighted in the prototype and will achieve a relative goodness of fit.

Stories resemble one another in their 'accidentals' too. These accidentals are the stuff of models comprising a 'reservoir' of models built up by previous tellers that people

can draw upon in their attempts to make sense of events. The composition and telling of a single story typically involves a variety of models on many levels: narration, story, plot, and action. Some models are relatively wide in their applicability, some more narrow; some travel well, others do not. Most importantly, continual replenishment means that stories that did not resemble one another yesterday might today and vice-versa.

Section 6.1.3 - Plot units

In direct response to prevailing story grammars, Lehnert 1981 and 1982 developed a theory of plot units. Lehnert's principle criticism was that story grammars can never be general enough to cope with the wide variation in plot structures. Structure in this model is not pre-given; it is the characters' affective states, albeit rather simplified, that build it. There are three of them: positive event, negative event, and neutral mental state. Affect-states link causally in one of four ways: motivation, actualization, termination, and equivalence, but there are constraints. For example, it is not permissible for an event to motivate another event but it is permissible for an event to motivate a mental state. It is also permissible for a mental state to bring about an event by intention, i.e. actualize. Termination allows one affect-state to replace another, and equivalence allows two events or two mental states to have multiple links, i.e. multiple perspectives. In all, there are fifteen legal pairings and these are the primitive plot units. Various configurations of these provide complex plot units representing complex and even figurative concepts such as 'success born of adversity' and 'killing two birds'.

Section 6.1.4 – Situation model

Like Lehnert, Zwaan et al. (1995) are interested in how readers construct representations of the situations described in simple narratives. They propose a situation model where events and intentional actions provide the focal points. The reader monitors and updates the situation model whenever they comprehend a focal point. The situation model has five indices:

Temporality, Spatiality, Protagonist, Causality and Intention.

Section 6.1.5 – Aspect model

Forster writing in 1927 was just as concerned with the reader, in this case the reader of novels. We might have located it under *reader* models in our map, Tables 1 and 6 above, for the reason that he regarded the novel as aspectual and would consider each aspect by concentrating on the demands it made on the reader. However, it is the aspects that are drawn out for discussion; for simplicity therefore, we refer to these as features and locate it as such.

The novel had a number of aspects, only a few of which were considered essential. One essential was the story which as well as being a sequence of chronological events was the repository of voice, also essential. It was through a story's voice that readers would transform into listeners, the most primitive form of audience. The only other essential aspect was characters. These could be flat, partially round, intermittently round or round depending on the degree to which the novelist portrayed their psychological side. There were in addition several inessential aspects, all of which would improve the basic model. The first of these was plot or at least fragments of a

plot. The plot made explicit cause and effect, and in a higher form provided mystery too. Unlike the basic story then, that just required curiosity of its audience, plot demanded intelligence and memory in addition. Another aspect enabled by the plot was a fantasy-prophesy axis where again some and not all novels would tend to either pole. An aesthetic aspect, variously called rhythm and pattern, completed the set of inessentials; this like fantasy and prophesy Forster described as springing from the plot. The model then appears to comprise mainly a story that involves characters and a narrator observing them from a particular point of view, be it impartial, partial, omniscient or first-person. Springing forth from the story might be whole or partial plots and springing forth from these might be fantasy or prophesy and rhythm or pattern.

Section 6.1.6 – Indexing model

It is not the story itself that is memorised but the story's gist according to Schank (1990). The indexing model suggested has the gist as comprising a goal, plan, and result, accessed via a two-part index. There are essentially two kinds of story: lesson and observation with the latter as the most general. There are then, two different indexing schemes:

Lesson scheme: Theme → Lesson → Story (Goal, Plan, Result)

Observation scheme: Topic → Observation → Story (Goal, Plan, Result)

Schank's reasoning is as follows: "[B]efore you can find a good story to tell, you need to know the nature of the conversation and the ideas you have to contribute. The

story is simply what happened – the goals and plans and results. The index is what surrounds the story – what reminds you of the story and what you want to add to it. Thus the index has two parts. Something said in conversation brings an observation to mind. The observation is the index to the story itself whereas the topic [in conversation] is the index to the observation."

Section 6.1.7 – Action and interest theories

Following from the findings of Labov and Waltetzky (1966) that the stories of the everyday have a common structure, van Dijk (1975) writing in New Literary History, made a distinction between artificial (literary) and natural (discourse) narratives.

He offered a theory of action and action description which was lacking in current theories of narrative and although it applied to both artificial and natural kinds, this section will be mostly concerned with the artificial, and his discussion of the natural kind will be picked up in Section 6.2.2 below. In the first place, he defined action as an intentional and purposeful state change, where state change was a simple or complex event. Inaction too could qualify as action if it is intentional and purposeful; thus, the agent choosing not to act in a given situation alters the subsequent course of events from what they would otherwise be had action been chosen. If the purposes of agents are compatible, they are protagonists or helpers; antagonists have incompatible purposes. Patients are those characters that lack agency.

Actions can either be macro (plans) or micro (auxiliary). The consequences of an action may be many, with the immediate consequence not necessarily being the significant one. Here, however, subjectivity is acknowledged, and so too is the

uncertainty on the margin of intentionality and accident. The sentence is too short for deciding such matters; it requires the whole action discourse. Given the whole action discourse, however, the uncertainty is resolved.

Artificial narratives differ from natural narratives in that they permit third-person attribution of mental events and states; it is what makes them in some sense complete. Natural narratives on the other hand, when narrating third-person actions appear incomplete, precisely because these attributions are missing. In the same way, detail regarded as irrelevant to natural narratives is necessary to artificial narrative where it functions as atmosphere inducing, climax building and so on. Here, van Dijk offers four conditions that either singly or jointly produce artificial narratives that are interesting or remarkable (unusual) and thus fulfil an emotional function.

(1) The actions performed are difficult.
(2) The initial situation of an action sequence is a predicament.
(3) Unexpected events may cause the agent to change purpose and avoid predicament
(4) One of the states or events are unusual or strange for the agent.

The macrostructures of artificial and natural narratives differ in that in the former, the rules are highly recursive, as demonstrated in Figure 21, the order of the categories is not fixed and, as Figure 22 suggests, certain categories may be implicit. The microstructure differs in the following respects:

(1) Descriptive detail can be redundant or at least relevant only indirectly.
(2) Narration can be second or third-person with access to mental states of characters.

(3) Description of complications leading to predicaments is systematic and evocative.

(4) Complications and resolutions are partially removable to arouse suspense.

Figure 21

The complication-resolution chain of a recursive macrostructure

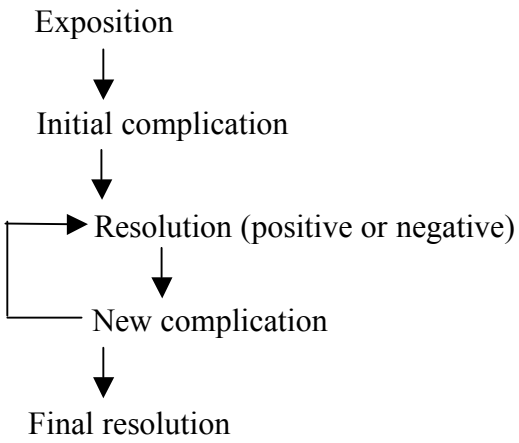
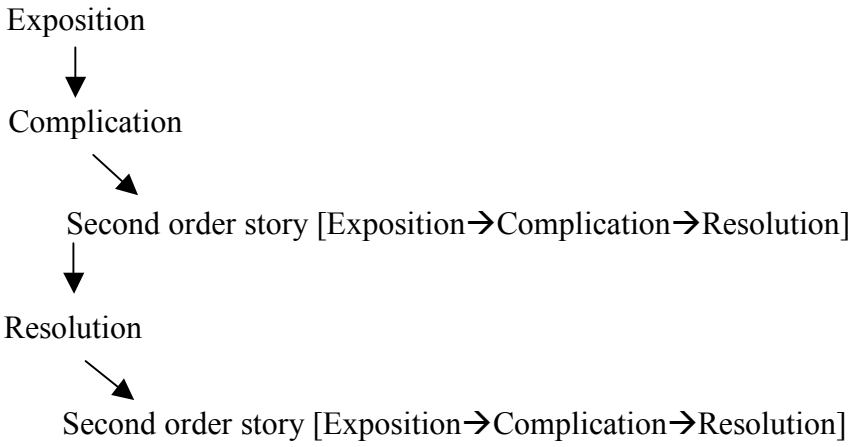


Figure 22

The complex macrostructure has second order stories in one or more macrocategories



Section 6.1.8 – The Macrostructure of stories

The development of the theory of macrostructure owes much to the collaboration between van Dijk and Kintsch. According to Kintsch (1977) who is concerned with discourse comprehension generally, the story provides a testing ground for aspects of the theory because it has the most readily identifiable structure. There are deviations, but these only serve to highlight the canonical structure which can however, vary in its looseness, and this affects comprehension; loosely structured stories prove more difficult than tightly structured ones. Regardless, the structure given by Kintsch is identical to the one described above (van Dijk, 1975). Macrostructure construction occurs during and not after the reading process. It involves four kinds of operation:

(1) Irrelevancy (deletion of)

(2) Redundancy (deletion of)

(3) Generalisation (replacing a subordinate category with a superordinate one)

(4) Summarization (replacing a sequence of actions or events by a name)

What is perhaps most interesting about this model is its accommodation of perspective changes by the use of frames. These also reinforce the narrative structure. A frame provides the context for a sequence of events and actions, and each time a new perspective is required, it calls for a new frame to replace, though not entirely, the previous frame.

Section 6.1.9 – Story and Discourse model

Of the models looked at so far, the one proposed by Chatman (1975, 1978) most emphasises the Structuralist division of story on the one hand and discourse on the other. The story consists of the *events*, *characters* and *setting* (the what); the discourse consists on the one hand, the *statements* actually transmitted and on the other, the *medium* of presentation (the how). This dual aspect view of the discourse plane is what differentiates it most from the Russian Formalist view in which the only acknowledgment of discourse is a distinction between story material (fabula) and the physical arrangement of that material, the plot (sjužet).

Chatman is discussed here rather than alongside some of his contemporaries in Section 4 because his theory of narrative is what he calls 'open structuralist'; among other things it encourages what he calls 'reading out' which basically means accessing the deeper levels of narrative and not being confined to the surface. Also his theory is unusual in that it does not insist, only prefers, the plot being a causal chains of events; otherwise it would exclude many modern works on the basis that they consist mainly of inessential (satellite) events rather than logically ordered essential (kernel) events, characteristic of classical narratives.

