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# Spoken and written narration in Hebrew

## A case study

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The study is premised on speech and writing relying on differently coordinated temporal frames of communication, aiming to pinpoint the conceptual and linguistic differences between spoken and written Hebrew narration. This is a case study presenting in-depth psycholinguistic analyses of the oral and written versions of a personal-experience story produced by the same adult narrator in Hebrew, taking into account *discursive functions*, *discourse stance*, *linguistic expression*, and *information flow, processing, and cohesion*. Findings of parallel spoken and written content units presenting the same narrative information point to the interface of the narrative genre with the spoken and written modalities, together with the mature cognitive, linguistic, and social skills and experience of adulthood. Both spoken and written personal-experience adult narrative versions have a non-personal, non-specific, detached stance, though the written units are more abstract and syntactically complex. Adult narrating skill encompasses both modalities, recruiting different devices for the expression of cohesion.

**Keywords:** narratives; speech and writing; discourse syntax; cohesion; Hebrew

### 1. Introduction

Differences between spoken and written discourse have been the topic of a long line of research work in linguistics (Biber 1988; Olson, Torrance & Hildyard 1985 – among others). Consequently, language analysis has been extended to writing as a notational system (Ong 1992; Ravid 2012) and as a discourse style (Halliday 1988; Miller 2006). By now, the empirical study of the linguistic properties of spoken and written discourse has attained a well-recognized place as a scientific domain in its own right (Biber 2011). It has proven to be critically important for the investigation of reading and writing processes (Crossley, Greenfield & McNamara 2008; McNamara, Crossley & McCarthy 2010), the development of literate language skills (Berman 2008; Berman & Slobin 1994), and for the assessment of linguistic abilities in populations with special needs (Berman, Nayditz & Ravid 2011;

Scott & Balthazar 2010). It is now clear that the two modalities occupy different linguistic, cognitive, and cultural spheres: spoken language is the prototypically expressive vehicle of the human voice, with a powerful illocutionary force, while the written modality reflects grammatical and semantic properties of language and thus enables metalinguistic thought and fosters literacy (Olson 1994).<sup>1</sup>

### 1.1 Linguistic aspects of speech and writing

From the very onset of its empirical investigation, studies have pointed at the different linguistic characteristics of spoken and written usage and their relationship to literacy (Ochs 1979; Tannen 1982). The literature shows that information packaging in written language is lexically and syntactically denser than in spoken language (Berman & Verhoeven 2002; Biber 2009a). Across different languages, written texts contain more, and more diverse, content words than spoken texts, as well as longer words and word combinations (Biber 2009b), longer and more complex noun phrases based on abstract nominals with different modifications (Halliday 2006; Ravid & Cahana-Amitay 2005), especially in the grammatical subject position (Ravid et al. 2002), longer clauses and larger combinations of clause packages (Berman & Ravid 2009). Compared to spoken texts, written texts are generally characterized by more distanced, detached, and objective stance (Du Bois 2007; Englebretson 2007), which is expressed by agent demoting structures and abstract lexical choice (Berman 2005a; Reilly et al. 2002; Tolchinsky & Rosado 2005).

These linguistic differences stem from what Harris (2009: 51) calls the “different biomechanical bases” of speech and writing, resulting in distinct temporal and spatial processing of spoken and written communication. In its prototypical conversational manifestation, speech is a joint, unplanned activity produced in a dynamic, immediate communicative setting (Clark 2004). Spoken expression is direct and personal, and as an ephemeral entity it is subject to the constraints of online processing that does not permit editing and revision and requires the monitoring of interlocutors’ knowledge of current state of affairs at all time (Clark & Krych 2004). Speech is thus essentially an interactive process or *event*, regulated by a temporal backbone and the collaborative effort to maintain coherent topic reference (Clark 2002; Enfield & Stivers 2007). To render this event analyzable, empirical investigation captures speech by the transcription of a recording.

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1. Much of the literature cited in this study regards speech and writing as the two poles of a cline, especially regarding the confound of genre.

In contrast, writing is prototypically a preplanned, non-interactive activity, impersonal and non-direct, a process which results in editable text. The generation of stable textual *products* disengaged from their immediate context of production constitutes the basis for a literate society that documents knowledge and comments upon it (Olson 2006). This detachment of written texts from their temporal and interactive anchors affords the construction, representation, editing, and revision of text entirety (Murray 2012). It also brings to consciousness the structures, semantics, and functions of linguistic usage that are blurred or absent from awareness in oral expression (Olson 1994). The writing mode has been described as a “specialized way with words” (Brockmeier & Olson 2009: 18), a form of language-thought configuration that enables a diverse range of linguistically dense written styles unwarranted in spoken discourse (Biber 2009a). Most significantly, written language affords the competencies and practices that Brockmeier and Olson term ‘the literacy episteme’. Accordingly, it is gaining command of literacy that provides the platform for later cognitive and language developments during adolescence such as abstract thought, executive control, and integrative processing (Berman & Ravid 2009).

## 1.2 Speech and writing in Hebrew narration

The current study is premised on speech and writing relying on differently coordinated temporal frames of communication (Chafe 1994; Clark 2002). They thus require different types of cognitive coordination to achieve coherence – defined as the conceptual relationships that construct a mental representation from what is said in the discourse (Louwerse & Graesser 2005). The study aims to pinpoint the conceptual and linguistic differences between spoken and written Hebrew narration, a topic that has already yielded interesting insights in the developmental psycholinguistics of Hebrew text production. Although oral and written narratives are monologic texts, differences found between them were in line with the general literature on speech and writing (Berman & Katzenberger 2004). When compared with spoken texts, Hebrew written texts were found to be informationally denser, lexically richer and more diverse, as well as containing more high-register lexical items and morphological constructions (Berman & Nir 2011; Ravid & Berman 2009), fewer repetitions, false starts, hedges, and other disfluencies (Ravid & Berman 2006). Written texts also contained more abstract and morphologically complex nominals (Ravid 2006; Ravid & Cahana-Amitay 2005), often modified by derived adjectives in the attributive position (Ravid & Levie 2010), as well as longer and more complex noun phrases (Ravid & Berman 2010), often in the form of heavy compounds (Ravid & Zilberbuch 2003).

