The COLUMBUS Model, Part II

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Abstract We focus on a category of humour devices, at the meet of discourse analysis and of weak anticipation (in the form of a literary playful ascription of causality transgressing on the unavailability of the future). In Part I of the present paper I exemplified a goaland-plan driven formal analysis of what makes humour tick, in a given literary text: Rosenzweig's century-old satire of life in America, whose name he mock-etymologizes by an apocriphal anecdote on Columbus.

Keywords: time granularity, partitioned semantic networks, mock-explanation, literary discourse analysis, intertextuality (humorous pastiche).

1 Introduction

In Part I, we started to analyze Gerson Rosenzweig's literary mock-ascription to Columbus of a sort of prophetic, unflattering vision of America the way it was in the author's own times, about one century ago, at the grandly mythological start of a satire. One century ago, an author, Gerson Rosenzweig, who had recently moved to the United States subjected his new surroundings to a biting social satire. Our sample text is taken from the opening page of Tractate America, where an especially devised mythological account is given as to why America wasn't named after Columbus, the discoverer. The mock-explanation starts on a cosmic scale, with America being designated as a place of refuge for a pell-mell of newcomers, some with unappealing pasts. To avoid being tainted by association, Columbus, made prescient by astrological means, wishes his name to be spared the indignity of being used to name the place, something that would otherwise follow from his discoverer's status. Rosenzweig goes on, explaning the name 'America' by mock-etymology. The narrative inventiveness of which Rosenzweig makes display takes advantage, for the purposes of parody, from a literary repertoire expected to be known to his readers, within an altogether serious genre whose style and narrative devices Rosenzweig's own text adopts.

Part I itself builds upon Nissan (2001a), in this journal, which mentioned time leap in fiction. In general, when interpreting a literary text, or, *if licet comparare*, a sacred text, or for that matter, even just an account from history, if **A** interprets **X** as *prefiguring* **Y**, then **A** is among the other things projecting features from the future state where **Y** is (future with respect to **X**), onto what is **X**'s present. In contrast, Rosenzweig's (i.e., **R**'s) Columbus character (i.e., **C**) is projected back along with **C**'s epistemic state on times close to **R**'s, thus enabling **R** to put in **C**'s mouth **R**'s critique.

It's by revolving on the unusual, that the textual example we started to analyze in **Part I** claims our attention. Of unusual ways of expression, the very feature of

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Fig. 10: Goals and subservient plans of the sample narrative.

being unusual carries information. There are conventionalized ways for this to happen in literary discourse; the phenomenon also occurs in daily conversation. Because of space limitations, I omit a discussion of that in terms of speech act theory. Evocativeness can be conceived of as a form of departure from plain expression; when it refers to some other text, it's *intertextuality*. As Zellermayer (1990: Section 3.5.1) puts it: "Perhaps one of the more characteristic features of contemporary Hebrew prose is the frequent reference to



Fig. 11: A refinement of the bottom goal from Fig. 10.

archaic texts—a phenomenon which has no counterpart in contemporary English prose. The integration of archaic formulas taken from canonical texts into Israeli prose writing causes a fusion of the synchronic and diachronic layers of the Hebrew language. [...] The stylistic effect of referring to an intertextual context is double. Firstly, it causes an abrupt rise in the formality level of the register, and secondly it adds a metaphorical dimension", according to Searle's definition of metaphor. Zellermayer finds it applies to intertextual references, too, as "t]he use of archaic formulas in the Israeli text is equally restrictive and systematic: restrictive in that the new use does not always conjure up the



Fig. 12: Columbus' good name preservation goal, and its achievement.

way that it was originally used, and systematic in that it is communicable from writer to reader by virtue of a shared system of principles". What is special about Rosenzweig's text we started to analyse in **Part I** of this paper, is the involvement of intertextual references throughout, in its parodical adoption of the style of the midrashic literature and of a Talmud page format. Rosenzweig's intended readership was expected to recognize the subverting similarities to familiar passages from traditional literature.