Chatman provides a comprehensive structure diagram of narrative. In the first publication (1975), it consists of a story part (content) on one side and a discourse part (expression) on the other. The content side shows the *existents* (characters and setting) and *events*. Events have both hierarchy and type: satellites are subordinate to kernels and both can be actions or happenings. The expression side shows two kinds of statement: *process* statements and *stasis* statements.

The two sides of the diagram are joined by arrows of communication pointing away from the expression side and into the content side. *Overt* communication arrows show how process statements narrate events and how stasis statements describe existents. *Implied* communication arrows show how process statements *index* existents and how stasis *project* events. Within the content side, further implied communication arrows show the construction of plot from an event chain and the incorporation of characters and setting.

The theory also distinguishes *mediated* and *unmediated* transmission, i.e. the presence or absence of a narrator-narratee pair. An unmediated transmission of an event is an *enactment* and a mediated transmission of an event is a *recounting*; an unmediated transmission of an existent is to *expose* it, and a mediated transmission of an existent is to *present* or identify it.

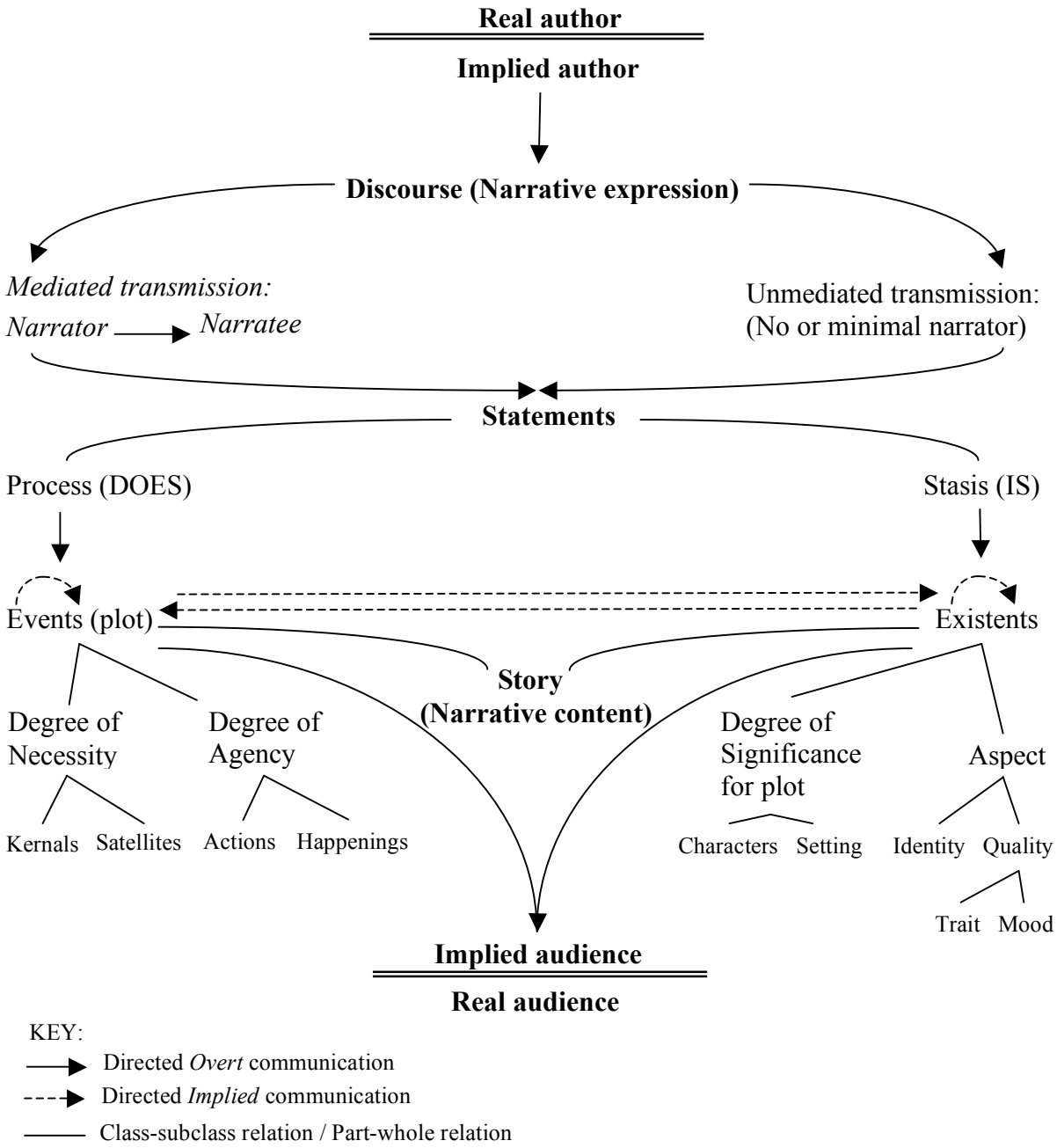
The manifestation part of discourse is included in the diagram on the relevant side but is otherwise quite separate from expression. Although in the second publication (1978), Chatman acknowledges that the manifestation of the narrative will naturally influence the expression, it is not included at all in the structure diagram.

This later diagram which is shown with slight modification in Figure 23 below expands the model but also simplifies. In particular, the arrows of inference that join the two narrative planes now just show that existents can be inferred by events and vice versa. For the events, choice of kernel or satellite is shown as being determined by the degree of *necessity* to the plot; likewise, choice of action or happening is determined by the degree of *agency*. For the existents, choices will depend on the degree of *significance* for the plot: a relatively insignificant character will merely be incorporated in the setting. Characters now are *aspectual*, they have identity but they

may also have qualities, namely trait and mood. Finally, the real author and audience are shown as outside the narrative communication although ultimately responsible for it. The implied author and reader are shown within the narrative communication regardless of whether they are explicit in the text. The narrator-narratee pair is only optionally present.

Figure 23

Open structure model with slight modification, taken from Chatman (1978)



Section 6.2 – Point models

Partly because few theories define it adequately, there is as much variety in the point models as there are in the content models. The point may be internal, external or both, depending on the particular theory chosen.

Section 6.2.1 – Point as raison d'être

Following earlier work (Labov and Waletzky, 1966) Labov (1972) observes once again that vernacular personal experience stories have essentially, a logical ordering of events with a beginning, middle and end. A fully developed narrative of this type consists of:

1. Abstract – summary
2. Orientation – setting
3. Complicating action – event sequence
4. Evaluation – raison d'être
5. Result or resolution – termination of the complicating action
6. Coda – signal that the narrative is finished

This is very similar to, and just extends the collaborative model that was discussed under syntagmatic grammatical models in Section 4.1.5. The reason why the later model is located under point models in Tables 1 and 6 above owes to the first and fourth components. The most important, in addition to the complicating action, suggests Labov, is the reason for telling, which in the fully developed narrative, also appears in the abstract.

"There are many ways to tell the same story, to make very different points, or to make no point at all. Pointless stories are met (in English) with the withering rejoinder, 'so what?'". Stories with commonplace points are likewise, met in this way; what makes a story reportable is a highly unusual point.

There are four evaluation devices, these are:

1. Intensifier – intensifying an event relevant to the main point

2. Comparator – comparing an event that occurred with one that did not occur

3. Correlative – superimposing one event upon another

4. Explicative – explicating the point in so many words

The ability to evaluate comes gradually. It is most prevalent in the stories of adults and least in the stories of pre-adolescents; age regardless, the most often used devices are comparators and intensifiers.

There are four types of evaluation:

1. External

2. Embedded

3. Action

4. Suspension

If an evaluation is external, the narrator will stop before reaching the end of the story to make the point and then return. Embedded evaluation, conversely, is where the narrator makes the point without interrupting the flow of the story.

The third type of evaluation is where the narrator describes the actions of characters rather than what they say. A temporary suspension of the action for the expression of emotion without action has the effect of giving significance to a particular section of the story.

Section 6.2.2 – Point as optional

Whereas, the evaluation component in Labov's theory is essential, for van Dijk (1975) it is optional. According to the theory, natural narratives have a number of practical functions that go beyond changing the knowledge of the hearer; they can for example, advise, incite and warn in addition.

The macrostructure of a natural narrative consists of a sequence of three mandatory macrocategories:

Exposition (setting)

Complication

Resolution

plus two optional terminating categories:

Evaluation (attitude of narrating agent)

Moral (lesson)

The optional categories are present in parables and other stories that have a pragmatic function.

Section 6.2.3 – Point as moral

Although Dorfman and Brewer (1994) are only concerned with artificial narratives, like van Dijk (1975) they have a very narrow conception of point, which they equate with a story's moral. Their research was concerned with finding readers' comprehension of such points within fables, a story type where they feature explicitly. Their method of experiment was to take a traditional fable and to manipulate the content in various ways, to give four categories and eight alternatives:

(1) Base fable (positive action → positive outcome)
(negative action → negative outcome)

(2) Reversed-outcome (positive action → positive outcome)
(negative action → negative outcome)

(3) Neutral-action (neutral action → positive outcome)
(neutral action → negative outcome)

(4) Neutral-outcome (positive action → neutral outcome)
(negative action → neutral outcome)

Participants in their experiment had to indicate whether the story had a point, and if so, what it was. They also had to rate five aspects:

(1) clarity of the story

(2) typicality of the fable story type

(3) liking for the story

(4) fairness of the outcome of the story

(5) agreement on point of the story

In answer to the question as to whether the story had a point, the base fable scored highest with 95.8 percent. Of surprise to the authors was that 41.7% identified point in the reversed-outcome fable. Although they do not say so, it rather suggests that readers will try to identify point in stories that have non-neutral actions and non-neutral outcomes, whether or not they regard the action as 'moral'. However, readers still managed to find point in neutral-action and neutral-outcome stories, the scores being 6.7 and 15.0 percent respectively. The lowest of these scores is consistent with

the low typicality rating for the neutral-action fable. Although again they do not discuss it, the higher score might be because readers in judging the story to be typical of a kind impose the schema for that kind and, thus even possibly supply their own point. The authors are more intent on showing that the high scores are evidence of point comprehension. One may question why they choose the fable, well known as didactic, to test their hypothesis. At the same time, because their conception of point is so narrow, they have only two models of comprehension: outcome-based and just-world. The first of these requires the reader to infer from the outcome whether the action was consistent with the author's moral values and beliefs; the second requires readers to consult their own moral values and beliefs. The reason why the reversed-outcome fable was so high scoring, they reason, is that readers were able to use the outcome-based model in place of the just-world one.

The paper marks a significant shift from Brewer and Lichtenstein's structural-affect theory (1982), where story status is awarded only to those texts that give pleasure. As is evident by Dorfman and Brewer (in preparation), that shift has been maintained.