### 1.3 Beyond development

However, across most of these studies, the robust findings about the effects of modality were mitigated by two other factors – development and genre. The studies reviewed above were developmental in nature and had adults as their control group. While modality always had a simple effect, it interacted with development, so it was mostly *adults'* written texts that hosted linguistically dense, high-register expression. This kind of expertise is not gained overnight: Analyses of texts produced by 4th, 7th, and 11th graders compared with adults showed that the linguistic resources required for producing planned, monitored written texts emerged and consolidated over the school years (Berman 2005b; Nippold 2007; Ravid & Tolchinsky 2002), in tandem with socio-cognitive developments that take place in adolescence (Blakemore 2012; Crone 2009). Moreover, across these studies, age group and modality interacted with genre, showing that the locus of complex, abstract academic language was in adults' written *expository* texts, while narratives, both spoken and written, had comparatively lighter structures. As narratives do not exhibit much increase in linguistic complexity across the school years in comparison with expository texts, the use of expository elicitation was recommended for the assessment of linguistic expression in highschool and junior highschool students (Ravid, Dromi & Kotler 2009). Obviously, narration and exposition call for the recruitment of different linguistic and cognitive resources, with expository texts relying on nominally dense and syntactically complex constructions to meet the requirements of detached, generic, abstract stance (Berman 2005a; Ravid 2005).

At the same time, these same studies indicated that *adult* narration too was uniquely complex, with more abstract and high-register words and larger morpho-syntactic constructions than 11th grade narratives. This trend was clearer in studies that focused on narratives alone, which showed that adults displayed different language performance than all younger age groups, including 16–17 year old 11th graders. In a study about the linguistic expression of predicative content in narratives, only adults preferred to use deverbal nominals rather than verbs as designators of predication, couching both nouns and verbs in long, complex, and diverse syntactic structures with different semantic functions (Ravid & Cahana-Amitay 2005). In another study on information units in narrative development, adult narratives alone contained large discourse segments of interpretative commentary, which is the hallmark of mature narration (Berman 1997; Ravid & Berman 2006). To enable an in-depth comparison of the impact of modality on Hebrew narration, it is necessary to confine analysis to the narrative genre in adult expression so as to leave modality as the only study variable.

#### 1.4 Thinking for modality, thinking for genre

Against this background, the current study applies the notion of *linguistic relativity* (Lucy 1992; Whorf 1956) to genre and modality in discourse production. Linguistic relativity assumes that language-specific patterns ‘frame’ or affect the ways in which language users conceptualize their world (Wilkerson 2001). This interrelation between cognition, language typology, and culture has been shown to influence domains such as numeracy (Saxton & Towse 1998), color categorization (Özgen & Davies 2002), and linguistic acquisition (Bowerman 2011). Taking a neo-Whorfian position on the interrelationship of language and thought, Slobin (1996: 75) demonstrates how “there is a special kind of thinking that is intimately tied to language – namely, the thinking that is carried out, on-line, in the process of speaking”, which is different in speakers of different languages. ‘Thinking for speaking’ was extended in Berman and Ravid (2009) to the specific thought mode that is recruited for writing, as presented above. We would now like to further extend it to text production by genre and modality.

‘Thinking for genre’ evokes a disposition of the mind towards producing a text in a specific genre. Expository texts are about the presentation of abstract ideas, concepts, and processes according to an overall logical scheme required by the specific expository theme. Thus, in conceptualizing expository text, ideas are sought, occur, evolve, take shape, are elaborated, link up with other ideas, and gain expression, which can always be extended. In contrast to expositions, narratives offer closed worlds that revolve around people – protagonists participating in events which unfold in a temporal and causal context (Berman & Slobin 1994; Trabasso & van den Broek 1985). Therefore, the mental set-up required in telling a story is the representation of events and their impact on psychological relationships among people in social contexts, constrained by the closed, hierarchical narrative scheme. However, it would be naïve to assume that an event is an objective entity which finds expression in language. According to Slobin (1982), in telling a story, narrators present a schematic, abstracted-away version of the experiences through the set of options provided by the language. In the current context, we analyze the verbalization of events in a story (thinking for a specific genre) as interacting with a specific mode of thinking for speech vs. writing (i.e. thinking for modality).

The aim of the current study was an in-depth analysis of a pair of personal-experience stories produced by the same person in speech and writing to determine the impact of modality on the expression of the same narrative content. We suggest that adult narrators present story components (circumstances, plot, and protagonists’ internal mental and emotional states) through the filter of modality.

Thus, we assume that telling the same personal-experience story in speech and in writing would involve narrative-specific expression, attenuated by modality-constrained differences in cohesion devices, syntactic architecture, lexical choice, and, consequently, stance.

## 2. Method

*Corpus.* The story pair analyzed in the current context was drawn from a corpus of 20 pairs of Hebrew personal-experience conflict stories produced by adult University students,<sup>2</sup> elicited in the context of a large-scale cross-linguistic project on the development of text production across the school years<sup>3</sup> (Berman & Verhoeven 2002). All participants were monolingual speakers of Hebrew from mid-high socio-economic status, with no diagnosed language, reading, or attention disorders, University graduates who had majored in disciplines other than language or literature – that is, experienced rather than expert Hebrew reader/writers.

