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Modern Hebrew Adverbials: Between syntactic class and lexical category

**1999. In E. Contini-Morava & Y. Tobin (Eds) Grammatical categories. Amsterdam:
 Benjamins, 333-351**

1.0 Introduction

This paper discusses the class of manner adverbials in Modern Hebrew within a theoretical framework that regards lexical, morphological and syntactic expression as a continuum (Bybee, 1985; Langacker, 1983). The three well-known content-word (or *open* class) categories in the world's languages are nouns, verbs, and adjectives. A fourth category of adverbs is less uniform in linguistic analysis from a number of aspects, and it straddles the boundary between *open* and *closed*-class systems, sometimes encompassing elements which might otherwise be called connectives (van der Auwera, 1998). For example, consider the following pair in which the English adverb **curiously** appears. In 1, it modifies the verb; in 2, it is a sentential modifier with a different meaning which relates the sentence to the previous discourse:

- (1) He looked at her **curiously**
- (2) **Curiously**, no one was there.

This paper focuses on the structure of what is traditionally termed *manner* adverbs, or that typn, 1993: 71), of adverb “whose function is to add to the meaning of the verb” (Giv which we broaden to refer to a class of *manner adverbials* (Ramat & Ricca, 1994). From a language-particular perspective, Hebrew offers an interesting case of a language with no really productive morphological class of adverbs, despite its synthetic Semitic character, on the one hand, yet containing a large and varied cluster of adverbial mechanisms, on the other. The inherently secondary and heterogeneous nature of the category of Hebrew adverbials is accounted for in this work in the framework of Cognitive Linguistics construal of categorization.

1.1 Cognitive linguistics framework

The purpose of this study is to discuss the place of Hebrew adverbs and adverbials in morphology, syntax and the lexicon. The cognitive models approach to categorization develops the idea of prototypical categories: they are graded and radial rather than absolute, that is, more typical members gravitate towards the middle and less typical ones orbit the peripheries (Taylor, 1989; Ravid & Hanauer, 1998). Some categories have clear boundaries while other have fuzzy ones, that is, they are harder to define as a coherent group. Categories have parts which relate to the whole, and typical parts may represent the whole (Rosch, 1978); knowing about a category means knowing about its part-whole structure and how the parts function relative to the whole (Lakoff, 1987: 56). In this paper, we will focus on the category of manner adverbials in Hebrew within a cognitive approach to categorization (Ramat & Ricca, 1994, 1998). Specifically, we discuss the various facets which are usually used to define lexical categories, and aim to show that (a) Hebrew adverbs are not typical members of the class of

lexical categories; (b) that they occupy a less central place in the category of “modifiers” than adjectives; and (c) that it makes sense to discuss Hebrew nouns, verbs and adjectives as morpholexical classes, whereas the function of “manner adverbials” is expressed in Hebrew by diverse mechanisms that cut across the lexicon, morphology, semantics, and syntax.

The methodology used in this study follows Langacker’s (1983) maxims of factuality and generality in linguistic explanation. *Factuality* refers to the encyclopedic view of language: the need to include as many facts as possible in a linguistic theory; accounting for linguistic data at a number of levels, and regarding the lexicon, morphology and syntax as belonging to the same linguistic realm. *Generality* refers to the dual nature of language phenomena: on the one hand, sweeping generalities or “rules”, on the other hand clusters of minor rules, idiosyncratic exceptions and suppletion. Both facets of grammar are typical of human language and serve cognitive goals in a usage-based model which regards cultural and context-governed variability as inherent factors in cognition and language (See discussion in Edri, 1997).

Our discussion also follows the assumption formulated in Tomasello (in press): Different languages provide different resources for symbolizing certain universal events and situations. While the internal structure of Modern Hebrew adverbials is a language-specific phenomenon that is the result of the special history of the Hebrew language, it is of interest to general linguistics as one example of the way a language encodes the concept of a manner adverbial. These assumptions about the nature of grammar, of cognitive and linguistic categories, and about language-specific effects motivate our discussion of Hebrew adverbs and adverbials.