Section 6.2.4 – Point as distinct from message

We turn now to a broader conception of point that suggests an alternative perspective within narratology, where traditionally, the focus has been on plot structure. In that discipline the story refers to anything narrated and is distinct from narration. To understand a narrative is to be able to summarise or paraphrase, but beyond that, it requires one to be able to articulate the basic meaning(s) it develops. This is the area of narrative pragmatics (context), where according to Prince (1983), all narrative

semiosis not otherwise accounted for by syntax or semantics is covered. The particular concern of this paper is narrative *message* and narrative *point*. These he gets from Labov's (1972) concept of *evaluation*, which did not explicitly make the distinction. The *message* may be received differently, whether by different people or by the same person at different times. The *point* may be judged differently, whether by different people or by the same person at different times. The first question then, is how the message can vary from person to person and from time to time; the second question is how the point attains relevancy from person to person and from time to time.

To understand the message conveyed by a story requires the amalgamation of two sources of data. The receiver must contrastively study the various narrative features: the characters' actions and goals, and the causes of situations. At the same time, they must recognise the various evaluative devices in the commentary. However, this amalgamation is performed context dependently:

"…to some extent at least, [the receiver] make[s] the text [they] interpret […] [G]iven any narrative, the text of its reception always includes the context of its reception […] the receiver partly determines not only what aspects of the text to focus on […] but also the very nature of that text."

The relevance of the narrative i.e. its point, also depends on context. A proposition *P* is relevant in context *C* if and only if their union (*P* and *C*) logically and non-trivially implies another proposition *Q*, within a given processing effort. In other words, if the proposition is not pertinent to the context, the receiver may choose to dismiss it as

pointless or they may choose to transform e.g. extend the context so that it will accommodate, and give relevance to the proposition.

Dorfman and Brewer's readers, it may be speculated, were doing something of the kind when they identified point in fables even though actions and outcomes had been subject to manipulation.

Section 6.2.5 – Point as variable

Polanyi (1979) has argued the case that story structures are culturally dependent. Cultures that have the English language in common tend to organise stories temporally from the most distant event to the most recent one, deviating from this pattern only superficially. Other cultures reverse the order. Then again, some cultures organise events non-temporally. Another argument made is that the concept of event as being the main organisational unit is not universal. Instead, Polanyi suggests the story point, which too is culturally dependent. Stories that qualify as such only do so by their being accepted by their intended audience, so what passes for story in one culture or subculture will not pass in another. The difference between Polanyi's point theory of stories and Wilensky's, discussed next, is that for Polanyi the story is a process not product; the teller will take cues from the audience and will change the point if those cues suggest that it is unacceptable. Ultimately, the very notion of story and storyteller depends on delivering the right point on the right occasion.

Section 6.2.6 – Point as internal and external

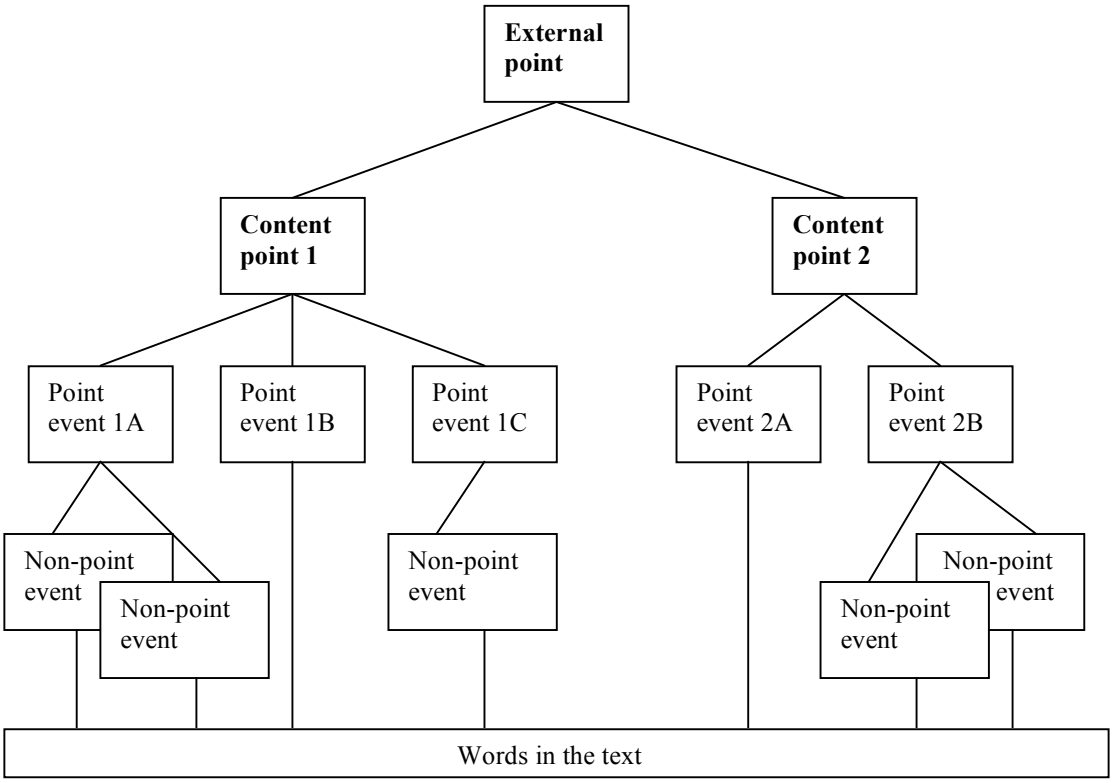
For Wilensky (1982, 1983), what separates the story from the non-story is the 'so what?' factor. A difference in the detail between Wilensky's research and that of Polanyi and Labov previously discussed is that the stories Wilenksy considers are written rather than verbal texts. His specific argument is that story understanding has little to do with text understanding. That is, a logical ordering of events does not of itself, guarantee story. A successful sentence is a coherent one; a successful story is a poignant one in addition. However, Wilensky's points, unlike Polanyi's have definite structure. The function of the point is two-fold. In the first place, it marks a significant episode, collecting under it all the detail of that episode; secondly, it gives the reader something to look for in the text, generating in the reader, interest and expectation about what will come next. The first of these has to do with story recall. Like Bartlett, Wilensky's theory is that detail if at all recoverable is via the episode, and that the most immediate recall is the salient episode.

There are, according to the theory, two kinds of points: external and internal. The external point corresponds to the reason for telling the story and the internal point corresponds to a part of the content that generates interest. Often, a content point has to do with a human dramatic situation involving character, problem, and solution.

Figure 24 below shows the point structure. It shows exactly one external point and potentially many content points. The uppermost content points are shown to directly trigger memorable events, which in turn may trigger less memorable ones. The words on the page at the bottom of the diagram are the least likely objects to be recalled.

Figure 24

Representation of Point Structure as described by Wilensky (1982,1983)



Section 6.2.7 – Point as author's imputed motive

What has been presented so far regarding point theories of stories suggests two things: they refer to the story's structure and they refer to natural rather than artificial stories. Vipond and Hunt (1984) have quite another view, it is that stories of a literary kind have point; it is just a matter of approach. One can choose to obtain information (information-driven), follow the plot (story-driven), or get at the point (point-driven). The vital difference between their theory and the others previously discussed is that the point is nowhere present in stories of a literary nature, nor is it derivable from context, which is of course missing. The reader must infer it by imputing motive to the author.

Although they allow that there is not a superior or correct way to read a text, they can nonetheless be rather scathing about story-driven reading which is doomed to fail for stories without an evident plot. This is the first time in this enquiry we have encountered the possibility, or as Brooks (1984) would regard the impossibility, of there being such a thing. In relation to this, Vipond and Hunt also claim that the point-driven reader, far from discarding incidentals from memory, as the story-driven reader would do, will retain them. These incidentals make point construction possible in the absence of context.

The main thing to be learned from Vipond and Hunt's theory is that whatever point is, it is not a summarised plot. This is very important for we see that plot in the way it has been regarded up until now, is as being a structural component, whereas now we see point as not only transcendental to structure, but to content too. It is something that the reader constructs. This then, marks the difference between point and what might be mistaken for point. For example (Schank 1990), theorises about gist and captioning, whereby a prior object is extrapolated from, elaborated upon, or reduced to. These are closer to theories of plot than of point. On the other hand, some earlier work by Schank et al. (1982) gets very close to what we now can begin to regard as point; it is absent from our map of story models in Table 1 for the reason that it is not applicable to stories but to conversation comprehension. What is interesting and worth reproducing here are their suggested seven categories of point that enable a listener to comprehend not merely what is said but why it is said, and thus respond in an appropriate way.

(1) **Affective:** where the speaker addresses an interest of the listener or an interest of someone towards whom the listener has emotional feelings.

(2) **Empathetic:** where the speaker addresses the listener's ability to imagine them-self in the speaker's position.

(3) **Need:** where the speaker makes an indirect request for assistance.

(4) **Explanatory:** where the speaker supplies a cause or reason for a fact known but not understood by the listener.

(5) **Prescriptive:** where the speaker supplies a rule in place of lengthy or complex explanation.

(6) **Argument:** where the speaker supplies evidence for the correctness of a position and/or the incorrectness of an opposing position.

(7) **Interest:** where the speaker implicitly assumes that the listener has similar interest and knowledge.

Section 6.2.8 – Point as a 'making intelligible' for a particular purpose

Rigney (1992) who in acknowledgment of and in response to the 'narrative turn' argues that a more accommodating theory of narrative is required, and suggests one that concentrates on its function. Fundamentally, this is to communicate. Recall that

Gabriel was able to separate the story from the report by noticing in the latter that they were somehow lacking; here Rigney identifies that lack as point. "Seen from this perspective, narrative does not merely involve the representation of real or imagined events; it is also – indeed, it is in the first instance – a 'making intelligible' or *poynctyng* (sic) of those events for a particular purpose." Narrative analysis would properly begin with the communicative function of narrative, not the events represented. She gives by way of example, three functional stories: one each from ancient Greek and modern American politics and one from British law. The first story is obviously fictional, the second is a more-or-less fictional account, represented as fact, and the third is a reconstruction of selected facts. Like Denning's applied 'springboard' model (2001) which essentially provides a partially filled schema for a audience, persuaded by the springboard, to complete, the function of all three stories is to persuade by way of illustration but they do this in different ways. In each of the political examples, one story, the metaphor is a carrier for another story, the point. In the legal example, an outer story makes intelligible, via various pointing devices, an inner story.

Rigney's cognitive models theory is very similar to that of Schank (1990) in that a narrative culture enables people to call upon, select from, and invoke story types in order to interpret experiences and situations as stories. The functional story can assist in this process.