2 The Formal Representation, the Devices, the Name

Figures 3 to 9, included in Part I, represent the gist of the narrative device by which humourist Gerson Rosenzweig mock-explained America's not being named after Columbus. The representation is in partitioned semantic nets, as known from the literature of artificial intelligence; moreover, the rationale of the narrative is dissected by means of a hierarchy of goals, plans subserving them, secondary goals subserving the plans, and so forth. In **Figure 10**, the top goal, G_1 , is to find an explanation for what I had previously (see Figure 8) notated as **B**, standing for a contradiction vis-à-vis Rule 1, by which discoveries are named after their discoverer. The posture is as though the (only) discoverer of America is Columbus (with no mention of Amerigo Vespucci), so as America's name is not patterned after the name of Columbus, a transgression on **Rule 1** is detectable indeed. In Figure 10, one can see that two alternative plans can be devised to satisfy goal G_1 : plan $P_2(G_1)$ is made to coincide with providing the explanation E_1 , which says: it just didn't happen that America be named after Columbus, and Rule 1 admits exceptions happening. Ordinary reasoning would pick up this explanation. In contrast, if we pick plan $P_1(G_1)$, this corresponds to selection criteria which belong in humour would rather select a counterintuitively contrived, cunning explanation: taking this way sets a goal, G_3 , of making up some funny elaboration, and this goal (the top goal in Figure 11) is to be satisfied by a plan, $P(G_3)$, which consists of setting a goal G_4 , consisting of two parts (G_5 and G_6), both of which need be satisfied: why did Columbus have goal G_2 (of not having American named after him)? and how did he achieve it? The plans to satisfy G_5 and G_6 each consist of providing a particular explanation, as seen at the bottom of Figure 11. In particular, explanation E_3 concerning G_2 sets yet another goal, G_7 , ascribed to the Columbus character: $E_3(G_2)$ claims that setting goal G_2 was for Columbus a plan intended to achieve the higher goal, G_7 , of protecting his reputation (see Figure 12). As to how Columbus achieved G_2 , explanation E_4 adopts a device for which the wording, and the very concept, is part and parcel of the ancient Jewish midrashic repertoire: Columbus "asked (prayed) for mercy"; for the relation to textual precedents, in particular to such a locus where a character asks for supernal mercy so that, to protect his good name, his name will not be mentioned in the scriptural account of a given future episode involving individuals from his progeny, see in Figure 15.

Figure 13 introduces a graphical notation for the temporal representation. As to



Fig. 13: Narrated, narrator's, and reader's time, vis-à-vis Columbus' foreknowledge.

Figure 14, the schema starts with the satirist's overall goal, G_0 , of stating that immigrants to America are disreputable, and of jibing at them. To achieve that overall goal, several plans are enacted concomitantly: claim, and cite this as evidence, that malefactors are seeking refuge in America; reinforce that by smuggling in generalization; this in turn is an enablement to the use of *metonymy*, to ascribe disrepute to the country, as standing for its people; then make up, to lend this more authority, a disclaimer or disowning on the part of the very discoverer of America. Invoking supernatural events is also a reinforcement device, through ultimate authority. The model of Rosenzweig's parody, the wording, and the very typographical model of the parody, all enable a posture by



Fig. 14: How Rosenzweig achieves his satirical purpose, in the given text.

which he is claiming for his text the authority of the canonic texts of divinity studies. Midrash provides both the thematics and the idiomatics. On transplanting a lead to a given locus in Midrash, this intertextual pointer is made quite visible because of the wording and content, too. Some of the potential for enriching the plot comes from the passage, in the sources, that the new text sets to emulate. Consider again the inference that Columbus must have had foresight; in **Figures 15** (continued by **Figures 16 to 18**), goal G_8 is set, to explain how on earth he could. The plan to achieve this is, once again, to seek (in general) thematic and idiomatic antecedents in the midrashic literature. In particular, the plan is to use the goal of jibing, to retrieve the relevant motif or antecedents. The indexing is by episodic structure. We map the device of 'astrology' from Potiphar's wife to Columbus. When Rosenzweig is saying of Columbus, that he foresaw "by his astrology", the author is reminding the reader that Columbus belongs in the Midrash's cultural Other, to which such characters from Scripture belong, which in the Midrash are made to resort ot astrology (instead of prophecy). One such precedent, Potiphar's wife, is very negative; among positive characters, Abraham's "early career" features, in the



Fig. 15: Supernatural elements made to intervene in the narrative.



Fig. 16: Weave more explanatory detail on Columbus' foreknowledge.