2.0 Lexical categories

There are three traditional ways to characterize a lexical category. Two classifications are universal: Semantically, by the concepts it refers to, and syntactically, by the syntactic functions the lexical class fulfills. A lexical class may also have language-specific morphological characteristics. In addition, it has been proposed that lexical categories have discourse roles, and that the prototypical status of members depends to what extent they introduce participants or events into the discourse (Hopper & Thompson, 1984). Typical members of the class of lexical categories fulfill these requirements. The two basic lexical categories that participate in “making up” a language either onto- or phylogenetically are nouns and verbs. Although both these categories contain semantically more and less typical members (e.g., concrete vs. abstract nouns, dynamic vs. state verbs), they are primary lexical classes in the sense of referring to the basic lexical notions of objects and events, and implementing primary syntactic functions such as arguments and predicates (Schachter, 1985). In English and Hebrew, they are rather easy to characterize in uniform grammatical and structural terms such as morphosyntactic behavior (e.g., nouns take possession and verbs decline in tenses). Adjectives, a third content-word class, are less primary in a number of senses. Semantically, adjectives denote properties of nouns, that is, they serve in a secondary function to a primary class. Accordingly, the syntactic functions of adjectives are also less sharply defined than those of nouns and verbs. Hopper and Thompson, for example, discuss the class of adjectives in the framework of verb stativity (1984: 726-728). In distributional terms, adjectives emerge after nouns and verbs in acquisition (Ravid & Nir, in press), and not all languages have a morphological class of adjectives. Biblical Hebrew, for instance, did not (Gesenius, 1910). Where such a class is lacking, nouns and verbs carry out the semantic and pragmatic tasks usually assigned to adjectives (Schachter, 1985). Thus in the class of lexical categories, the representative members are nouns and verbs, while

adjectives are a less typical member with a modifying function. This paper focuses on a fourth lexical category in Hebrew, which is even less typical and more heterogeneous than that of adjectives, namely, the category of adverbs.

2.1 *Adverbs and adverbials*

From all points of view, adverbs constitute a peripheral content-word category. Unlike adjectives, which modify nouns alone, the syntactic function of adverbs is to modify almost any part of speech. Edri (1997) shows that what is traditionally called an “adverb” in English can modify almost any other kind of word, from verbs

(3) They worked **hard**

to adjectives

(4) It’s **hardly** worth it

and adverbs

(5) They worked **very hard**

through prepositions

(6) It went **right** through the wall

and numerals

(7) She’s **almost** four.

Moreover, adverbs modify more than a large number of categories or parts of speech: they can also refer to the gestalt situational context, e.g.,

(8) **Hopefully**, she’ll get there first

and thus have a central discourse function.

The peripheral, “fuzzy” nature of the notion of “adverb” is manifested in their structural properties as well. In English, for example, both morphological and syntactic adverbs may

fulfill the same semantic functions. In 9, the adverbial function is marked morphologically, while in 10 its expression is periphrastic:

(9) She handled the explosives **carefully**.

(10) She handled the explosives **with care**.

The semantics of adverbs is also diverse and has been subject to differential treatments by various linguists (e.g., Givón, 1993; Jackendoff, 1972; Parsons, 1990, to mention a few). There are as many adverb classification systems as there are scholars working in this domain (van der Auwera, 1998). They all note the inherent heterogeneity of the notion “adverb” as modifier of various elements in the sentence as well as expressing the speaker’s point of view. They also note the broad semantic scope that adverbs convey, including manner, time and frequency, epistemic, evaluative and emphatic adverbs, as well as adjective modifiers (Haspelmath & Buchholz, 1998; Kortmann, 1998). Most of the semantic classification systems of adverbs distinguish among verb-oriented, subject-oriented, and context-oriented adverbs which take an external or metalinguistic point of view.

It may thus be useful to disassociate the semantic, syntactic and morphological criteria characterizing adverbs by making a distinction between *adverbs* and *adverbials*. The former constitute a lexical class with morpho-syntactic characteristics, e.g., English *-ly* manner adverbs, and may not be found in every language. The latter are a functional class which expresses “properties of eventualities” (Zucchi, 1993) using lexical, morphological, and semantic means (e.g., a prepositional phrase). For example, an adverbial phrase may consist of a preposition (*with*) and a noun (*care*) and contain no adverb at all. The lexical class of adverbs thus constitute a subcategory of the functional category of adverbials.