Section 6.3 – Context models

This last category can be thought of as being a gradual transition from the content models which, it will be recalled, began by looking at a network model ultimately rooted in story grammar theories and the obvious extension from its immediately prior causal chain model (Trabasso, Stein and Johnson, 1981). There was a fairly rapid progression to point models and to theories that were concerned with other things besides structure, i.e. matters of discourse. Most of the theories looked at in this section are less concerned with stories per se and more concerned with readers' appreciation of them.

Section 6.3.1 – Structural affects model

The difference between Brewer and Lichtenstein's (1982) theory and most others looked at so far, is that for them, story and narrative are not the same. Like Gabriel, they regard narrative as class of which story is just one member. Other members include all those narrative kinds that do not have as their overall purpose (discourse force), entertainment, and so perhaps their conception of story is narrower than Gabriel's.

In developing their Structural-Affect theory of stories, Brewer and Lichtenstein suggest that narrative research should distinguish between plan comprehension, narrative comprehension, and story schema. On this view, plan comprehension covers goal-directed story grammar theories, and narrative comprehension covers research concerning event sequence. Notice, that in story grammar terms, story schema is here regarded as being the surface structure while plan comprehension

operates on the deeper semantic structure and narrative comprehension concerns the transformations between these two.

Bearing in mind that narratives often do not have just one force, the three areas of research are each applicable to three types of discourse: information, persuasion and entertainment. A story is defined as being any narrative where entertainment provides the greatest discourse force. Story research then should properly concern itself with how stories are enjoyed not with how they are understood.

A Structural-affect theory of stories is only concerned with readers' responses, not those of characters. There are according to the theory, three major discourse structures which make a story enjoyable: surprise, suspense and curiosity.

Reader surprise (nonlinear) discourse structure:

mediating event → outcome event → early event

Reader suspense discourse structure:

initiating event → delay → outcome event

Reader curiosity discourse structure:

partial knowledge → delay → full knowledge

Although the authors find that readers' enjoyment is greater if they experience surprise, suspense or curiosity, and that enjoyment increases if the surprise, suspense

or curiosity is resolved in addition, they do not make clear whether story intuitions depend on these discourse structures.

Section 6.3.2 – The writerly text

One of the first models looked at in this enquiry was Barthes [1966], which has variously been attributed as being the foundation of narratology. It is fitting to end this section and this investigation with a theory of the narrative text coming just four years later but which is evidently post-structuralist. Where previously the focus had been the unit of narrative, it is here the unit of reading.

Barthes [1970] proposes that the reader does not merely follow a text but constructs it too, and that construction involves exploration of the various dimensions of the text including and aside from the plot. The model imposes no beginning, end or order on the reading process, but offers instead a typology of reading unit (lexia):

Hermeneutic HER (Hermeneutic Code, Voice of Truth)

"[All] the units whose function it is to articulate in various ways a question, its response, and the variety of chance events which can either formulate the question or delay its answer; or even, constitute an enigma and lead to its solution."

Semantic SEM (Semes or Connotative Signifieds, Voice of the Person)

"Although every unit we mention here will be a signifier, this one is of a very special type: it is the signifier par excellence because of its connotation, in the usual meaning of the term."

Symbolic SYM (The Symbolic Field)

"Thus, on the symbolic level, an immense province appears, the province of the antithesis, of which this forms the first unit…"

Proairetic ACT (Code of Actions, Voice of Empirics)

"In Aristotelian terms, in which praxis is linked to proairesis, or the ability rationally to determine the result of an action, […] (in narrative, however, the discourse rather than the characters, determines the action)."

Reference REF (Cultural or Referential Code, Voice of Science)

"…they afford the discourse a basis in scientific or moral authority,…"

Not all texts have the same potential for construction, neither is every reader inclined to construct. Either way, a readerly text is one that is more or less followed, consumed; a writerly text just refers to a process whereby a reader will interpret a physical text by virtually writing rather than either rewriting or reading it. The readerly and the writerly bear a certain similarity to, but are not the same as closed and open texts respectively (Eco, 1979). According to this terminology, texts whose interpretational scope is limited, have more formulaic, predictable structure, and are thus relatively closed. Open texts then will tend to offer plurality of meaning. The text under Barthes' analysis is in this case, more readerly than writerly (Balzac's Sarrasine) but it is certainly not closed. His theory is compatible with the argument of Vipond and Hunt (1984), that plot-driven reading is appropriate though not the only way to approach the classical text but that the modern text inevitably requires for its appreciation a less passive approach. Brooks (1984) always insistent on the necessity

of plot, allows it to be constructed by the reader, even if this means delaying construction until the end of the text where at last, sense is made of the beginning and middle. It depends however on the model under discussion and in the case of Barthes', Brooks suggests that the closest approximation of plot is carried by two irreversible codes: the forward oriented proairetic (action) and the backward oriented hermeneutic (enigma) codes.

These later theories that allow indeterminacy in both the text and readers' responses to it call for more complex models, more complex than those reviewed here. Miall (1989) for example suggests one that amalgamates point and grammar theories with the writerly text. The reader constructs the schema according to affects which rather than being evoked by the text or contained within it are the reader's prior values and beliefs. These may change as a result of reading so that any subsequent reading will involve reconstruction of the schema.

Part 2 - Recent theories and implementations examined in a story-making context

In Part 1, we saw that Structuralism, the dominant theory in story research has very many divisions within it. One thing they all agree on is that narrative has a common, basic structure. They may disagree on what that common structure is, whether

transformations can be said to alter it, the relative importance of other narrative aspects and whether they are separable from it. The reason for not venturing much beyond the structuralist argument despite our acknowledgment of its weaknesses is that we are principally concerned with two things:

(1) to identify and extract previous narrations from discourse
(2) to suggest a schema for the mark up of previous, present and even future narrations.

If moreover, no assumptions are made regarding teller, audience, topic or style, both the extraction model and the mark up model must have universal fit.

Part 1 followed a chronological footpath through the rise and development of narratology and now we bring our review of the literature up-to-date. Here, we are concerned with whether and how original ideas that we looked at in Part 1 have influenced concrete models and applications. The concept of story-making offered by Harvey and Martin (1995) allows us to examine these models and applications from four perspectives.

Section 7 – Organisation of story models

For ease of reference Table 7 indicates from our understanding of the author's perspective, which contemporary models are principally oriented towards, address or succeed in each of the areas suggested by Harvey and Martin: *Construction, Recall, Understanding and Telling*. Ticks are awarded sparingly, and on the basis that an

area earns one if it is given full consideration, which is not to say that a model would fail in areas not ticked. Indeed, there are models that are interesting and potentially informative in other respects.

The first column indicates the research base: *literary, social and cognitive*. Given that some of the research discussed is so applied as to have become detached, we exercise our own judgement and mark those that remain uncertain with a faint tick. There too, applied research may have obvious roots in more than one area in which case they will be ticked accordingly.

If in addition there is evidence of a particular narratological research genre or theory, for there may be more than one, then this is shown in the fourth column. Some of those that answer 'no' to this question cite research that is more narratologically inspired but we cannot reliably conclude from this that the later research is.

The centre columns indicate whether a model is, actually or conceptually, *digital or manual*.

Tick ratios at the far right of the table should not be construed as an indication of the relative research effort in a given domain or support area, only that these publications were most readily available to us. We are confident that if we cared to, we could find more literary inspired models, more models supporting construction and so on.

Table 7

Applied Research: basis, means of demonstration and areas of story-making addressed

Domain			Narratological base	Digital	Manual	Author	Construction	Recall	Understanding	Telling
Literary	Social	Cognitive								
	√		Various	√		Kurtz & Snowden, 2002	√	√	√	√
		√	narrative intelligence	√		Cassell & Smith, 1999		√	√	√
	√		No	√		Rosson, 1999		√	√	√
	√	√	narrative affects		√	McDrury & Alterio, 2003	√		√	√
√			Propp [1928]	√		Paiva et al., 2001	√		√	√
	√		No	√		Shore, 2002			√	√
	√		narrative medicine		√	Greenhalgh & Collard, 2003			√	√
	√		Various	√		Thomas et al., 2001		√	√	
	√		No	√		Karasati et al., 2002		√	√	
	√		Chatman, 1978	√		Mulholland et al., 2004		√	√	
	√		folk literature	√		Figa & Tarau, 2003		√	√	
		√	No	√		Burke & Kass, 1995		√	√	
	√		No	√		Domingue & Motta, 1999		√		√
	√		essential features		√	Denning, 2001	√			√
	√		plot units	√		Singh & Barry, 2003	√			√
	√		functional narrative	√		Freidus & Hlubinka, 2002	√		√	
√	√	√	Schema theory	√		Mott et al., 1999	√		√	
	√		Various	√		Lawrence & Thomas, 1999				√
	√		No	√		Pekkola, 2002				√
	√		No	√		Lutters, 2002				√
	√		point-structured	√		Neal, 2001				√
√			character-centred	√		Mazalek et al. (2002)				√
√			Propp [1928]	√		Braun et al., 2002				√
√			Theatre	√		Strohecker, 1999				√
	√		audience theories	√		Sack, 1999			√	
		√	No	√		Boella et al., 1999			√	
		√	plot units	√		Allen & Acheson, 2000			√	
	√		narrative intelligence	√		Dautenhahn & Coles, 2001			√	
		√	No	√		Lee & Cox, 2002		√		
		√	No	√		Hinrichs et al., 1993		√		
	√		narrative medicine	√		Herxheimer et al., 2000		√		
	√		No	√		Johnson et al., 2000		√		
√			Various	√		Green, 2002	√			
		√	Scripts		√	Cohn, 2004	√			

Section 8 - Technologically implemented models

Section 8.1 - Ontologies and meta data

It can be argued that if the researcher knew either the likely function or domain then the way for developing supporting technologies is considerably eased. Knowledge of either or both would suggest for example, an appropriate ontology (Domingue & Motta, 1999; Mulholland et al., 2004). For Green (2002), the domain is art itself and the function is artistic production; she proposes a comprehensive ontology that would be applicable regardless of discipline. Kurtz (Unpublished) has developed StoryML a mark up language that though not as comprehensive is thorough, and is currently in operation under its new name Narrative Pattern Markup Language or NPML (Kurtz and Snowden, 2002). It is designed to support all four areas: composing (construction), organizing (remembering), analyzing (comprehending) and telling. As StoryML, the mark up language was still fairly impressive owing to its scope for expansion. At the highest level of enquiry, one concept of a story-base system based on it (Thomas et al., 2001) envisaged three distinct kinds: story form, i.e. content information; story function, i.e. its purpose and story trace, i.e. its history. At once this assumes a heterogeneous reader base, and predicts that a reader will want to explore only those dimensions that are of interest to them.