Midrash, a misguided use of astrology. (It may be that is the reason that Columbus is ambiguously described by an idiom, "asked for mercy", which could mean either asking people, or than praying, in the explicit wording Rosenzweig resorts to. If Columbus asks people not to name America after him, they would supposedly comply. Or then, his prayer may achieve an indirect effect on the cartographers who actually gave America her name, "forgetting" about Columbus.) Moreover, the reader is reminded of Jacob's invective (part of his deathbed blessing for his children) and prayer (not to have his name associated with offspring below his dignity). Jacob is a positive character, and by mapping him onto Columbus, Rosenzweig in a sense makes Columbus positive enough to fill in the role of disowning America, the butt of Rosenzweig's satire. Figure 19 is on the intertextual links to the episodes in the sources that can be detected for some of the wording in Rosenzweig's passage under discussion; the Midrash interprets Jacob's reference to offspring with whom he didn't want to be associated: to power-hungry, rebellious Korah the Levite, and to the lewd Zimri the Simeonite—characters who typologically befit the rakes and their associates (reikin, 'the empty ones') whom Rosenzweig proceeds to list category by category, and to whom he maliciously makes America owe her name.

In my paper Anticipatory Narrative Construal, in volume 8 of this journal, I pointed out how focal etymology was to ancient and medieval thinking: "For example, Ernst Robert Curtius (1886–1956) titled a chapter 'Etymology as a Form of Thinking', in his Europaïsche Literatur und lateinisches Mittelalter [...] Nowadays etymologizing may turn up in informal discourse by way of a stylistic device of mock- explanation". Whereas the late-antique midrashic literature and its citations or elaborations in the Middle Ages abound in etymologies, Gerson Rosenzweig, a modern author adopting the style of a talmudic page, makes use of mock-etymology for humour. On the first page of his parodic text, Rosenzweig not only set out to explain out why Columbus didn't want America to be named after him; further down, he actually mock-etymologizes in two different ways the



Fig. 17: Drawing narrative elements (motifemes) and wording from the Midrash.



Fig. 18: How a midrashic motifeme is extended, by analogy, to the Columbus episode.

name 'America' (how he would have uttered it, may be inferred from the Yiddish spelling of Amerike: ריקא). First, as an Aramaic compound, ריקא). Vax or עמא ריקה ("empty people", where idiomatically 'empty' stands in his spelling: for 'ignorant' or 'worthless'). This is the context: "and he [Columbus] asked for mercy so she would not be called after him, so they called her nright א v which ", which enables, next, an enumeration of kinds of malefactors.¹ At the bottom of the page, a suggested alternative etymology is: "Why is it called 'America'? Because she cleanses up $(n \alpha r \tau \eta r)$ the sins of people: the defiled become pure, the unqualified get a pedigree", and so forth. Is that because, to say it with the English adage, a traveller may lie with authority? A marginal note (set in the typographical style of annotations to the Babylonian Talmud) clarifies the matter: "Because she cleanses up the sins: as she makes them rich, so by virtue of that their sins are cleansed". (The ones attaining wealth and the social status that comes with it are motivated, and let, to conceal their original circumstances, if unappealing.) This enables Rosenzweig to shift from the mock foundation-myth to social satira, which is where his authorial interests properly lie.²

¹Enumerations are fairly typical of the legalistic style of the *Mishnah*; it must be said however that the introduction to the enumeration of kinds of perpetrators was patterned after an account of the ten classes of returnees from the Babylonian Exile (under the lead of Ezra). Rosenzweig makes this into ten classes of newcomers to America, the word for 'classes' being in this case *yochasin*, 'lineages', which is funny for classifying criminals (e.g., "killers", "thieves", "arsonists") or otherwise socially dispreferred behavioural categories (e.g., "bankrupts", or: "and some say: also seduced maidens"), because in Rosenzweig's Eastern European background, *yochasin* (tracing one's ancestry to a notable scholar, a saint, or a noble family) used to carry much prestige. In the slums where immigrant communities used to live in the U.S., the underworld made its presence felt, hence the prominence it's given in the satirical text. Rosenzweig included a gloss: "WENT UP [migrated] FIRST: excepts the ones going up now, as these are no *yochasin*".

 2 Rosenzweig's text is an example of a jocular imaginary which, as both a critique and selfdeprecation, too, makes up an unappealing founding myth for America. This is not unknown in



Fig. 19: The mapping of Midrash on two scriptural loci onto Columbus' episode.