*Elicitation method.* Participants were first shown a short video film without words, which they were told was about ‘problems between people’, depicting unresolved situations of conflict – moral, social, and physical – in a school setting. Following the video, participants were asked if they had ever experienced problems between people and asked to produce a story about such a personal experience in speech and in writing. Each participant thus told the same story twice, once orally and once in written form, balanced for order. Stories were elicited individually: the oral story was told to the investigator and the written version was produced in her presence. The two versions were produced on two consecutive days, interspersed by the elicitation of an expository text. The spoken version was

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2. Analyzed by the second author as part of her graduate thesis.

3. Following the video clip, participants were asked to write and tell a *story* about an incident where they had been involved in a situation of ‘problems between people’ and to write a *composition* and give a *talk* discussing ideas on the topic of ‘problems between people.’ Thus, each participant in each age group in both countries produced four texts: one oral and one written narrative, and one oral and one written expository text. Task order was balanced across the participants for genre (narrative/ expository) and modality (spoken/ written). The participants in the study were monolingual, native speakers of seven languages (American English, Dutch, French, Hebrew, Icelandic, Spanish, and Swedish). There were 48 participants in each country, all from well-educated backgrounds and attending well-established schools, in four age/ schooling levels: middle childhood, aged 9–10 years, 4th grade; pre-adolescence, aged 12–13 years, 7th grade; adolescence, aged 16–17 years, 11th grade; and graduate school university students majoring in the sciences or humanities, aged 24–30 years (Berman & Verhoeven 2002).

transcribed according to the CHILDES format (MacWhinney 2000) and the written version was reproduced in mirror format, that is, the document structure and details preserved exactly as produced by the writer.

Previous investigations of the same corpus (see above) involved group (mostly age-dependent) comparisons of predetermined constructions or text segments, such as openings and codas. For the current case study, we focused on how the same story content is expressed in speech and writing, looking for the properties that set apart the oral from the written version as framed by the entire story conflict theme and content, yet taking into account the differential effects of text segments (opening, plot, coda), their discursive functions, as well as their eventive or evaluative functions. For this purpose, and given the physical limitations of this publication, we chose to present a qualitative analysis of one entire story from beginning to end: while constituting a single case study, the in-depth, contrastive analysis of each content unit within the whole story line provides rich information about mature Hebrew narration across modalities that could not be presented otherwise.

The stories produced by adults were all about conflicts taking place in the cognitive and emotional space of interpersonal relationships at work, at university, in the family, and between friends. The story selected for analysis, the *Disappointment Story* (the first story in the corpus, elicitation order: spoken > written), shares the same theme. This is the story of a student who had expected fruitful cooperation on University coursework from another woman, her University colleague, also a co-worker at school, but was disappointed by this colleague who did not prove to be the conscientious and reliable collaborator she had hoped her to be. The original Hebrew oral version consisted of 227 words in 61 clauses and the written Hebrew version had 152 words in 29 clauses.<sup>4</sup> The story, translated into English, is presented in Table 1.

Given the aim of the current paper, translation from the original Hebrew was as literal as possible, on the one hand, so as to capture the lexical and morpho-syntactic phenomena under discussion, but on the other hand it strives to adhere to English structure and word order so as to retain the flow of the narrative as much as possible. As our main focus was on the role of morpho-syntactic (rather than lexical and sub-lexical) constructions in the text, we do not provide a grammatical glossary of word- and morpheme-level properties. Thus, while specific Hebrew expressions and structures were substituted by corresponding English forms of similar register, some relevant morpho-phonological phenomena

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4. The original Hebrew texts can be supplied upon request by the authors.

such as derivational and bound morphology used in the actual analyses was lost in the translation. This is rectified to the best of our ability in the analyses below, where Hebrew-specific constructions are presented and explained where relevant.

### 3. Analysis

The focus in the current analysis was on how modality impacts the expression of the same narrative content ('thinking for modality'). Therefore, the first step in the analysis of *Disappointment* was the construction of a *shadow story*, which consisted of the merger of the two versions – spoken and written, covering the entirety of the story's events and their evaluation by the narrator. The merged shadow story was then divided into content units or spans, based on criteria of thematic and structural continuity, discourse aboutness, rhetorical signaling, and (in the case of the written units) document structure (Degand & Simon 2009; Ho-Dac & Péry-Woodley 2009). The detailed comparison of modality effects on the expression of each content unit constituted the heart of this study. The division into content units was conducted separately by each of the two authors with final decisions reached in dialogue. Each content unit was demarcated as designating specific thematic narrative content in the sense introduced and elaborated in Ravid and Berman (2006): Each such unit thus contains an event, a description, or an interpretation – or a complex of related events, descriptions, or interpretations. The unit was then assigned a name reflecting its thematic content and discursive function (setting, episodes, coda). For example, Unit 1 in the analyzed story was designated 'Inter-textual Introduction,' since it revolves around the explicated procedure of selecting a story for the purpose of narration. This breakdown provided us with a table for each story, displaying a set of content units in the sequence told by the narrator. Each content unit had two versions – one in speech and one in writing, unless it occurred in only one of the modalities.

Table 1 displays the shadow story *Disappointment* divided into 14 content units, designated by consecutive number and discourse role in the sequence told by the narrator. The table shows the two versions of each content unit placed side by side. Note that units which appeared in only one modality are shown opposite a blank cell. When analyzing each content unit, spoken material appears in *italics*, with spoken utterance boundaries marked by slashes /, written material in **bold**. Where the translation does not specify relevant grammatical information, the analysis has (Hebrew) in brackets. Unclear speech or writing is marked by xxx.