An earlier implementation of a system for mark up was inspired by research of people's experiences of using the World Wide Web just as it was becoming widely available during the mid 1990s (Rosson, 1999). The story-base had open access and the schema for story mark up was designed very simply, having slots for title, keywords and contact information. Once posted on the story-base web site, browsing

visitors could annotate it. The number of annotations the story currently had would display along with the rest of its metadata. Observation over several months showed a mean number of annotations per story as four. When the collection grew large for linear browsing, a search facility and 'theme' category were introduced. It was the moderator, not the author who would assign the theme. Because all postings were subjected to moderation, and over half were rejected, only six themes were needed to contain the collection. Certainly, two aspects of story-making have been addressed and these are 'recall' and 'storytelling'. We also acknowledge that 'understanding' is to a degree facilitated via annotation. However, this research has also discovered interesting patterns in the content matter of stories but these findings have remained academic when they could have been fed back into an improved design, one that would better support 'construction'.

Another, in our view more problematic approach to story mark up and ontology building, operates solely on the story content which it uses to infer taxonomic and coherence relations (Figa & Tarau, 2003). Less problematic is a basic structural ontology allowed by Allen & Acheson (2000) who have developed a browser and a tagging system based on plot units (Lehnert, 1981, 1982) which in its present form can summarise only those stories that have simple rule-governed structure.

Section 8.2 - Digital stories

A quite different approach to marking up on content is inspired by post-structuralist literary models. By giving the reader the freedom to navigate their own way through the links of a fragmented text, it offers a variety of character perspectives and reading

experiences. Walker (1999) gives a personalised account of Hypertext literary reading which after several disappointing attempts was approached strategically and duly rewarded.

The need for character-centred rather than plot-centred narrative is well recognised in digital storytelling research. Historically too, Forster (1927) was critical of Aristotle's relatively higher regard for plot than for character which Forster allowed to be flat, round or a combination of flat and round; the round character having greater psychological depth than the flat one. Mazalek et al. (2002) who cite Todorov [1968] and Bruner (1986) have developed a storytelling environment that offers multiple perspectives. At this stage, it is the telling of the story that receives most attention though its potential in other areas is discussed. For Schroeder (1999) the plot is important in so far that it is where, in most literary works, the protagonist is involved in a conflict situation which they try to resolve. This process is modelled using a formal logic declarative argumentation framework. An implementation allows users to select predefined characters and situations or to define their own, and provides a visual representation of the argumentation process which may or may not end in resolution.

Another common feature of digital storytelling is the tangible object user interface. However, the principle concern for Braun et al. (2002) is to suggest which traditional story structures can be adapted to the interactive medium where there is active audience participation, narrators and performers. Propp's functions and their combination as dramatis personae that can be variously instantiated are found to be particularly well suited. Dramatis personae are also the agents of choice for the

model of Paiva et al. (2001). It is designed specifically for use by young children in a classroom environment where it supports the teaching of drama and theatre by engaging them in construction, enactment and critique. The actions of the characters are not entirely controlled by the children since a major concern of the research is to achieve characters whose behaviours are believable. The Greek chorus provides inspiration for a model (Strohecker, 1999) which allows simultaneous users to not merely interact with the chorus but to take part in it and thereby influence the unfolding of the story. Storytelling and virtual environments is a research area that is generating a lot of interest and during 2002 a special issue of Siggroup (Special Interest Group on supporting Group work) Bulletin was produced specifically for this theme. Of relevance in this section are those that look at issues in the development and use of organisational memory systems: creating and recreating context (Lutters), tacit knowledge sharing (Pekkola) and story types (Karasati et al.). Also relevant are suggestions for supporting reflective practice (Freidus and Hlubinka).

Section 8.3 - Case base influence

DIPEx[7] (Herxheimer et al., 2000) is an example of a technology that was designed with a clear function in mind: to educate, yet in our view supports only one aspect of story-making. The explanation for this lies in the name: DIPEx is a 'data' base with all the rigidity of organisation that implies. On closer inspection it is found that the stories are marked up on clinical conditions. It is also found that those accepted for inclusion are of patients with conditions that have been diagnosed, recording experience not yet recorded under that condition. This allows that in the first place, every story can be linked to the evidence and secondly there is little redundancy. In

these two respects only, DIPEx is similar to the ideal case based or analogical reasoning system. However, it is not these but the other, less constrained aspects of case based reasoning systems that provide a starting point for thinking about architectures and operations appropriate for story-bases generally (Kolodner 1993, Schank 1999).

There is a sizable research overlap between case based or analogical reasoning and narrative technologies simply because stories make good case material. Case base technologies are therefore particularly suited for implementing organisational memory systems and so we must not disregard them. Johnson et al. (2000) argue that the way to improve access to organisational memory systems is to integrate the system with the working environment so that the user has access to the knowledge of others at the precise point of need rather than beforehand or afterwards which is less useful. Their solution links performance support tools with an existing ASK system, a conversational user interface to case libraries. Lee & Cox (2002) are concerned with allowing greater specificity of enquiry in order to reduce the number of cases retrieved. Hinrichs et al. (1993) identify three areas for attention. These are *accuracy*, *efficiency* and *indexing difficulty*. The first requires that the questions asked of the user and the stories it retrieves should be maximally relevant, the second requires that the amount of information elicited from the user to inform retrieval should be minimal, and the third requires that the effort needed to construct and index the case base given the first two requirements should also be minimal. Concentrating on organisation and retrieval issues can be at the expense of the individual story if content is regarded as less important than coordinate value in the case space. In psychological models, however, position and proximity have an effect on

understanding as well as on recall. It's debatable whether some of these models should be awarded ticks in the story understanding column of Table 7 and our decision depends on whether it is user understanding or technical performance that is being addressed, where often these two are closely related. Moving away from organisational learning environments and towards pedagogical ones it is evident that Burke & Kass (1995) are as much concerned with users' understanding of the case material as with its access. In fact, they make the point that even though theirs 'is an information retrieval problem it is not a problem that sits comfortably within the classical IR model'.

Section 8.4 - eLearning

There are various avenues of story-related elearning research. One is specifically concerned with preserving the atmosphere of the traditional storytelling forum (Neal, 2001). Another uses the story as a way to develop a sense of community and identity in virtual learning circles. The stories in this case are practice-related fictional ones written by students and tutors for personal reflection and exchange (Shore, 2002). The story's power to engage also factors high for (Mott et al., 1999) who want to enable learners to co-construct.

Section 8.5 - Narrative intelligence

As an interdisciplinary research area Narrative intelligence is the name given to a broad linkage of AI and literary theory. Though mostly concerned with storytelling, the other three areas are variously also considered. Concrete models and

implementations that exist are often agent based (Boella et al. 1999; Dautenhan & Coles, 2001). Dautenhahn (1999) in discussing what would be required of such agents lists the ability to: recognize, understand, predict, build direct relationships and understand third-party relationship; no small order.

It is not surprising therefore, that the more interesting discussions are theoretical and exploratory. Lawrence & Thomas (1999) are mostly concerned with the telling of stories and they offer suggestions for enabling the social dynamics of storytelling, namely power, risk and collaboration. Herman (1999) argues that any successful model of narrative intelligence must, in order to situate, relate and follow the movement of objects in a story, be capable of making spatial as well as temporal references, where hitherto it has been the latter that has received most attention.

Good examples of implementations are rare. The Victorian laptop of Cassell and Smith (1999) succeeds in combining, in a most elegant way, a number of technologies: semantic indexing, user interface design and virtual storytelling. In the prototype, these are all first person narratives of travel experiences. Narratives are written with a digital pen onto a surface that has the look and feel of a Victorian writing box. During writing, the system searches for contextually similar narratives of previous travellers which provide different perspectives.

Sack (1999) has developed a technology for examining rather than supporting, story understanding within social networks where the significance of stories owes to the fact that they bind communities that otherwise would not exist. Audience members in this research are not regarded as passive consumers of singular meaning texts, nor

excessively active interpreters of dual meaning texts but as falling somewhere between these two extremes. Understanding of a given story is represented as a graph where nodes represent audience members and arcs represent audience dialogue. Arc length is inversely proportional to the number of times a given pair of audience members enter into discussion about the story.

Also within Narrative Intelligence, technologies have been developed or proposed for generating stories computationally, an endeavour which we regard similarly to Bringsjord and Ferrucci (1999) who discuss the failure to formalise interestingness and thus the futility of pursuing a purely logical path to building creative agents – some trickery is also required. Automatic story generation we regard as entirely different to the Table 7 category which involves the human in the creative exercise, and so although there is a lot of research activity in this area (Lang, 1999; Theune et al., 2002; Callaway & Lester, 2002) it does not feature in the table although we acknowledge that in some of this research, audience response issues are major considerations (Bailey, 1999a, 1999b).

The more general psycho-social term narrative intelligence describes the means by which an intelligent agent's knowledge of its environment, and its own position and relation to it is gained, organised and imparted to others. In this category we can discuss research where it is not the story per se that is important but its knowledge eliciting power, where the knowledge in this case is of the commonsense kind. The research goal of Singh & Barry (2003) is to build a vast corpus of such knowledge as an initial step towards developing low-level analogical reasoning systems. To this end they have developed a web-based system for collecting the stories from the

general public. On the one hand, the user's task of story creation is eased by their being given a choice of templates, all of which are based on plot units. On the other hand, the authors acknowledge how the template influences the user's input, and to remedy this they are increasing the number of templates offered. They also acknowledge the occurrence of syntactical mismatches between the user's input and the input frame, and to deal with this they allow other users to offer suggestions for their repair. In addition these users can evaluate a story by answering 'yes' or 'no' to general questions that can apply to any story. Once having created a story, the user is asked to make explicit the implicit assertions within it, both general and specific. At the more general level, each assertion is explained in a single sentence, and again there are templates that the user can select from. At the more specific level the user is given a set of questions to which they can answer 'yes' or 'no'. The methods of supplying these low-level facts, suggestions for repair and evaluations demand a great deal of effort on the part of the user, more than the story creation process. We doubt that story understanding is addressed by these secondary activities because this is mainly a data gathering exercise. The basic user functions are given in Figure 25.

Figure 25

Basic user functions (Singh & Barry, 2003)

New: Enter a new story of this general type.

Clone: Start with a story exactly like this one, but modify a few aspects.

Explain: Explain this story by answering various questions about it.

Judge: Evaluate this story along various dimensions.

Repair: Suggest how to repair an error or other minor problem in a story.

Section 8 Notes

7. www.dipex.org

Section 9 - Pen and paper models

This section brings story research more up to date by looking at applied, domain specific models, that could very easily be supported by technology.

What these have in common is that they are all discourse models, offered to the storyteller as practical guides. They are more properly described as templates rather than being researched theories, although some have an academic basis. The domains of application are knowledge management, medicine, education and software development.