3 Characters' Foresight and Intertextual References

Rosenzweig's account of Columbus foresight reads as follows (my translation): "R. Safra [i.e., Bookie] had stated: Columbus foresaw, by his astrology, that America was to become a land of refuge for the goods for nothing (reikin, 'the empty ones') and the rakes (pohazin [today's standard pronunciation, not Lithuania's]) of the whole world, so he asked for mercy, that she would not be named after him, so they called it 'amma reika." As to reference to astrology, it's well-known from the Midrash for the foresight of either negative or misguided characters: **i** as negative as Potiphar's wife concerning her and Joseph's future offspring; Midrash has it that Asenath, Potiphera's daughter and

American and Australian popular culture, fond of imagining frontier rogues and, in Australia's case, also reminiscing deported convicts as founding fathers. (A pedigree boasting a "First family of Virginia" is as revered, in the U.S. South, as "a Mayflower ancestor", yet American humour is not unknown to treat "First family of Virginia" less reverently, e.g., by inaccurate reference to imagined convicts.) The jocular replacement of America's being a safe haven with its being haven to those deserving punishment (or, rather, the zooming on this detail of the scene) is akin to Impunitona (lit., 'Impunityland' as though), the nickname America given in Italy's underworld and vagrants' slangs from the 19th century (Ferrero, 1972, p. 152, s.v., based on Frizzi, 1912), the place of choice for those who have to speranzare (Ferrero, p. 254, s.v.), i.e., to flee abroad (vs. sperare, 'to hope', and speranza, 'hope'); the other continents being Nostra (Europe: lit., 'Ours Own'), Foresta (Africa), and Sabilla (Asia). The narrative device in Rosenzweig's passage discussed combines the ways of folk-etymology (to explain out 'America') and what in folklore studies is known as the aetiological tale, which proposes a narrative for explanatory purposes more general than just names (here it is, the reason why America wasn't named after Columbus). To the naming of America, Laubenberger devoted a paper (1982). A map in the 1507 of Cosmographiae Introductio was the first one to carry the name 'America', and this name was explicitly patterned after navigator Amerigo Vespucci, by including a Greek component in its formation (Ameri- $\gamma \tilde{\eta}$). See Hoffmann (1995, p. 44); Hoffman is concerned with the impact of the classical tradition on the European early imagining of America, which in turn found expression in contemporary Latin literature. Also see Lakowski (1999) on Vespucci and Vespucci's 'New World' as an inspiration for Thomas More's Utopia. Not that the delimitation of the concept (the land called 'America') was very clear, in the 16th century. Robinson (1992: p. 35, Fig. 8) redraws Oronce Finé's map of 1531. It "showed Asia and North America as one enormous continent". "What is particularly striking about it, is that for the east coast and much of the west coast of the Americas, a correct coastline is given. South America is called 'America', Florida is 'Florida', and the islands of the Caribbean are in a more or less correct relation to the mainland. However, Mexico is misidentified as 'Cathay' (China), and North America is labelled 'Asia'. [...] From where California should be, northwards, there is no coastline, but an uninterrupted landmass continuing westwards. South of it there are islands that presumably are those of South East Asia. With present-day standard perceptions of the terrestrial globe, one is tempted to integrate the (mis)identification: Finé's Florida resembles our present-day cartographic idea of Florida, but it could be Korea, once you assume the continent is Asia. The Caribbean happens to be where you would expect to find, in Asia, the Yellow Sea. In relation to this, what would be the East China Sea, in turn, is off the shores of what appears to be Venezuela, when seen in the context of the landmass shaped like South America and labelled 'America'. The rest of South America takes the place of Indo-China and the Peninsula of Malacca" (Nissan, 1997).

eventually Joseph's wife, was her daughter, as Potiphera was identified with Potiphar; or **ii** as ultimately *hopeless* as Lemech, of Cain's offspring, who according to one midrashic tradition also was Cain's unwitting killer;³ or **iii** as *misguided* as Abram, the future Abraham, when supposedly made aware by astrology he would never beget children, is puzzled by the promise of the Promised Land, not foreseeing that "Abram is childless, not so Abraham", the way he is going to be named. (See Rashi's gloss to *Genesis* 15:5.)