**Table 1.** Shadow story Disappointment in corresponding content units

# CU	Discursive function	Content unit in spoken version	Content unit in written version
1	Inter-textual introduction	Well many stories have happened to me/ they actually happen every day/ they are in the far past/ it's things that have been forgotten to me/ and I don't have resentment anymore towards those people	There are many cases of disappointment or dissatisfaction with people's behavior around you. These cases revolve around us every day.
2	Introduction: introspection	—	Usually I tend to think a lot before I respond to bad treatment from people. The main reason for this is since I do not want to get to conflicts and want to live in peace with the environment and with myself.
3	Meta-textual introduction	—	Usually it is customary to recall the last cases that happened to you and not something attached to the far past, unless it was a case of a trauma that can never be forgotten.
4	Story setting	From the closer far past maybe I can recall/ the last year in which I studied at university/ and was not at school/ and I went to study with a girl/ that I thought/ it would be very nice/ to work with/ and that we would enrich each other/ and we would have full cooperation between us	From what is recalled from the last year is a case of a friend about whom I had thought completely different things when we started the two of us studying for the graduate degree.
5	High point encapsulated	But I was very disappointed/ when I saw/ that the expectations the larger the expectations/ so was the large disappointment	The larger the expectations the larger also the disappointments.
6	Meta-textual introspection	Do I need to detail exactly?	I do not want to get into exact details and descriptions, because there is no use in this.
7	Episode I	It started from the courses/ we had to take together/ and the moment the teacher said/ it was impossible/ to do the works together/ then that girl shirked/ and went to work alone/ and left the course/ and left me on my own/ but the contrary finally I got out with the best grade	—

*(Continued)*

Table 1. (continued)

# CU	Discursive function	Content unit in spoken version	Content unit in written version
8	Episode II	In the second course we had to do a work together/ and I saw/ that the gap in relative strengths and the amount of investment are unequal/ there's always/ one that gives/ and one that takes/ and it's never balanced/ and I saw/ I was the one in negative balance	—
9	End of story	That means generally/ I also found/ that girl was also from school/ and I saw/ that there was much talk/ and there was not much action	That friend revealed herself as an 'inappropriate' type.
10	Coda I	At least I learned for the next year/ not to work with her	The gist is that I found a person with whom today at the end of the school year I know that I will never (!) want to continue working in the context of graduate studies.
11	Coda II	—	That girl works with me at school, I have no choice but to accept her as part of the team.
12	Coda III	And at school too to keep away/ not to create a too deep relationship/ not to accept things as are/ but to know what stands behind	But in the context of school I have no commitment towards her. And that will be the shape of things in the future.
13	Coda IV introspection	'Cause in my nature I am a very naïve type/ it's difficult for me/ to detect people's thoughts/ what stands behind them/ that they aren't always pure/ and that's it	—
14	Inter-textual commentary	So here's an example for something/ that happens but there are many many stories eh xxx generally speaking	—

### 3.1 Levels of analysis

To pinpoint the modality-specific characteristics which differentiate the two versions of each content unit, our analysis took into account four text levels of analysis regarding each content unit – (i) *Discursive functions*, (ii) *Discourse stance*, (iii) *Linguistic expression*, (iv) *Information flow, processing, and cohesion*, as well as their intersections. Below, we enumerate these levels and elaborate on their application in the analyses.

(i) *Discursive functions*. The top-down breakdown of the shadow story into content units was accompanied by the analysis of the thematic content and narrative information (Ravid & Berman 2006) of each content unit and its contribution to the global structure of the entire narrative. For example, Content Unit 4 (Story setting) introduces the temporal and locative story settings, the two participants, and the attendant circumstances. It is clearly distinct from the preceding Content Unit 3 (Meta-textual introduction), which discusses the choice of story to be told, on the one hand, and from Content Unit 5 (High point encapsulated), which provides the highlight of the story.

(ii) *Discourse stance*. This involved the analysis of the tenor or ‘flavor’ of the text as expressed by the range of linguistic devices appearing in it (Biber 2006; Du Bois 2007). In the current context, we took as a reference point the typically specific, dynamic, concrete, proximally positioned, and immediate stance of personal-experience narratives (Berman, Ragnarsdóttir & Strömquist 2002; Hyland & Sancho Guinda 2013). Thus, we looked for linguistic markers of stance, such as the multiple personal pronouns and past tense verbs in the spoken version of Content Unit 1 (Inter-textual introduction).

(iii) *Linguistic expression*. This was the analysis of the lexical choices and the morphological and syntactic constructions that characterized each content unit (Du Bois 2010; Ravid 2014; Ravid & Berman 2009). We exhaustively analyzed the semantic and morphological types of nominals, adjectives, and verbs (Ravid 2006; Ravid & Levie 2010), compounding structures (Ravid & Shlesinger 1995), bound morphology (Cahana-Amitay & Ravid 2000), and complex syntactic constructions (Berman, in press; Ravid 2014). For example, the hierarchical syntactic unit composing the written version of Content Unit 4 (Story setting) involves the use of passive voice in a prepositional phrase, with an abstract nominal governing a complex relative clause.

(iv) *Information flow, processing, and cohesion*. This analysis relates to aspects of cohesion and fluency in the text, specifically regarding how linguistic units cluster around interpretation criteria and join into continuation spans (Chafe 1992; Ho-Dac & Péry-Woodley 2009; Kehler et al. 2008). This includes, for example, disfluency markers such as false starts, hesitation markers, and re-formulations in the spoken version of Content Unit 9 (End of story).

Figure 1 Displays the steps taken in the study methodology.