Within this multifunctional view of adverbials we have chosen to focus on Hebrew manner adverbials (with meanings such as *effectively*, *with care*). This is because, while all adverbials relate to properties of the event (where did it happen? Why did it happen?), the meaning of the manner adverbial is related to the “how” of the event or situation, and thus to the specific semantic components of the verb (e.g., dynamic, goal-oriented, state) which may find expression in appropriate adverbial modifiers such as *slowly*, *successfully*, *to a large extent*). The verbal properties highlighted by manner adverbials seem to be more inherent to the verb than those described by other adverbials such as temporals and locatives. Moreover, we focus on those adverbials which may either be oriented towards any part of the sentence or towards the sentence as a whole (1 and 2 above). Historical investigations of English adverbs (e.g., Traugott, 1989), for example, show that the sentence-internal, event-modifying functions of adverbs precede and evolve into sentence-external, discourse functions, and that both should be taken into account in an analysis of adverbs. Moreover, manner adverbs seem to us to capture the “essence” or “basic level” meaning of adverbs and thus to embody the prototype effect designated as “metonymic” by Rosch (1978) and Lakoff (1987) perceiving the whole in terms of some part or parts.

3.0 *The structure of Hebrew content-word classes*

This paper analyzes the structural properties of a number of mechanisms in Hebrew expressing the function of manner adverbials. The analysis intends to show that the *lexical* category of manner adverbs is a peripheral member of the class of lexical categories not only semantically and pragmatically, but also from a morphological point of view. Its inherently heterogeneous nature is an illustration of the essentially secondary, functionally-dependent

character of the universal category of adverbs, and which entails their inclusion in a larger category of adverbials. Our discussion will take both a synchronic and a diachronic perspective of Hebrew adverbials in line with the encyclopedic view of language and what language change can teach us about the nature of language. The corpora that we have used for this analysis are two: Most of our sources are journalistic Hebrew texts (Shlesinger, in preparation). These belong to a variety of subcategories such as reports, feature stories, editorials, literary and theater criticism, and sports reports. We also looked at spoken and written expository texts produced by children and adolescents aged 12 and 17, and by adults (Aisenman, 1999).

One fact about Hebrew adverbs that indicates their atypical character as Hebrew content words is the fact that they do not resemble any other content word class in structure. Hebrew is a Semitic language with a large number of diverse morphological devices expressing a wide variety of lexical and syntactic notions (Blau, 1971). Modern Hebrew morphology is essentially Biblical in structure, with additional structural devices deriving from other historical periods of Hebrew, such as Mishnaic and Medieval Hebrew (Glinert, 1989). All verbs and many nouns and adjectives are constructed from a consonantal skeleton (the root) and a vocalic tier (the pattern) that complements it to create a word. Patterns are restricted to the verbal and nominal components of the lexicon: Verbs take 7 verbal patterns, termed *binyanim* (literally: ‘buildings’), while nouns take about 40 nominal patterns, termed *mishkalim* (literally: ‘weights’). The other major word-formation device which sets nouns and adjectives apart from verbs is stem+suffix linear formation, akin to, say, English *line-ar* or *form-ation*. Nouns and adjectives take different suffixes, e.g., adjectival *-i* as in *savlan-i* ‘patient’ and abstract nominal *-ut* as in *savlan-ut* ‘patience’ (see discussion of Hebrew adjectives below). Only loan nouns such as *lefon* ‘hand’ and a small number of ancient so-called ‘primitive’ nouns such as *yad* ‘hand’

(Gesenius, 1910) may lack internal morphological structure in Hebrew. These, too, are subject to extensive denominal formation which makes use of their consonants to form new roots as in *tilfen* ‘telephoned’ or attaches suffixes to the stem as in *yadani* ‘manual’. All three content word classes inflect: nouns and adjectives are inflected for number and gender, and verbs for number, gender, person and tense (Berman, 1987; Ravid, 1990). Hebrew adverbs differ from the other content word categories as they do not make extensive productive use of morphological structure in their formation; and they do not inflect. In other words, adverbs are a peripheral lexical category in a language which defines its content words by both derivational and inflectional markers.

3.1 *A structural analysis of Hebrew manner adverbials*

Two interesting structural properties of Hebrew manner adverbials as a secondary and multifunctional category emerge from the analysis of our corpora: Firstly, unlike nouns, verbs and adjectives, their formation is not restricted to morphological structure. There are in fact three structural expressions of the notion of manner adverbials in Hebrew: (i) lexical, or rather lexicalized forms; (ii) morphological structure, and (iii) syntactic structure. None of these devices is the Semitic root + pattern construction that is so central to Hebrew. Thus it would make more sense if we were to talk of manner *adverbials* rather than manner *adverbs*. Secondly, all structural devices employed in the formation of Hebrew manner adverbials either diachronically or synchronically are “parasitic” in the sense that their primary function originates in other content classes, including verbs, nouns, and in particular - adjectives (Kaddari, 1985). Below we analyze the structure of Hebrew adverbials in the three forms of expression: Lexical, morphological, and syntactic.