In the Midrash's original perspective, these possibly were jibes at Graeco-Roman astrology: supposing it gets it right, it cannot help getting it wrong all the same. When identifying with a character acting properly, the Midrashic idiomatic description of foresight is "by seeing in the Holy Spirit", not your ordinary horoscope. As to a character asking or praying for being spared the indignity of having one's name associated with somebody worthless, awareness of whom is by foresight, this, too, is quite transparent an allusion to Jacob, who when blessing from his deathbed his children, reserves a rebuke to Reuben, Levi, and Simeon, apparently because of their behaviour in his lifetime (such behaviour is actually reported in *Genesis*). Concerning Levi and Simeon, he expresses the wish his dignity not be mingled with them. The Midrash, and Rashi's gloss, have it that he foresaw that in the generation of the Exodus, two negative characters would appear: Korah (a Levite), and Zimri (a Simeonite). Jacob's is then taken to be a prayer to the effect that when they each are forst introduced with their respective genealogy, the latter would stop at the tribal eponym (Simeon or Levi), without further specifying: "son of Jacob". Who in the relevant textual contexts is unnamed, indeed. Rosenzweig

³In Genesis 4:24, Lemech is described as he addresses his wives: "Listen to me $[\dots]$ ki ('because', or 'if', or 'is it the case that...?') a man I killed to my own wound, and a *yéled* ('child', 'youth', or: 'one born') to my own bruise; ki ('if' or 'as') Cain sevenfold will be avenged, and Lemech seventy-seven". According to the Midrash (see Rashi's gloss ad locum, responding to Bereshit Rabba 23, 4), the wives were unwilling to further procreate "as Cain's offspring was doomed to disappear after seven generations, so they said: 'Why should we give birth for nothing, as tomorrow the Deluge will come and wash away everybody"-which another medieval commentary, the *Chazkuni* (by R. Ezekiah b. Manoah), finds to be in contradiction ("everybody" not being the same as "Cain's offspring"), so it proposed "they were thinking that the Deluge would come and destroy the seventh generation from Cain corresponding to the children of this Lemech, and they did not understand what they [fore]saw by means of their astrology, as they mistook [their husband] Lemech, the son of Methushael, and [Noah's father] Lemech, the son of Methushelah". The culturally most visible scriptural (and talmudic) glosses are by Rashi of Troyes, Champagne (1040–1105), who on Lemech follows a claim of Bereshit Rabba 23, 4 in understanding Lemech as saying that unlike Cain, Lemech killed nobody, and in ascribing to him an expectation made to typify an absurd syllogism ("a silly gal va-chomer", i.e., an unfounded inference a minori ad maius): Cain was guilty, and the penalty (for killing Cain, or: generations to elapse before Cain's own delayed comeuppance) is quantified as such and such; 'all the more so' for me, Lemech, who have killed nobody, the amount will be higher. An alternative midrashic tradition contrives a sense for Lemech's scriptural utterance, by which Lemech did kill both a man and a child: a strong but sight-impaired archer, Lemech had his child Tubal-Cain help him to aim; the child mistook Cain for quarry, Lemech shot Cain, then realization had him swing his fist, that hit the child fatally. The hunting accident narrative was perhaps motivated by etymologizing 'Tubal-Cain' as "the one who led [Lemech] to Cain".

must have expected his average reader to understand these intertextual references, and my estimate is he wasn't expecting too much: it was the standard fare in one's formation.