Section 9.1 - Springboard stories

For Denning (2001), the story above all other media has motivational and inspirational potential. This is maximised if narration is direct and by storyteller to an appropriate audience. In their construction too, 'springboard' stories require careful crafting. The main thing about these stories is that it is for the individual audience members to provide completion, which they will do to plan provided they can readily identify with the protagonist and the situation described. According to the example story templates, the structural components are as given in Figure 26.

Figure 26

Structure of the exemplar springboard story (Denning, 2001)

Context

Single prototypical protagonist (someone that the listener can identify with)

Predicament (something that the listener understands is not straightforward)

Resolution (carries the idea implicitly)

Drawing out the implications (helps the listener to get the idea)

Extrapolation (improves an otherwise true, unfinished story; provides happy ending)

Strangeness (provides interest)

However, the key qualities are as given in Figure 27.

Figure 27

Key qualities of a springboard story (Denning, 2001)

(1) Comprehensibility – spring the listener to a new level of understanding

(2) Strangeness – violate the listener's expectation

(3) Connectedness – link the listener to a protagonist and to the controlling idea

Section 9.2 - Reflective stories

Greenhalgh and Collard (2003) are specifically concerned with storytelling within a small group of healthcare workers; they offer a template as a guide for people to structure their stories in such a way that learning points might be drawn from them during later discussion. In Figure 28 below, the asterisks mark five key features that the authors regard as important to gaining maximum educational value from a story.

Figure 28

Suggested template (Greenhalgh and Collard, 2003)

(1) Who is the story about? *

(2) Why have you chosen this story?

(3) What happened in the story? *

(4) How did the people in the story feel or react? *

(5) What was the outcome?

(6) Should anything have been done differently, and if so, what and how? *

(7) What questions or issues does this story raise?

(8) What are the learning points for you and for other people? *

(9) Any other comments?

Items (1) and (2) provide the context of telling; items (3), (4) and (5) comprise the story itself; the remaining items provide points for reflection, and of these, (6) suggests an alternative outcome that might have altered the feelings or reactions of the people in the story.

This time in the domain of higher education, McDury and Alterio (2003) like Greenhalgh and Collard, are interested not just to explore stories to uncover meaning but to develop them too. They also offer a template (adapted below); this attaches to the written story and is filled in by the author in such a way that each slot value annotates the relevant line of text. They suggest that initially, the author focuses either on key players and their feelings or the storyteller's feelings.

Figure 29

Suggested template, adapted from McDury and Alterio (2003)

(1) Naming the primary focus (e.g. storyteller's feelings) / (e.g. key player's feelings) and identifying key feelings (e.g. anxiety, relief)

(2) Identifying other feelings (e.g. nervousness, …)

(3) Linking with significant events (i.e. for each feeling, give an explanation)

(4) Debriefing in small groups (i.e. sharing insights)

(5) Creating a title (e.g. can reflect actual events, feelings, debriefing outcomes)

When identifying other responses (2) the writer may modify the story text. Beyond this stage, the writer may still wish to modify the text but is encouraged instead to share their insights in a debriefing session (4).

Section 9.3 - User stories

At the surface, the model suggested by Cohn (2004) bears certain similarities with that of Denning (2001). The stories in this case provide a more dynamic, evolutionary alternative to the system requirements document used in the software design and development lifecycle. Although it is stressed that the story should originate with the potential users of the system they are nevertheless then crafted in such ways as to make them serve their function better which in this case is to more effectively meet those customer requirements. However, the examples Cohn gives are so unlike stories encountered anywhere else in this review of the literature, that it is quite remarkable they could be referred to as such even metaphorically (Fuchs, 2002). For example, the six attributes of a "good story" are given in Figure 30 below

Figure 30

Story attributes according to Cohn (2004)

Independence: It should not be dependent on another story

Negotiability: Its text will serve as a trigger for discussion with the customer

Valuable to users and customers: It should not be written by a developer

Estimative: The time to translate it into executable code should be calculable

Small size: It should be neither epic (complex or compound) nor too small

Testable: It should be written in a way that allows functional testing of resulting code

An example of a "good story" is:

"A company can pay for a job posting with a Visa card."

By even minimalist standards (Prince, 1973) this could not qualify as a story, there is only a potential unrealisable state, there being no action that could make the transition.

Section 10 – Discussion of Part 2

Like Burke & Kass (1995) we have been less concerned with technologies that support information or knowledge domains and more concerned with those that support story-making, a multi-dimensional activity that covers all the sub-activities of construction, understanding, recall and telling of stories. In the story-making space, truth and falsity braid and cease to matter; of more matter are the involvement, engagement and reward experienced by the human story-maker. For this reason we have mainly confined our review of the literature to narrative tools be they manual or

digital. However, we have on occasion discussed case-base technologies which have developed from a particular cognitive model, one that has inspired socially situated and shared knowledge models. The access and organisation issues in case-base research are similar to those of the story-maker regarding recall. Case-base research is usually less concerned with understanding, except in machine terms and is usually even less concerned with construction and telling.

It may be argued that we have strayed too far into an area of digital story-making research where the story-maker is technologically conceived. There are three reasons why we would disagree. Firstly, much can be learned, some of which can re-inform technologies that would focus more on the human story-maker. For example, Bringsjord and Ferrucci (1999), whose story generator still needs the human hand, remind us of the audience's demand for the aesthetic. There is also a noticeable downplay of the temporal unfolding and greater attention to character perspective (Mazalek et al., 2002) and space relations (Herman, 1999). Secondly, we regard impossible any suggestion of a story-making environment where humans did not factor. It is just that in certain research, the technology and not its ultimate use is what is talked about. Indeed our criterion for Table 7 entry is that the contender must explicitly support at least one of the four aspects of story-making from the human user's point of view. This brings us to our third reason: the definition of story-making proposed by Harvey and Martin, one we have found so useful in our analyses, does not explicitly include nor separate from the other areas, an 'entertainment' category. The goal of digital story-making technologies is often to achieve just this, and we too believe the 'entertainment' function of stories deserves attention.

Section 11 - Concluding discussion

Drawing mainly on what was learned during our review of pioneering models in Part 1 we have been able to address the first of what we regard as two principal issues for the story technologist: the identification and abstraction of stories from discourse. The second issue has to do with generation, annotation and organisation of stories. Part 2 gave us a collection of concrete models which have informed the more practical side of such an endeavour which is schema design in the context of an operational environment conducive to story-making generally.

A major concern in Part 1 was to obtain a definition of story that is needed just in order to discuss this particular discourse form. With this aim, a variety of story models were looked at to see how story researchers, past and present, have defined it and their reasons. In the beginning it was necessary to disambiguate plot, story and narrative. Later a fourth pragmatic component was encountered. The high variation in story models has to do with the fact that different areas of research tend to focus on a particular level of analysis and perhaps movement between one level and another. Usually but not exclusively, cognitive models tend to be plot models; concern is with identifying necessary and/or sufficient features and their logical sequence, although some try also to account for manifestations that differ. Literary models tend to focus more on the narrative level, explaining it in terms of its regularities and irregularities; here, there is no question that the plot and the manifestation levels will differ. Some literary models also incorporate a pragmatic layer, a layer that is most usually the focus of cultural story research where the primary interest is the transmission of stories which also tends to be oral.

In cataloguing the story models a second concern was to find one that could be used as a tool in our own research: to identify stories in a discursive forum such as online discussion, to identify their boundaries and thus be able to abstract them. The model we chose was the one suggested by Gabriel (2000), and for two reasons. Firstly, it is contemporary and was developed by the analysis of natural stories told by people in cultural organisations, a data pool not vastly different from ours. Secondly, we believe judgements regarding the presence or absence of features is a quick and easy method of identification.

We are however mindful that the in situ story and the abstracted story will not be the same, and so for us, there is an added problem of somehow restoring context. This investigation of story models has led beyond feature and plot models to those with a pragmatic component and it is these that can inform such restoration. We have, for example, proposed an annotation schema for stories that includes contextual dimensions. If as in our case, the purpose of the schema is to assist the creation, recall, comprehension and telling of stories, then it is very important that the schema itself should not be an obstacle. Our aim was a schema that will support stories and only stories but places no restrictions on either content or context. The result is a hybrid which includes aspects of point models, feature models and affect models.

Future papers will detail the schema, its embodiment in a prototype story annotation environment, and an end-user evaluation of this tool. The *Storymaking project* website outlines this work with a few examples:

http://kmi.open.ac.uk/projects/storymaking

References

Robert B. Allen & Jane Acheson, 2000
Browsing the Structure of Multimedia Stories. *Proceedings of the fifth ACM conference on Digital Libraries*, pp. 11-18.

Paul Bailey, 1999a
A Reader-Base Model of Story Generation; or 'Stories: they're not what you expected'. *Proceedings of the AISB'99 Symposium on Creative Language: Humour and Stories, The Society for the Study of Artificial Intelligence and Simulation of Behaviour*, pp. 36-46.

Paul Bailey, 1999b
Searching for Storiness: Story-Generation from a Reader's Perspective. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 157-163.

Mieke Bal, 1997
Narratology: Introduction to the Theory of Narrative. University of Toronto Press, Second Edition.

Roland Barthes, [1966] 1975
An Introduction to the Structural Analysis of Narrative. *New Literary History, Vol. 6, No. 2*, pp. 237-272. Originally published in *Communications*, 8.

Roland Barthes, [1970] 1975
S/Z. Translated by Richard Miller, Jonathan Cape.

Frederic Charles Bartlett, [1932] 1995
Remembering: a study in experimental and social psychology. Cambridge University Press.

John B. Black and Gordon H. Bower, 1980
Story understanding as problem-solving. *Poetics, Vol. 9*, pp 223-250.

John B. Black and Robert Wilensky, 1979
An Evaluation of Story Grammars. *Cognitive Science, 3*, pp. 213-230.

Guido Boella, Rossana Damiano & Leonardo Lesmo, 1999

Understanding narrative is like observing agents. *Proc. Narrative Intelligence, AAAI Fall*
Symposium, AAAI Press, Technical Report FS-99-01, pp. 17-20.

Norbert Braun, Oliver Schneider & Gregor Habinger, 2002
Literary Analytical Discussion of Digital Storytelling and Its Relation to Automated Narration. *HCI Europe 2002 Workshop, London, UK.*

Claude Bremond, [1966] 1980
The Logic of Narrative Possibilities. *New Literary History, Vol. 11, No. 3, On Narrative and Narratives: II*, pp. 387-411. Translated by Elaine D. Cancalon, of the original La Logique des possibles narratifs, *Communications*, 8, pp. 60-76.

William F. Brewer and Edward H. Lichtenstein, 1982
Stories are to entertain: an structural-affect theory of stories. *Journal of Pragmatics 6*, pp. 473-486.