3.1.1 *Lexicalized expression of manner adverbials.* Manner adverbs may be expressed in Modern Hebrew lexically, in forms which lack synchronic morphological structure and are viewed by current Hebrew speakers as monomorphemic amalgams, or at most as partially motivated forms, that is containing what appears to be discernible affixes whose removal does not result in currently independent morphemes (Aronoff, 1976). All of these lexicalized adverbs are historically complex forms of Biblical and Mishnaic origin which have “bleached” into lexicalizations, and none of them contains even what diachronically can be termed as a uniquely adverbial affix: their diachronic structures were based on other lexical categories and syntactic constructions. There are three main classes of lexicalized adverbs in Hebrew: accusative adverbs, absolute verb infinitives, and PP adverbials.

A small number of so-called ‘**accusative adverbs**’ are *-am* suffixed, e.g.,

(11) *hi yašva dumam*

she sat, Fm silently

“She sat silently. “

They carry an obsolete accusative noun marker, e.g., *xinam* ‘freely’, *reykam* ‘in vain’ (Avineri, 1962). For the contemporary Hebrew speaker, they are structureless, at most partially motivated by relating to extant words, e.g., *reykam* ‘in vain’ / *reyk* ‘empty’, *dumam* ‘silently’ / *dmama* ‘silence’.

Some adverbs of Biblical origin are zero-converted **absolute verb infinitives** (Gesenius, 1910). For example, the construction *haškem ve-ha’arev* in (12)

(12) *rti ito ʔdib haškem ve-ha’arev*

I-talked with-him rising and setting

“I spoke to him morning and night”

contains the adverbs *haškem* ‘early to rise’ (cf. Modern Hebrew *hiškim* ‘rose early’) and *ha’arev* ‘to set’ (with no current derivational verbal paradigm, though related to *’rev* ‘evening’). Two frequently used adverbs in this class are *maher* ‘fast’ (= ‘to hurry’; cf. *miher* ‘hurried’, *le-maher* ‘to-hurry’); and *heytev* ‘well’ (= ‘do good’; cf. *heytiv* ‘did good’, *le-heytiv* ‘to-do good’). These zero-converted adverbs bear no current structural relationship to verb infinitives; yet, beyond these lexicalized cases, absolute verb infinitives function productively as frequency adverbs in syntactic phrases as in

(13) rnudib *xazor ve-daber*,

we-talked returning and-talking

“We talked again and again”

using the absolute infinitives *xazor* ‘to-return’ (cf. *xazar* ‘returned’) and *daber* ‘to-talk’ (cf. *diber* ‘talked’). Another function “infinitive” adverbs have is in modifying adjectives, e.g. *yafe le-hafli* ‘beautiful to-wonder = wondrously beautiful’, *kacar le-haxrid* ‘short to-alarm = alarmingly short’.

A third group of lexicalized adverbs have a **partial PP form**. They are all prefixed by the prepositions *le-* ‘to’, *be-* ‘in / with’, *ke-* ‘like, as’ (or their fused forms with the definite article *la-*, *ba-* *ka*), followed by what looks like a noun stem, no longer viable: *le’at* ‘slowly’, *kaya’ut* ‘properly’, *laxalutin* ‘totally’, *bemeyšarin* ‘directly’, *ba’akifin* ‘indirectly’, *leserugin* ‘alternately’. When stripped of the prepositional prefix, the remaining segment which has the form of an abstract noun is not an extant word: **at*, **ya’ut*, **xalutin*, **meyšarin*, **akifin*. Historically, some of these (historically plural) abstract-noun bases functioned as adverbs in Biblical Hebrew and in Aramaic (Avineri, 1962). Though lexicalized into a single word, these

adverbs are related to a vast class of syntactically transparent adverbials, productively constructed from a preposition and an abstract noun (see below).

In line with the claim that Hebrew adverbials are parasitic on other lexical classes, lexicalized adverbs thus historically originate in two other content-word classes: nouns (accusative adverbs and partial PP adverbs) and verbs (absolute infinitives).