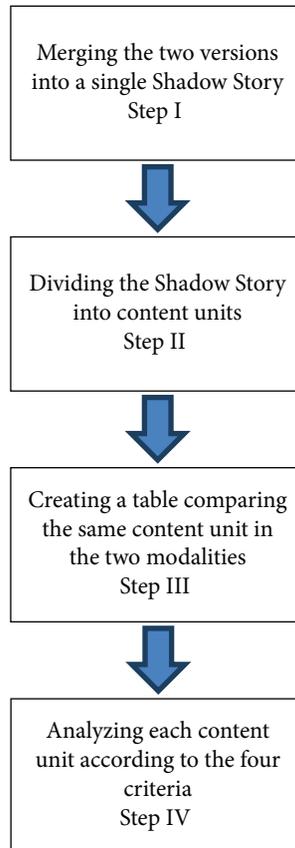


Figure 1. Flow chart depicting the methodology

Below, we present the comparisons of each content across the two modalities. For the sake of clarity and coherence, the analyses of the four text levels, compared across speech and writing, are presented for each content unit as an integrated whole.

### 3.2 Content units in *Disappointment*

*Content Unit 1: Inter-textual introduction.* In both versions, the opening content unit presents the female narrator's reflection on the selection of this particular story out of other possible stories and foreshadows the conflict to come, situating her as a protagonist facing an antagonist (*by now I don't feel resentment towards those people; disappointment or dissatisfaction with people's behavior*). While both versions fulfill this introductory inter-textual function with a generic, mostly impersonal

outlook, lexical and grammatical expression and information flow in the spoken unit demonstrate the attenuation of detached stance by modality. The spoken unit expresses generic stance by plural number and frequency adverbials (*many stories, things, those people, every day*), but mostly uses free pronominal arguments, both personal and impersonal (*I, me, they, it*). It is temporally grounded in the storytelling present (Berman & Katzenberger 2004), alternating with sorties into (Hebrew) past tense, with the generic overlook of events served by two low-dynamics, low-agency verbs – middle-voice *happen* (repeated twice) and cognitive passive-voice *forgotten* – but also in the negation of events in the second part of the unit (verb *forgotten* and the denial of having *resentment*). Cohesion is not achieved in this spoken unit by syntax: Syntactically, this unit is mostly composed of juxtaposed clauses with no explicit connectivity except for the last clause, which is abutted to the previous one by *and*. One apparent exception to this syntactic ‘looseness’ is the attachment of the relative clause (RC) *that have been forgotten to me to things*, encapsulating information governed by an abstract or generic nominal, a typical rhetorical device in mature expression (Givón 2009). Cohesion is achieved through continuous reference to the narrator in first person and to the multiplicity of stories to be chosen from (including the expectation marker *actually* enhancing the multiple occurrences of stories). The introductory marker *well* demarcates the beginning of the spoken unit, while the quantifier *anymore* (Hebrew *kvar* ‘already’) introduces implied resentment and relates this unit to the next ones.

While serving the same inter-textual introductory function, the written version of this unit is much further along the generic, objective, detached stance continuum. Like the spoken unit, it makes use of nominal plurals (**many cases, people, these cases**) and frequency adverbials (**every day**) to express generality. However, tense here is uniformly the habitual present, which in Hebrew takes virtually verbless forms. The only verb in this unit – present-tense non-agentive plural *sovevim* ‘revolve’ – contributes to cohesion by resonating root *s-b-b* ‘revolve’ with the generically inflected high-register preposition *svivxa* ‘around-you’ in the previous sentence. The presentation of the abstract and academic nominal **cases** (extended from the first to the second clause by demonstrative **these**) is detached from the narrator herself or from *stories*. The only free pronoun is generic **us**; instead, this version contains bound high-register generic and impersonal pronouns, typical of written Hebrew: Optionally inflected *yeshn-am* ‘there-are’ and *hitnahagut-am* ‘their-behavior’. The written version mostly relies on abstract nominals (**cases, disappointment, dissatisfaction, behavior**) in complex syntactic constructions: a heavy analytic compound with coordinated alternative modifiers **many cases of disappointment or dissatisfaction**, themselves modified by a heavy PP constructed of a ‘double’ compound **with people’s behavior around you** (Ravid & Zilberbuch 2003). Cohesion is thus achieved by a dense, tight, and

deep syntactic hierarchy based on compound nominal expansion, with optionally bound inflectional cues (Cahana-Amitay & Ravid 2000) relating elements to each other.

*Content Unit 2: Introduction: Introspection.* This unit, which appears only in the written version, introduces the specific theme of the story (**respond[ing] to bad treatment from people**) indirectly, through the narrator's personal introspection about her character. Closer to the actual story, the tone of the second unit is less impersonal, as expressed by the use of the first person pronoun as the grammatical subject and by verb predications (**think, respond, want, live in peace**). But stance is still general, non-dynamic, and detached, as one of the personal pronouns carries a negative optional inflection (bound *eyne-ni* rather than analytic *ani lo* 'I am not'); and all of the verbs are cognitive and in the atemporal general present, the first of them weakened by a hedging verb (**tend to think**). The unit is based on heavy and connected syntax, organizing the text through the combined and nested use of three constructions: (i) modified abstract nominals (**bad treatment, main reason, conflicts, environment**), mostly in PPs complementing the verbs; (ii) temporal and causal embedding (**before I respond to bad treatment from people; since I do not want to get to conflicts**); and (iii) the Hebrew-specific conjunct constructions (Ravid 2014), which coordinate two causal clauses **since I do not want to get to conflicts and want to live in peace** to one verb and two PPs **with the environment and with myself** to another. Cohesion is achieved through causally relating the two heavy causal structures (one about behavior, one about attitude) via the propositional pronoun *lexax* 'for-this'.