Selmer Bringsjord & Dave Ferrucci, 1999
BRUTUS and the Narratological Case against Church's Thesis. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 105-111.

Peter Brooks, 1984
Reading for the Plot – Design and Intention in Narrative. Alfred A. Knopf.

Jerome Bruner, 1986
Actual Minds, Possible Worlds. Harvard University Press.

Jerome Bruner, 1991
The Narrative Construction of Reality. *Critical Enquiry, Vol. 18, No. 1*.

Jerome Bruner, 2002
Making Stories – Law, Literature, Life. Harvard University Press.

Robin Burke & Alex Kass, 1995
Supporting Learning through Active Retrieval of Video Stories. *Expert Systems with Applications, Vol. 9, No. 3*, pp. 361-378.

S. H. Butcher, [1895] 1997
Aristotle Poetics. Unabridged republication of S. H Butcher's original translation of the Poetics, Dover Publications.

Charles B. Callaway & James C. Lester, 2002
Narrative Prose Generation. *Artificial Intelligence, Vol. 139, No. 2*, pp. 213-252.

Justine Cassell & Jennifer Smith, 1999
The Victorian Laptop: Narrative Engagement through Place and Time. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 72-77.

Seymour Chatman, 1975
Towards a Theory of Narrative. *New Literary History, Vol. 6, No. 2*, pp. 295-318.

Seymour Chatman, 1978
Story and Discourse: Narrative Structure in Fiction and Film. Cornell University Press.

Mike Cohn, 2004
User Stories Applied - For Agile Software Development, Addison Wesley.

B. N. Colby, 1973
A partial grammar of Eskimo folktales. *American Anthropologist, 75*, pp. 645-662.

Kirstin Dautenhahn, 1999
The Lemur's Tale – Story-Telling in Primates and Other Socially Intelligent Agents. *M. Mateas & P. Sengers (Eds.), Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 59-66.

Kirstin Dautenhahn, 2001
The Narrative Intelligence Hypothesis: In Search of the Transactional Format of Narratives in Humans and Other Animals. *M. Beynon, C. L. Nehaniv & K. Dautenhahn (Eds.), Proceedings of the Fourth International Cognitive Technology Conference, CT2001: Instruments of Mind. Berlin: Springer Verlag*, pp. 248-266.

Kirstin Dautenhahn, 2002
The origins of narrative – In search of the transactional format of narratives in humans and other social animals. *International Journal of Cognition and Technology, Co-existence, Convergence, Co-evolution, Vol. 1, Issue 1*, pp. 97-123.

Kirstin Dautenhahn, 2003
Stories of Lemurs and Robots – The Social Origin of Story-Telling. *M. Mateas & P. Sengers (Eds.), Narrative Intelligence. Amsterdam & Philadelphia: John Benjamins Publishing Company.*

Kerstin Dautenhahn & Steven J. Coles, 2001
Narrative Intelligence from the Bottom Up: A Computational Framework for the Study of Story-Telling in Autonomous Agents. *Journal of Artificial Societies and Social Simulation (JASSS), Vol. 4, No. 1.*

Stephen Denning, 2001
The Springboard: How Storytelling Ignites Action in Knowledge-Era Organizations. Butterworth-Heinemann.

Teun A. van Dijk, 1972
Some Aspects of Text Grammars: A Study in Theoretical Linguistics and Poetics Mouton & Co (The Hague).

Teun A. van Dijk, 1975
Action, Action Description, and Narrative. *New Literary History, Vol. 6, No. 2*, pp. 273-294.

John Domingue & Enrico Motta, 1999
A Knowledge-Based News Server Supporting Ontology-Driven Story Enrichment and Knowledge Retrieval. *Lecture Notes in Computer Science, Vol. 1621/1999: Knowledge Acquisition, Modelling and Management: 11th European Workshop, EKAW '99 Proceedings, Springer*, pp. 103-120.

Marcy H. Dorfman and William F. Brewer, 1994
Understanding the Points of Fables. *Discourse Processes, Vol. 17, No. 1*, pp. 105-129.

M. Dorfman & W. F. Brewer, (in preparation)
Understanding the points of stories: A developmental study.

Alan Dundes, [1963]
Structural Typology in North American Indian Folktales. *The Study of Folklore, Prentice Hall, 1965*, pp. 206-215. Reprinted from Southwestern Journal of Anthropology, Vol. 19, pp. 121-130.

U. Eco, 1979
The Role of the Reader – Explorations in the Semiotics of Texts. Indiana University Press.

Susan Engel, 1996
The Guy Who Went Up the Steep Nicken: The Emergence of Story Telling during the First Three Years. *Zero To Three, Vol. 17:3, The Development of Memory and Creativity in Very Young Children, December 1996/January 1997*, pp. 1-9.

Elizabeth Figa & Paul Tarau, 2003
Lexical inference mechanisms for text understanding and classification. *Proceedings of the 66th ASIST annual meeting, Vol. 40*, pp. 165-173.

E. M. Forster, 1927
Aspects of the Novel, Edward Arnold & Co, London.

Natasha Freidus & Michelle Hlubinka, 2002
Digital Storytelling for Reflective Practice in Communities of Learners. *SIGGROUP Bulletin, Vol. 23, No. 2*, pp. 24-26.

Gustav Freytag, [1863]
Freytag's Technique of the Drama – An exposition of dramatic composition and art. Translation from the sixth German edition by Elias J. MacEwan, Benjanin Blom, 1968.

Yiannis Gabriel, 2000
Storytelling in Organizations – Facts, Fictions, and Fantasies. Oxford University Press.

Gerard Genette, [1983] 1988

Narrative Discourse Revisited. Translated by Jane E. Lewin, Cornell University Press. Translation of Nouveau discours du récit, Editions due Seuil.

Nancy L. Green, 2002
Designing an Ontology for Artificial Intelligence in the Narrative Arts. *Proc. Artificial Intelligence and Interactive Entertainment, AAAI Spring Symposium, AAAI Press, Technical Report SS-02-01*, pp. 39-40.

E M Forster, 1927
Aspects of the Novel, Edward Arnold & Co, London.

Ludwin Fuchs, 2002
Can Technology Tell a Story? Using Temporal Activity Visualization in Shared Information Repositories. *SIGGROUP Bulletin, Vol. 23, No. 2*, pp. 16-17.

Gerard Genette, [1972] 1980
Narrative Discourse – An Essay in Method. Translated by Jane E. Lewin, Cornell University Press. Translation of Discours du récit, Editions due Seuil.

Trisha Greenhalgh & Anna Collard, 2003
Narrative Based Health Care: Sharing Stories – A multiprofessional workbook. BMJ Books.

A. -J. Greimas, [1966] 1983
Structural Semantics: An Attempt at a Method. University of Nebraska Press. Translation of Sémantique structurale: Recherche de méthode, Librairie Larousse.

A. -J. Greimas, 1971
Narrative Grammar: Units and Levels. *Modern Language Notes, Vol. 86, No. 6*, pp. 793-806.

N. G. L. Hammond, 2001
Aristotle: Poetics. Museum Tusculanum Press, University of Copenhagen.

Barbara Hardy, 1977
Towards a poetics of fiction: an approach through narrative. *The Cool Web: The Pattern of Children's Reading. M. Meek, A. Warlow, G. Barton (Eds.), The Bodley Head,* pp. 12-23.

Karen R. Harris, Steve Graham and Linda H. Mason, 2006
Improving the Writing, Knowledge, and Motivation of Struggling Young Writers: Effects of Self-Regulated Strategy Development With and Without Peer Support. *American Educational Research Journal, Vol. 43, No. 2*, pp. 295-340.

John H. Harvey & René Martin, 1995
Celebrating the Story in Social Perception, Communication, and Behaviour. *Knowledge And Memory: The Real Story – Advances in Social Cognition, Vol. VIII, R. S. Wyer (Ed.), Laurence Erlbaum Associates*, pp. 87-95.

David Herman, 1999

Spatial Cognition in Natural-Language Narratives. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 21-25.

Andrew Herxheimer, Ann McPherson, Rachel Miller, Sasha Shepperd, John Yaphe and Sue Ziebland, 2000
Database of patients' experiences (DIPex): a multi-media approach to sharing experiences and information. *The Lancet, Vol. 355*, pp. 1540-1543.

Thomas R. Hinrichs, Ray Bareiss & Brian M. Slator, 1993
Representation Issues in Multimedia Case Retrieval. *AAAI Workshop on Case-Based Reasoning*, *AAAI Press*, Technical Report WS-93-01, pp. 35-40.

Debra Jervay-Pendergrass & Carole Brown, 1999
Something Happened! Sharing Life Stories from Birth to Three. *Zero To Three, Vol. 20:3, December 1999/January 2000*, pp. 25-31.

Christopher Johnson, Larry Birnbaum, Ray Bareiss & Tom Hinrichs, 2000
War Stories: Harnessing Organizational Memories to Support Task Performance. *Intelligence, Vol. 11, Issue 1*, pp. 16-31.

N. S. Johnson and J. M. Mandler, 1980
A Tale of two structures: Underlying and surface forms in stories. *Poetics, Vol. 9*, pp. 51-86.

Helena Karasati, Karen S. Baker & Geoffrey C. Bowker, 2002
Ecological Storytelling and Collaborative Scientific Activities. *SIGGROUP Bulletin, Vol. 23, No. 2*, pp. 29-30.

Walter Kintsch, 1977
On Comprehending Stories. *Cognitive Processes in Comprehension. M. A. Just and P. A. Carpenter (Eds.), Lawrence Erlbaum Associates,* pp. 33-62.

Janet Kolodner, 1993
Case-Based Reasoning. Morgan Kaufman.

Cynthia F. Kurtz, Unpublished and Abridged
StoryML: An XML Markup Language for Stories and Storytelling Events.
Knowledge Socialization (Story) Group, IBM Thomas J. Watson Research Center.

Cynthia F. Kurtz & David J. Snowden, 2002
The New Dynamics of Strategy – sensemaking in a complex world. Draft for IBM System Journal, full text before shortening.

William Labov, 1972
Language in the Inner City: Studies in the Black English Vernacular. University of Pennsylvania Press.

William Labov and Joshua Waletzky, 1966
Narrative analysis: Oral versions of personal experience. *Proceedings of the annual spring meeting of the American Ethnological Society*, pp. 12-44.

R. Raymond Lang, 1999
A Declarative Model for Simple Narratives. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 134-141.

Deborah Lawrence & John C. Thomas, 1999
Social Dynamics of Storytelling: Implications for Story-Base Design. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 26-29.

Philomena Y. Lee & Michael T. Cox, 2002
Dimensional Indexing for targeted case-base retrieval: The SMIRKS system. *Proceedings of the Fifteenth International Florida Artificial Intelligence Research Society Conference*, pp.62-66

Wendy G. Lehnert, 1981
Plot Units and Narrative Summarization. *Cognitive Science 4*, pp. 293-331.