3.1.2 Morphological expression of manner adverbials. As noted above, Hebrew nouns, verbs and adjectives have distinct morphological class markers and are productive morphologically. In sharp contrast, none of the structures described below are uniquely adverbial, and most adverbs are not morphologically productive. All adverbs with morphological structure are parasitic on the category of adjectives by zero conversion and adjectival suffixation, and correspond closely in structure and productivity to Contemporary Hebrew adjective types.

Hebrew adjectives belong to roughly three morphological classes: basic, usually historically verb-related, adjectives (e.g., *xam* ‘hot’); root-and-pattern adjectives, sharing patterns with nouns and verbs (e.g., *vatic* ‘veteran’, nominal pattern *CaCiC*, *merukaz* ‘concentrated’, present-tense verb pattern *meCuCaC*); and a very productive class of *-i* suffixed denominal adjectives (e.g., *avivi* ‘spring-like’ from *aviv* ‘spring’, *šnati* ‘annual’ from *šana* ‘year’). This is a relatively recent morphological device originating in Medieval Hebrew (although a precursor appears in the Bible as designator of ethnic origin, e.g., *yevusi* ‘of the nation of Yevus’) which is extremely productive in Modern Hebrew (Ravid & Shlesinger, 1987; Ravid & Nir, in press). Adverbs are formed by zero-converting adjectives or by using their inflectional suffixes as adverb-formers.

Adverbs may be **zero-converted** from adjectives, tantamount to English *Stay close together, She travels light* (Avineri, 1962; Edri, 1997). This happens mostly with basic, nonderived adjectives e.g.,

(14) *hi asta et ze ra*

she did, Fm Acc. it bad/ly

“She did it badly”

(15) *hu avad kaše*

“He worked hard”

(16) *nuḥnasyašar la-mesiba*

We-drove direct/ly to-the-party

“We went directly to the party”

In some cases, syntactic constraints govern choice of adverbial form, e.g., the two grammatical possibilities in (17a)

(17a) *sek oved^ḥ-hatov / heytev*

the-business works good (col.) / well

“The business functions good / well”

compared to the second ungrammatical choice in (17b)

17b. *sek oved yoter tov / *yoter heytev^ḥ-ha*

The-business works more good / *more well.

“The business functions better”

Adjectives take on suffixes to agree with nouns in number and gender, e.g., *mora ret^ḥnehed^ḥ‘teacher, Fm wonderful ,Fm = wonderful teacher’*. Singular feminine is marked by *,a-Cet^ḥ*-and *-t*, and plural feminine is marked by *-ot*. These **feminine adjectival inflectional**

suffixes take (usually) root-and-pattern adjectival bases to cross category boundaries to adverbhood. Of these, three suffixes are restricted in application as adverb-forming devices:

(i) The ubiquitous singular feminine inflection *-a*, as in *gvoha* ‘in a high and mighty manner’, adjective base *haḡav* ‘high’; *ne’emana* ‘loyally’, adjective base *ne’eman* ‘loyal’; (ii) singular feminine inflection *,-Cet-* as in *fet’othu medaber* ‘he speaks fluently’, adjective base *šoteḡ* ‘fluent’; and (iii) plural feminine inflection *-ot* as in *kcarot* ‘briefly, succinctly’, *nimracot* ‘energetically’, *arukot* ‘lengthily’, *brurot* ‘clearly’, which is somewhat more productive than the first two.

The last morphological device is the only one that can be termed truly productive in Modern Hebrew, and it is a rare recent development which actually started in Modern Hebrew (Avineri, 1962; Ben-Asher, 1973). It consists of attaching **the feminine suffix *-t*** to denominal *-i* suffixed adjectives to form a manner adverbial as in the following examples: *iši* ‘personal’ / *išit* ‘personally’; *niḡsimult* ‘simultaneous’ / *nitḡsimult* ‘simultaneously’; *nitḡfelet* ‘of the telephone’ / *nitḡtelef* ‘by telephone’; *ekroni* ‘principled’ / *ekronit* ‘in principle’; and *zmani* ‘temporary’ / *zmanit* ‘temporarily’. The domain of application of *-t* is restricted to *-i* suffixed adjectives, but unlike adverbs formed with other inflectional adjectival suffixes, *-it* adverbs are formed productively and nonconditionally on any *-i* suffixed adjective. Moreover, unlike adverbs formed with other inflectional adjectival suffixes, whose meaning is restricted to manner verb-modification and which cannot be moved from their post-verbal position, adverbs suffixed by *-it* can take on both manner verb-modification as well as discourse connective functions and change position in the sentence, as in the following examples:

(18) a. lefon menuḡak^t-hazmanit.

the-telephone disconnected temporarily

“The telephone is disconnected temporarily”

b. *zmanit, yišhu po od kama orxim.*

temporarily, will-stay,Pl here more several guests

“For a short time, an additional number of guests will be staying here”

(19) a. *inyan-rti lo et haḥhisbklalit.*

I-explained to-him the-matter generally

“I explained the matter to him in general”

b. *klalit, ha-macav xamur.*

generally, the-situation grave

“Generally speaking, the situation is grave”.

All feminine inflectional markers on adjectives thus double as manner adverbial markers, with varying degrees of productivity. Adverbs are formed by morphologically appropriate inflectional suffixes, which correspond to the formation of feminine adjectives (Schwarzwald, 1982). A similar situation of forming adverbs via adjectival suffixes can be found in Italian and Spanish, though in that case this is a result of their common historical descent. One idea why this is the situation in Hebrew may be ellipsis from a PP whose head are the feminine nouns ‘form, manner’ or *rex’d* ‘way, manner’, e.g., *fet’otcura* -be‘in-form,Fm fluent,Fm = in a fluent form’ or *itrex i’d* -be‘in way,Fm personal,Fm = in a personal way’. However, the ellipsis solution can explain the formation of only a few of the *-it*, *-’Cet*, and *a* manner adverbs, while this explanation is not possible for *-ot* which is plural (e.g., *nixbadot* ‘seriously’) and therefore not in concord with any possible NP head. It certainly cannot explain the sites of enhanced or reduced productivity in morphological adverbials such as *-it* vs. *-a*. Moreover, there is no a-

priori reason to claim the head of such an elliptic NP might not be a masculine noun, such as *ʕfen* ‘manner’ as in *fenʕ -be iʕi* ‘in a personal manner’. Another line of approach may be to look at both base and suffix. The bases of morphological adverbials are all (masculine singular) adjectives, which are functionally the closest to adverbs out of all content-word classes.

Adverb-forming feminine inflectional suffixes are shared by both adjectives and nouns, as well as by present-tense verbs (unlike possessive suffixes such as *-o* ‘his’ which only attach to nouns). It is only past and future tense verbs that take completely different feminine suffixes, e.g., *i* as in *iʕb*, which are also stressless, unlike nominal suffixes. Singular and (feminine) plural inflectional suffixes are thus the ‘default’ suffixes available in the system for marking another lexical class without causing structural ambiguity, since adverbs do not appear in an NP and do not follow a nominal head which would lend them agreement.

3.1.3 Syntactic expression of manner adverbials. Manner adverbials are also expressed periphrastically in prepositional phrase (PP) structures and in serial verbs. PPs come in two main variants: P + NP with an abstract or action nominal head; and P + NP with an adjective head (Ben-Asher, 1973). PPs with abstract heads are a major productive adverbial device, e.g., *be-hictaynut* ‘with distinction’, *be-kicur* ‘in short’, *be-kalut* ‘with ease’, *be-haginit* ‘with decency’ *dekʕc-be* ‘justifiably’, *be-mikre* ‘by accident’ (Fruchtman, 1984). The abstract nominal PP head is either deverbal (*bi-zxila* ‘crawling’) or deadjectival (*be-adinut* ‘gently’) which entail different morphological constructions: deverbal nouns take root-and-pattern action nominal or other abstract pattern structures (e.g., patterns *CCiCa*, *haCCaCa*, *miCCaC*) while deadjectival nouns usually have the structure of stem + the abstract suffix *-ut* (Ravid, in press). These PP adverbials are virtually unlimited in productivity, and their meaning is completely transparent. In fact, the extreme productivity of adverbial PPs continues a historical trend