4 Irony and Playful Intertextuality

Irony was defined in terms of a distinction between use and mention, in an influential paper by Dan Sperber and Deirdre Wilson (1981). Also see Wilson and Sperber (1992). Note that "some ironic utterances do not communicate the opposite of what is literally said" (*ibid.*, p. 56), yet "Verbal irony, we argue, invariably involves the expression of an attitude of disapproval" (ibid., p. 60). Our example in this paper being Rosenzweig's text, we need treat quotation and emulation. Wilson and Sperber (1992, p. 55) make these considerations on "When a man is tired of London, he is tired of life" (from Boswell, Life of Johnson); imagine that "as said in a rainy rush-hour traffic jam in London" (ibid., p. 55); it "could be ironically intended. To succeed as irony, it must be recognised as a quotation, and not treated merely as communicating the opposite of what is literally said" (*ibid.*). This narrower sense of 'quotation' ought to be distinguished from the generalized sense that 'quotation' is given when Wilson and Sperber discuss echoic mention: Sperber and Wilson (1981) "argue[d] that verbal irony is a variety of indirect quotation, and thus crucially involves the mention of a proposition. [...] [I]ndirect quotations may be used for two rather different purposes—we called them *reporting* and *echoing*", the former being merely informative, whereas not all echoic utterances are ironic (Wilson and Sperber, 1992, p. 59). Wilson and Sperber's 1992 paper is also concerned in parody (p. 62 ff), and points out that in 1981 "we noted that the traditional definition of irony fails to explain the very close links that exist between irony and parody" (p. 62). Yet, the use/mention approach to irony "do[es] not satisfactorily distinguish between playful quotation and irony. 'Staged intertextuality' is proposed [by Helga Kotthoff] as a higher-order concept for various kinds of animating voices", Kotthoff claims (1998). Arguably the insights of the latter paper are very important for further work on the COLUMBUS model; yet, because of the tyranny of space, discussion of that is best left for another time. "Irony research has dealt to a much greater extent with what differentiates ironic from serious utterances than with what differentiates ironic from parodying or quoting activities" (*ibid.*); yet that is what matters to do justice to Rosenzweig's intensely quoting humorous text. Figure 20 contrasts the models of intertextuality of Gérard Genette (1979) and Marina Polacco (1998); from these, it emerges that Rosenzweig's is a *pastiche* emulating a talmudic tractate, rather than a parody. Yet, it's also parodic, because items of content, not just of style are recycled (pointed to or even quoted), and subverted. "Irony stages two voices which evaluatively oppose one another. In everyday life we also deal with other types of double voicing, as with quotations with a higher or lower claim to authenticity. In the first case the second voice comes close to the first, in the second the intention of the current speaker dominates. The quoted speaker is stylized with an intention of parody. Finally, we work with forms of pseudo-quotation; we play with others' voices and dictions, but we mean what we say. The distancing from the words uttered can be stronger or weaker" (Kotthoff, *ibid.*). Rosenzweig's borrowing from both the Talmud and the midrashic literature of the style, devices, and stylized relations between content items is parodic, as his own intention dominates. Pseudo-quotation is prevalent when his own



humorous intention is not peaking along its axis, so to speak, vis-a-vis the nitty-gritty of faithfulness to the stylemes of his model; moreover, parodic pseudo-talmudic tractates were already a tradition, with which he must have been aware—and emulative.⁴

⁴The opening sentence of *Tractate America: "Mishnah:* There is no difference between America and other countries, except [in that] enslavement to the prepotent ones [takes no place there], according to R. Yarka, whereas the other sages say: America is like the other countries in everything", the intertextual reference is more prevalently to a locus about timeto an ancient opinion to the effect that "There is no difference between the world to come and this world, except [in that] enslavement to the empires [will take no place then]"-than to a locus that was also dealing with geographic space: about the differences (in holiness and otherwise) between Babylonia and the Land of Israel. And by the way: it was the latter that was ascribed the virtue of explating the sins of those tenacious enough to remain, according to a Sage from an age of ongoing depopulation, whereas Rosenzweig mockingly recycled the idea of a land which cleanses residents' sins in his mock-etymology of 'America', at the bottom of the same opening page. Temporality and foresight affect the top (a note) and the bottom of that page: the note expressing in a nutshell the rosy expectations about America; at the bottom, bathos is achieved: yes, America is redemptive—to all sorts of perpetrators (that had just been enumerated, in typical *Mishnah* style, just before along the narration time axis). Getting rich effects redemptive bliss... To the extent that the transition from expectation (up in the page) to bathetic sobering (at the bottom) corresponds to Rosenzweig's own biographic time, we can see a contrast between the character of Columbus (at mid-page) and Rosenzweig himself: Columbus, at least, was good at foreknowledge.

5 A Notation for Time

The graphic notation for time properties, as introduced in **Figure 13**, is an eight-petal corolla-like frame, inside which the event is identified; above the corolla, two attributes fit: RELATION (whose values are 'at', 'before', or 'after'), and LITERARY TYPE('narrated time' versus 'narration time', and so forth). Below the corolla, a value for the SCALE attribute is stated. The attribute SCALE expresses the *granularity* of time (this being amenable to time intervals). One possible refinement could be by introducing various formalisms from fuzzy representations of natural language information (Zadeh, 1996). Something spanning the early morning is not on a par with a process or situation spanning a lifetime or several generations. In Nissan et al. (1999), the temporal structure of narrated time within the narration sequence was analyzed in terms of an interval algebra of time, the sample narrative being taken from the beginning of a given novel. In another paper, Nissan (1997), I discussed granularity for spatial reasoning (e.g., in a juridic context). In Part II of Nissan (1997), in the recapitulation on pp. 352–354, a classification of the several sample situations analyzed was proposed, with a spatial scale as well as a time scale. Space limitations prevent repeating this here.

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