Wendy G. Lehnert, 1982
Plot Units: A Narrative Summarization Strategy. *Strategies for Natural Language Processing. W. G. Lehnert and M. H. Ringle (Eds.), Lawrence Erlbaum Associates,* pp. 375-412.

Claude Lévi-Strauss, [1958] 1968
The Structural Study of Myth. *Structural Anthropology. Allen Lane The Penguin Press. Translated from the French publication*, pp. 206-231.

Claude Lévi-Strauss, [1973] 1977
Structure and Form: Reflections on a Work by Vladimir Propp. *Structural Anthropology. Vol. II, Allen Lane The Penguin Press. Translated from the French publication*, pp. 115-145.

Wayne G. Lutters, 2002
Storytelling in Collaborative Work: The Challenge of Preserving Sensitive Interactions. *SIGGROUP Bulletin, Vol. 23, No. 2*, pp. 22-23.

Jean M. Mandler, 1978
A code in the node: The use of a story schema in retrieval. *Discourse Processes, 1*, pp. 14-35.

Jean M. Mandler and Nancy S. Johnson, 1977
Remembrance of Things Parsed: Story Structure and Recall. *Cognitive Psychology 9*, pp. 111-151.

Ali Mazalek, Glorianna Davenport & Hiroshi Ishii, 2002
Tangible Viewpoints: A Physical Approach to Multimedia Stories. *Proceedings of the tenth ACM international conference on Multimedia*, pp. 153-160.

Janice McDrury and Maxine Alterio, 2003

Learning Through Storytelling in Higher Education: Using reflection & experience to improve learning. Kogan Page.

D. S. Miall, 1989
Beyond the Schema Given: Affective Comprehension of Literary Narratives. *Cognition and Emotion, Vol. 3 (1)*, pp. 55-78.

Peggy J. Miller and Linda L. Sperry, 1988
Early talk about the past: the origins of conversational stories of personal experience. *Journal of Child Language, Vol. 15, No. 2*, pp. 293-315.

Bradford W. Mott, Charles B. Callaway, Luke S. Zettlemoyer, Seung Y. Lee & James C. Lester, 1999
Towards Narrative-Centered Learning Environments. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 78-82.

Paul Mulholland, Trevor Collins & Zdenek Zdrahal, 2004
Story Fountain: Intelligent Support for Story Research and Exploration. *Proceedings of the 9th international conference on intelligent user interfaces, Session: Virtual environments & stories*, pp. 62-69.

Lisa Neal, 2001
Storytelling at a distance. *Proceedings of the Ninth International Conference on Human-Computer Interaction, Vol. 2*, pp. 720-724.

Katherine Nelson (Ed.), 1989
Narratives from the crib. Harvard University Press.

Katherine Nelson, 1993
The psychological and social origins of autobiographical memory. *Psychological Science, Vol. 4, No. 1*, pp. 7-14.

Ana Paiva, Isabel Machado & Rui Prada, 2001
Heroes, Villains, Magicians, ...: Dramatis Personae in a Virtual Story Creation Environment. *Proceedings of the 6th International Conference on Intelligent User Interfaces*, pp.129-136.

Thomas G. Pavel, 1985
The Poetics of Plot: The Case of English Renaissance Drama. *Theory and History of Literature, Vol. 18, Manchester University Press*.

Samuli Pekkola, 2002
How Is the Problem Solving Process of a Paper Machine in Indonesia Progressing? Designing computer-support for storytelling. *SIGGROUP Bulletin, Vol. 23, No. 2*, pp.18-19.

Livia Polanyi, 1979
So What's the Point? *Semiotica, 25*, pp. 207-241.

Dennis Porter, 1977

The Perilous Quest: Baseball as Folk Drama. *Critical Inquiry, Vol. 4, No. 1*, pp. 143-157.

L. J. Potts, 1968
Aristotle on the art of fiction: An English translation of Aristotle's Poetics with an introductory essay and explanatory notes. Cambridge University Press.

Alison Preece, 1987
The range of narrative forms conversationally produced by young children. *Journal of Child Language, Vol. 14, No. 2*, pp. 353-373.

Gerald Prince, 1973
A Grammar of Stories: An Introduction. Mouton & Co. (The Hague).

Gerald Prince, 1983
Narrative pragmatics, message, and point. *Poetics, Vol. 12*, pp. 527-536.

Gerald Prince, 2003
Dictionary of Narratology. Revised Edition, University of Nebraska Press.

V. Propp, [1928] 1968
Morphology of the Folk Tale. Louis A. Wagner (Ed.), University of Texas Press.

Stephen John Read & Lynn Carol Miller, 1995
Stories Are Fundamental to Meaning and Memory: For Social Creatures, Could it be Otherwise? *Knowledge And Memory: The Real Story – Advances in Social Cognition, Vol. VIII, R. S. Wyer (Ed.), Laurence Erlbaum Associates*, pp. 139-152.

Ann Rigney, 1992
The Point of Stories: On Narrative Communication and Its Cognitive Functions. *Poetics Today, Vol. 13, No. 2*, pp. 263-283

Eleanor Rosch and Carolyn B. Mervis, 1975
Family Resemblances: Studies in the Internal Structure of Categories. *Cognitive Psychology, Vol. 7*, pp. 573-605.

Mary Beth Rosson, 1999
I Get By With a Little Help From my Cyber-Friends: Sharing Stories of Good and Bad Times on the Web. *Proceedings of the 32nd Annual Hawaii International Conference on System Sciences (HICSS), Vol. 2, Persistent Conversation: Discourse as Document.*

David E. Rumelhart, 1975
Notes on a Schema for Stories. *Representation and Understanding: Studies in Cognitive Science. D. G. Bowbrow and A. Collins (Eds.), Academic Press*.

Marie-Laure Ryan, 1979
Linguistic Models in Narratology: From Structuralism to Generative Semantics. *Semiotica 28-1/2*, pp. 127-155.

Warren Sack, 1999
Stories and Social Networks. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 30-37.

R. C. Schank, 1975
The structure of episodes in memory. *Representation and Understanding: Studies in Cognitive Science. D. G. Bowbrow and A. Collins (Eds.), Academic Pres*s.

Roger C. Schank, 1990
Tell Me A Story – Narrative and Intelligence. Northwestern University Press.

Roger C. Schank, 1999
Dynamic Memory Revisited. Cambridge University Press.

R. C. Schank, G. C. Collins, E. Davis, P. N. Johnson, S. Lytinen and B. J. Reiser, 1982
What's the Point? *Cognitive Science, Vol 6*, pp. 255-275.

Michael Schroeder, 1999
How to Tell a Logical Story. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 142-149.

Yeshayahu Shen, 1989
The X-Bar grammar for stories: Story grammar revisited. *Text – an interdisciplinary journal for the study of discourse, Vol. 9 (4)*, pp. 415-467.

Diana Shore, 2002
Exchanging Stories in Learning Circles, an Imaginative Experience. *Conference Proceedings e-learning Groups and Communities of Practice Symposium, Sheffield University (http://www/shef.ac.uk/nlc2002/proceedings/symp10.htm)*.

Push Singh & Barbara Barry, 2003
Collecting Commonsense Experiences. *Proceedings of the International Conference On Knowledge Capture, Technical papers*, pp. 154-161.

Nancy L. Stein, 1982
The Definition of a Story. *Journal of Pragmatics, Vol. 6*, pp. 487-507.

Nancy L. Stein and Christine G. Glenn, 1979
An Analysis of Story Comprehension in Elementary School Children. *New Directions in Discourse Processing. R. O. Freedle (Ed.), Ablex Publishing*, pp. 53-120.

Carol Strohecker, 1999
The Chorus as Internalized Objects. *Proc. Narrative Intelligence, AAAI Fall Symposium, AAAI Press, Technical Report FS-99-01*, pp. 129-133.

Mariët Theune, Sander Faas, Anton Nijholt & Dirk Heylen, 2002
The Virtual Storyteller. *SIGGROUP Bulletin, Vol. 23, No. 2*, pp. 20-21.

John C. Thomas, Wendy A. Kellogg & Thomas Erickson, 2001
The Knowledge Management Puzzle: Human and social factors in knowledge management. *IBM Systems Journal, Vol. 40, No. 4*, pp. 863-884.

P. Thorndyke, [1975] 1977a
Cognitive Structures in Human Story Comprehension and Memory. University Microfilms International.

Perry W. Thorndyke, 1977b
Cognitive Structures in Comprehension and Memory of Narrative Discourse. *Cognitive Psychology, Vol. 9*, pp. 77-110.

Tzvetan Todorov, [1968] 1977
The Poetics of Prose. Translated from the French by Richard Howard, Basil Blackwell, Oxford.

Tom Trabasso and Paul van den Broek, 1985
Causal Thinking and the Representation of Narrative Events. *Journal of Memory and Language, Vol. 24, No. 5*, pp. 612-630.

Tom Trabasso, Tom Secco and Paul van den Broek, 1984
Causal Cohesion and Story Coherence. *Learning and Comprehension of Text. H. Mandl, N. L. Stein and T. Trabasso (Eds.), Lawrence Erlbaum Associates*, pp. 83-111.

Tom Trabasso and Linda L. Sperry, 1985
Causal Relatedness and Importance of Story Events. *Journal of Memory and Language, Vol. 24, No. 5*, pp. 595-611.

Tom Trabasso, Nancy L. Stein and Lucie R. Johnson, 1981
Childrens knowledge of events: A causal analysis of story structure. *Learning and motivation, G. H. Bower (Ed.), Vol. 15, Academic Press*, pp. 237-282.

D. Vipond and R. A. Hunt, 1984
Point-driven understanding: Pragmatic and cognitive dimensions of literary reading. Poetics, Vol. 13, Issue 3, pp. 261-277.

Jill Walker, 1999
Piecing together and tearing apart: finding the story in the afternoon. *Proceedings of the tenth ACM Conference on Hypertext and hypermedia: returning to our diverse roots*, pp. 111-117.

R. Wilensky, 1982
Points: A theory of the Structure of Stories in Memory. *Strategies for Natural Language Processing. W. G. Lehnert and M. H. Ringle (Eds.), Lawrence Erlbaum Associates*, pp. 345-374.

R. Wilensky, 1983
Story grammars versus story points. *The Behavioural and Brain Sciences, Vol. 6, No. 4*, pp. 579-623.

R. A. Zwaan, M. C. Langston, and A. C. Graesser, 1995
The Construction of Situation Models in Narrative Comprehension: An Event-Indexing Model. *Psychological Science, Vol. 6, No. 5*, pp. 292-297.