already indicated in Biblical Hebrew and remarkably prolific in Mishnaic and Medieval Hebrew (Avineri, 1962). In many cases the abstract noun is modified by an adjective or a bound compound, e.g., *be-haclaxa adira* ‘with vast success’ *ter’hana* ‘at y-be’, ‘with excessive enjoyment’. This happens often with nominal heads explicitly denoting manner such as *fen* ‘manner’, *rex* ‘way’, *cara* ‘form’, e.g., *fen barur* ‘in a clear manner’ *rex nes* ‘literally by way of miracle = miraculously’ *ret’cara mevuk* ‘in a controlled form’. Another type of adverbial PPs which derives from Mishnaic Hebrew and has greatly expanded in Modern Hebrew takes adjectival heads, e.g., *me-xadaš* ‘from-new = anew’, *be-gadol* ‘in-large’, *bi-meduyak* ‘precisely’, *bi-meforaš* ‘explicitly’, *be-mezid* ‘with-malicious = with bad intent’, *be-maftia* ‘with-surprising = surprisingly’ (Mor, 1995).

Are these constructions “words”? A linguistic approach which regards periphrastic expression as being on the same continuum as morphological and lexical formation will treat adverbial PPs as *possible* words which easily lexicalize, as evidenced by lexicalized adverbs with partial structure described in 3.1.1 above. In fact, Hebrew morphophonology allows us to distinguish between adverbials on this continuum: compare the adverbial PP *be-diyuk* ‘with-precision’ with the lexicalized adverb *bidyuk* / *bidiyuk* ‘exactly’ (col.) in (20):

(20) *avoda-ta et haʔasbe-diyuk rav, bidyuktiʔrac-ekmo*

you-did Acc. the job with-precision great, exactly as I-wanted.

“You did the job with great precision, exactly according to my wishes”

Finally, a second class of periphrastic adverbials is completely syntactic in nature. It involves serializing verbs in an expanded VP so that the first one functions as an adverbial modifier of the second. Verb serialization may take the (very restricted) form of a conjoined phrase, the first component of which is a manner verb, e.g. *miher ve-ala* ‘hurried and went up =

went up quickly’; or else a finite manner verb followed by an infinitival form, e.g., *exer la-vo* ‘was-late to-come = came late’; and *ha ufṯhighb* ‘rose flying = flew high’, *miher la’alot* ‘hurried to go-up = went up quickly’. This is a literate device, typical of adults’ written forms, and usually absent from less formal discourse (Cahana-Amitay, 1999).

The existence of numerous adverbial-forming devices in Modern Hebrew, deriving from a variety of historical and contemporary sources, is a source of lexical and syntactic wealth. In many cases there exist side by side manner adverbials derived from the same adjective with subtle meaning and syntactic differences, e.g.,

(21) *hu avad kaše* zero-converted adjective

“He worked hard”

(22) *hi dibra ito kašot* -ot (plural feminine) suffixed adjective (*kaše+ot*)

she spoke, Fm with-him harshly

“She spoke to him harshly”

(23) *hem avdu i ravṯk-be* PP with an abstract de-adjectival head

they worked, Pl in-difficulty great

“They worked with great difficulty”

(24) *hem iṯk-be avdu* PP with an abstract de-adjectival head, preverbal

they in-difficulty worked, Pl

“They hardly worked”

4.0 Discussion

Our discussion will focus on two points: accounting for the secondary and heterogeneous nature of Hebrew adverbials in a cognitive linguistics framework; and a particular example of

distributing a single adverbial notion across lexical and syntactic space (Ramat & Ricca, 1994, 1998).

4.1 *Blurring categorial boundaries*

To borrow an analogy from prototype categorization models, Hebrew adverbs constitute penguins in the class of open-class or content-word categories. The two primary categories of nouns and verbs constitute the “basic level” in the class of categories. There are two secondary, or more peripheral modifying categories whose very existence is a function of the classes of the modified: the categories of adjectives and adverbs. By virtue of both being members of the supercategory of “modifier”, the boundaries between adjective and adverb have been “bleached”, with the category of adjective taking over the metonymic function of a part representing the whole. In this case, the modifier category of adjectives, which denotes only nominal properties, is perceived and accordingly functions as a more central member of the category of modifiers than that of adverbs, which modifies almost everything. However, within the category of adverbs, manner adverbs that relate to the verb are construed as the most typical members of the category. They are the ones that are expressed by a variety of structures and the only ones that are expressed also by morphological devices denoting “manner”.