*Content Unit 3: Meta-textual introduction.* The third content unit continues with the interpretative process of selecting the specific story, again only in writing. It takes again a general, detached, and abstract stance, oriented by the scene-setting initial adverbial **usually** (Ho-Dac & Péry-Woodley 2009). Stance perseveres with two low-dynamics predicates – middle-voice **happened** and passive-voice, modal, cognitive **can never be forgotten**, both in embedded RCs, a position further diminishing their weak dynamic status – with generic pronoun arguments (**it, you, something**). The main clauses are nominal (**cases, trauma**), relying on participial adjectives (**customary, attached**) and organized by the negation of coordinated conjunct options (**the last cases that happened to you and not something attached to the far past, unless, never**) in a counterfactual construction. Indirectly and by implication, the story to be told takes on a negative flavor.

*Content Unit 4: Story setting.* This is where the actual story begins. The spoken unit sets the scene in past tense, except for the initial cognitive verb **recall**, which relates this unit to the previous one. Content Unit 4 presents the antagonist, a University colleague within the attendant circumstances of the story opening – positive expectations for cooperation on coursework. As

benefits its scene-setting function, the information this unit carries is descriptive and interpretative rather than eventive (Berman 1997; Ravid & Berman 2006). Accordingly, all verbs are cognitive or metaphorical (*recall, studied, work with, enrich*), with the second half of the unit expressing epistemic propositional attitude regarding the expected (and hypothetical) fruitful cooperation (Reilly et al. 2002). Temporal and locative settings (the previous year at University and school) are not specific. These properties have the effect of conferring a less personal and specific stance than could be expected in a spoken unit, despite referring directly to the narrator and to the antagonist by first person plural pronouns (*we, us*). The unit is organized as two RCs, one governed by temporal *the last year*, an encapsulating and orienting device frequently occurring in adults' spoken syntax, and another by the antagonist reference *a girl*, with all expectations on the protagonist's part embedded and backgrounded to this noun (Givón 2009). Although these two RCs rhetorically focus the interlocutor's attention, cohesion is loose and disjointed, mainly structured through two devices – abutment, the linear, additive attachment of clauses using the conjunction *and*, with no internal cohesive devices such as pronominal reference, and verb complementation, which in Hebrew is almost linear (Berman & Slobin 1994). The written version uses the same device of encapsulation – embedding all information about the budding relationship of the protagonist and antagonist in a single RC attached to a **friend**. However, the result here is tight cohesion, based on a headless relative clause **From what is recalled from the last year** with the participial cognitive adjective **recalled** predicated on the analytic compound **a case of a friend**, resonating previous mentions of **cases**. This compound governs an object RC, with an obligatory resumptive pronoun (*she-aleyha* 'that-about-her') which tightens cohesion, in its turn governing a temporal clause with inverse verb-subject order (Hebrew **started the two of us**) highlighting the beginning of the narrated relationship. The two versions thus convey essentially the same information, situating the friend as a future antagonist in a hypothetical future, however the shorter, denser, tighter organization of the written version contributes to its more detached and abstract stance.

*Content Unit 5: High point encapsulated.* Following the previous expectation-building unit, the two versions encapsulate the gist of the narrative in a proverb-like nominal construction in storytelling time, which is inserted in canonical proverb form in the written version. The spoken unit frames this proverbial saying specifically by anchoring it in two non-canonical past tense cognitive verbs (*was very disappointed, saw*) respectively predicating a temporal and a complement. But here the information flow breaks down, with a false start and a repaired, disfluent structure.

*Content Unit 6: Meta-textual introspection.* At exactly the same point, the narrator addressed the investigator directly, asking if she has to provide details. In the written unit, the narrator states explicitly her reluctance to provide these details.

*Content Unit 7: Episode I.* The two episodes detailing the conflict plot have no written correspondents. Two clauses explicitly frame the first episode, providing cohesion points – the orienting *It started from the courses* setting the domain of applicability, with the propositional pronoun *it* encapsulating the conflict and relating this unit to its predecessors; and the final disfluent clause contradicting the expected turn of events *but the contrary finally I got out with the best grade*. Following two causal and temporal foci modified by RCs (*the courses/ we had to take together, the moment the teacher said*), eventive information is represented in past-tense verb predications with pronominal arguments in abutted and coordinated clauses with very few connectors *and then that girl shirked/ and went to work alone/ and left the course/ and left me on my own*. Despite this being one of the only eventive units in the story, it in fact presents an outline of the cause and main outcomes of the conflict, with no specific details. Accordingly, stance is detached, with verbs referring to socio-cognitive activities (*do the works together, shirked/ and went to work alone/ and left the course/ and left me on my own*) or states (*I got out with the best grade*).

*Content Unit 8: Episode II.* This unit is mostly interpretative, as indicated by the use of the cognitive verb *saw* ‘understood’ at its beginning and end. No information is given about what actually happened, but the expository-like present-tense, a-temporal (*never/ always*) general discussion based on headless relatives (*one that gives/ and one that takes*) about unequal investment in cooperation is a very good basis for inference. As in the previous unit, syntax is mostly paratactic, starting with a conjunct construction *the gap in relative strengths and the amount of investment*, followed by a series of abutted clauses loosely complementing the Hebrew verb *ra’iti* ‘I saw’, as befits the discursive function of interpretation. The insight achieved in the disfluent last two clauses *I was the one in negative balance* heralds the end of the story. Side by side with the mostly linear structure of the spoken unit, it uses high-register abstract nominals in complex NPs such as *the gap in relative strengths* or *negative balance*. Thus, stance is less personal, specific, and dynamic than would be expected for spoken discourse.

*Content Unit 9: End of story.* The written unit is succinct and non-eventive. It summarizes the information in units 7, 8, and 9 in the interpretative comment **That friend revealed herself as an ‘inappropriate’ type**, taking a mental, non-agentive perspective on the events detailed in the spoken content units. The spoken unit is closer to actual events and circumstances, situating the antagonist also as a colleague in their shared place of work. It uses a proverb-like saying *there was much talk/ and there was not much action* as a sentential

complement of the cognitive verb *found* to summarize the antagonist's character. This information is, however, conveyed disfluently, with false starts, hesitations, and reiterations.

*Content Unit 10: Coda I.* The next five content units go beyond the end of the story in a series of coda commentaries in increasing order of detachment from the actual story. Of these, two are parallel versions of the same information, one is only written and two are only spoken. The spoken coda in Content Unit 10 is still in past tense *At least I learned for the next year/ not to work with her*, with the initial orienting adverbial linking the negative events to a positive outcome, a specific lesson not to work with the antagonist in the future. The written unit leans heavily on syntactic complexity in saying the same thing, the whole unit constituting a nominal modifying clause governed by abstract **the gist**, a device we witnessed time and again in the organization of Hebrew discourse syntax. The antagonist is referred to as a generic **person**, governing the protagonist's feelings and intentions towards her in an object RC (see above). As Hebrew has pronominal gender, this results in a dissonance between feminine **girl** and masculine **person**. Despite the clearly emotional and personal commentary on the antagonist and their relationship, the unit is flavored by diminished personal, specific, and concrete stance due to its tight syntactic cohesion and deontic modal attitude.

*Content Unit 11: Coda II.* This is the mention in the written unit of the story participants being also work colleagues. It uses pronominal reference to relate its two parts, with a correlative conjunction **no choice... but** (corresponding to Hebrew *eyn li brera ela*) highlighting the protagonist's reluctance to continue interacting with the antagonist.

*Content Unit 12: Coda III.* Intentions towards a correct but distant relationship at work in the near future constitute the contents of this unit. The spoken version continues the repeated modal usage of the Hebrew infinitive in the expression of intentions regarding behavior and cognitive processes. The written unit starts with **But**, contrasting the need to accept the antagonist as a **part of the team** in the previous unit to having **no commitment towards her**, with a final propositional pronoun **that** summarizing **the shape** [in Hebrew 'face'] **of things in the future**.

*Content Unit 13: Coda IV: Introspection.* This introspective speech-only unit begins the full-circle closure by resonating written-only Content Unit 2. It too deals with the underlying reasons for falling for the antagonist's pretense for cooperation. In a temporal present tense, the narrator situates herself as the injured party due to her naïve nature and inability to perceive impure intentions on the other party's side. Information does not flow fluently, with clauses juxtaposed to each other, yet narration skillfully recruits the first person singular (representing the naïve narrator) to contrast with a generic third person plural (antagonists with impure intentions).

*Content Unit 14: Inter-textual commentary.* This final unit comes a full circle from Content Unit 1, bringing closure to the story selection process, with the same impersonal and general stance, yet fraught with disfluency, repetitions, hesitations, and reformulations.

#### 4. General discussion

This discussion should begin with a caveat: Readers may attribute findings solely to the individual who narrated the story in its two versions and be reluctant to generalize them beyond this limited scope. However, we propose to regard this analysis as a case study of texts produced by a native-speaking, well-educated, literate Hebrew narrator, experienced in spoken and written expression, who may thus stand for other such narrators, rather than an expert whose specialized ability derives from specific personal talents and training. Moreover, although the scope of the current article prevents us from presenting here similar analyses that have been conducted on the 19 other story pairs from the same cohort, these analyses do suggest that our conclusions are valid (Chen-Djema1 2014; Ravid & Chen-Djema1 2014).

This is a case study presenting linguistic and psycholinguistic analyses of the oral and written versions of a story produced by the same adult narrator in Hebrew. A shadow story compiled of the two versions was divided into 14 content units, half of which appeared in both modalities, three only in writing, and four only in speech. The content conveyed in the two versions was almost identical, except for the conflict episodes, which are absent from the written version. Beyond that, content is parallel, as the meta-textual and introspective introductory material which appears only in writing (units 2 and 3) resonates in the meta-textual and introspective concluding material which appears only in speech (units 13 and 14). It might be the case that the extra details in the spoken version are due to the fact it was elicited before the written version; however, other stories we have analyzed in the same cohort show the same tendency to detail in speech rather than in writing, the order of elicitation notwithstanding.

Recall that the texts analyzed in the current paper belonged to an adult cohort which originally served as the control group of a developmental study (Berman & Verhoeven 2002). From the perspective of developmental psycholinguistics, one finding of this analysis – as backed up by the other stories in the cohort – points to the interface of the narrative genre not only with modality, but also with the mature cognitive, linguistic, and social skills and experience of adulthood. That is, the literate Hebrew-speaking adult is an excellent storyteller in the sense of having full command of the personal-experience story she chooses to tell (Berman 2008). This

story is well fleshed-out and elaborated in both speech and writing with descriptions and interpretations which not only provide a well-motivated background to events, but also afford insights into her internal emotional and cognitive states, including meta-textual and inter-textual commentary anchoring this specific story to others like it (Ravid & Berman 2006). Moreover, the construal of this personal-experience conflict story is skillfully presented to her own advantage in both modalities: Our narrator manipulates language in presenting her side of the conflict in order to gain her interlocutors' empathy and sympathy. She plants foreshadowing cues and encapsulating remarks regarding the antagonist's negative behavior and motivations, uses hypothetical and generic statements to imply interlocutors' participation in her point of view, and in general makes excellent use of the fact that only her own side of the story is presented. In fact, this narrator makes use of the different strengths of each modality to do so, with a loosely related, detailed, drawn out spoken narrative and a tightly cohesive, shorter written version that makes sure the message of the antagonist's fault in the unfulfilled expectations gets through. This ability to tell a conflict story as one's own best advocate is shared by all the narrators in the cohort from which this story was drawn. Each of them does that differently, but none of them desists from playing the victimized party. We would argue that this command of narrative skills is yet to emerge in younger storytellers, even in later adolescence (Berman 2008; Ravid 2006; Ravid & Cahana-Amitay 2005). Similar analyses of narratives by younger storytellers are necessary to confirm this prediction.

Another striking finding which arises from our analyses is that the adult storyteller does not tell a canonical conflict story. Despite the obviously personal and even traumatic nature of the clash between two specific people, this conflict is told in both speech and writing from a more distant, less concrete, and personal perspective than would be expected of a personal-experience story. Several facets of the analyzed story versions contribute to the generic and detached stance of adult personal-experience narration. First, the interpersonal events of the story occur within the mind in the socio-cognitive context of cooperation in academic studies, detracting from the dynamic nature of canonical narratives. Although narration is primarily streamed along a time axis, verbs are few in both versions and the ones that do occur overwhelmingly express speech acts, mental states, and events such as saying, expecting, thinking, forgetting and recalling – often in middle or passive voice and in hypothetical modal constructions. In lieu of verbs, abstract, high-register nouns and participial adjectives carry the burden of narration in both modalities, though not to the same extent (see also Ravid & Berman 2009). A similar syntactic device of attaching a relative or complement clause to an abstract or generic noun (the gist, a friend), encapsulating embedded information, repeatedly occurs in both modalities, serving for the anticipation and conclusion of events or the segmentation of the storyline.

The non-canonical nature of adult narration relates to the diminished specificity of the story. In both modalities, events and attendant circumstances are presented from a detached, non-specific perspective: Location is institutional rather than definite, with events unfolding in the context of (unnamed) university and school. The temporal frame, although contextualized relative to the narrator's life events (last year, at the end of her undergraduate studies), is never spelled out. The antagonist's name is not given and she is more of a prototype than a real person, as shown by the mainly impersonal reference in both modalities. The events themselves, the canonical heart of the narrative, not only unfold within the mind and are thus less dynamic; they are also told in a non-definite and implicit manner yielding more of an outline of a story than the actual unfolding of events. Concurrently, the proportion of descriptive and interpretative to actual eventive information is hugely on the side of the former: All units except for (spoken-only) Content Unit 7 convey only descriptions and interpretations and even the so-called eventive Content Unit 8 is mostly evaluative. The non-canonic narrative stance is shared by all narratives in the cohort, which tell different stories, some traumatic and dramatic, from the same detached vantage point, maintained (though not to the same degree) in both spoken and written versions in various ways, all illustrated to some extent in the current sample. It seems that the adult narrator does not wish to actually share specifics about the personal conflict she participated in, but is anxious to present herself appealingly as a peace-loving, well-intentioned individual who was taken in by (or, in other cases, subjugated to) the antagonist.

Where, then, does the difference between spoken and written narration reside? Related to the above discussion, the spoken version is closer to canonical conflict narration instance, although it, too, shifts towards the general, non-dynamic, less agentive, detached pole on the stance spectrum (see an extensive review in Berman, Ragnarsdóttir & Strömquist 2002). The spoken version presents more of an actual story rather than the expository-like discussion of the written version, with events told in storytime rather than from the external perch of storytelling time. Thus, the oral version has more personal and demonstrative pronouns relating to the protagonist and antagonist, more verbs than in the written version, and more of them in past-tense rather than the generic a-temporal present. Concomitantly, it does not sport heavily nominal constructions where narrative information is backgrounded in deep syntactic embedding. Rather, in the spoken version this information is presented 'up front' in main clauses, thus again contributing to the 'lighter' and more typically narrative stance of this spoken version.

What we would like to put forth as a conclusion is that the literate adult narrator is equally adept in telling a personal-experience story in either modality. She thinks for genre in both cases, but relies on different, and equally appropriate, means in telling her story, which mostly derive from the online/ offline, interactive/

non-interactive nature of speech and writing. In ‘thinking for writing’, she organizes her thoughts within and across sentence and discourse segment boundaries in heavy syntactic packages usually typical of written expositions (Ravid & Berman 2010), leaning mostly on abstract nominals and their typically Hebrew organizing syntactic units such as compounding. These written syntactic packages serve information flow by clustering smoothly around single cohesion points in large, nested structures based on the combination of embedding and coordination (mainly conjunct structures). Though eventive information is mostly backgrounded within these packages and encapsulated by syntactic cohesion, the explicit marking of temporal and logical connections creates strong cognitive taggers which support coherence. These features, which derive from the stable, non-interactive nature of the written modality, are shared by all of the 20 written texts in the cohort, despite individual differences. However, only few texts rely on optionally bound morphology as does the written version here (Cahanna-Amitay & Ravid 2000).

In ‘thinking for speaking’, the narrator is clearly bound by the online, immediate constraints of the spoken modality. She tells her story while relying on diffused text construction in the associative, loose organization of information within discourse segment boundaries marked by segment-tagging discourse markers. The spoken text is definitely less cohesive than the written equivalent, with foregrounded information mostly partitioned in linear constructions of juxtaposition and abutment, with fewer, and smaller, coordinated structures such as conjunct constructions. The spoken version demonstrates much less referent and content embeddings, with very few nested combinations. As a result, content units have several simultaneous cohesion points which break up information into smaller syntactic segments than in writing, which calls for more non-hierarchical detailing of information. Although some spoken texts in the corpus are much more disfluent than the one analyzed here, the analysis revealed infelicitous word order and agreement markers, reformulations, repetitions of content and form, false starts, and hesitation markers, all contributing to the less coherent picture. Finally, the spoken text relied on interactive expressions, hedges, and boosters which were completely absent in the written version.

In conclusion, this study offers the idea that adult storytellers recruit different resources for telling a story in speech or in writing. The difference is not in the degree of formality of language usage, despite the register differences between spoken and written Hebrew, nor in lexical choice, but rather in different patterns of discourse syntax which create appropriate cohesion formats for the respective modalities.

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