Hebrew adverbs are best accounted for by prototypical categorization principles and following the principles of cognitive linguistics model. “A classical category permits only two degrees of membership, i.e., member and non-member, while membership in a prototype category is a matter of gradience” (Taylor, 1989:54). Thus if we were to assign either/or category membership to Hebrew adverbs on the basis of obligatory features this attempt would fail. This category embodies the notion of blurred and bleached edges. Firstly, one cannot

separate linguistic levels here, for expression of adverbhood is lexical, morphological and syntactic. Thus the classical distinctions between lexicon and syntax are bleached. Secondly, the morphological essence of Hebrew adverbs is in fact adjectival, for both synchronically and diachronically, Hebrew adverbs are derived from adjective stems either by zero conversion or by linear suffixation. All morphological adverbs are formed from adjectives by the attachment of feminine inflectional suffixes used in inflecting adjectives. This means the distinction between content word classes - adjectives and adverbs - are blurred, and they may be taken to form a single “modifier” class. Thirdly, the category sits on the borderline between inflection and derivation. The only morphological markers that create adverbs are inflectional. The only productive class of morphological adverbs is restricted to one type of adjectives as its base - *i* suffixed denominal adjectives which become adverbs with the attachment of the feminine marker -*t*. And finally, the boundary separating syntax and morphology - sentence-level phenomena - from discourse is also indistinct: manner adverbials serve as both local, syntactic modifiers, as well as discourse markers such as *ekronit*, *ani maskim*, *aval...* ‘In principle, I agree, but...’ which signify a relationship with units larger than the clause or the sentence. Thus Langacker’s requirement of factuality - the need to include as many facts as possible about linguistics phenomena - is necessary here to account for the continuum of language levels that we term manner adverbs in Hebrew. Generality, the other cognitive requirement, is needed to account for the fact that adverbial subclasses may be lexical and nonproductive, morphologically semi-productive, or syntactic, with the almost unlimited productivity that is the nature of syntax.

4.2 A sudden example.

A final note which should point the way towards further investigation of Hebrew adverbs has to do with the vast cultural heritage that underlies the wealth of adverbial forms and their shades of meanings in various contexts. This is part and parcel of the encyclopedic view of language relating to the variety of ways of expressing a certain adverbial notion, and exemplifies Tomasello's recommendation to look for the different ways languages provide different resources for symbolizing certain universal events and situations. For example, let us take the various expressions of the notion 'suddenly'. This is expressed by two lexical, ancient forms, and three modern syntactic adverbs. The 'index' form is Biblical *pit'om* 'suddenly', and another Biblical 'suddenly' is *ta'p* (also appearing in various preposition + adverb constructions such as *ta'f-ta*, *be'f-le*, and in combinations with *pit'om*). The three contemporary counterparts are *be-pit'omiyut* (normatively: *be-fit'omiyut*) 'with suddenness', *be-maftia* 'in-surprising', and *fen pit'omi* 'in a sudden manner'. Biblical *pit'om* and *ta'p* are lexicalized adverbs, the first with the obsolete accusative suffix, the second with a nominal segolate CeC' pattern. These two share a common root, although *pit'om* contains a glottal stop and *ta'p* - a pharyngeal voiced fricative, which are known to interchange in Biblical Hebrew. The root of *ta'p* now serves as the lexical core for words denoting surprise. The first two contemporary adverbs are transparently constructed of a preposition and a stem. The first stem is an abstract nominal with an interesting internal linear structure: its stem is the Biblical *pit'om*, with two suffixes - the denominal adjectival *-i*, and a nominal abstract suffix *-ut*. We thus come a full circle from the Biblical to the contemporary structure: *pit'om* ADV > *pit'omi* ADJ > *pit'omiy-ut* ABST N > *be-*

*fit'omiyut*ADV. The second modern 'sudden' adverb is *be-maftia*, whose stem is a *benoni* present-tense adjective sharing the root *p-t-* with Biblical *ta'lef*. The last one is a full NP with a manner abstract nominal head *-fen* 'manner' and an *-i* suffixed adjective *pit'omi*.

From a syntactic point of view, we also find differing behavior: *pit'om* can modify both verbs and nouns: *em'yored pit'om g'it's suddenly raining*' and *zo haclaxat pit'om* 'this is a sudden success', where 'sudden' acts as a noun in a nominal compound. As a verbal modifier, *pit'om* occurs very frequent in daily usage, and appears very early on in Hebrew child language to indicate sudden change of state. As a noun modifier, it is rarely employed in high-register, literary usage. The rest of the 'sudden' adverbs carry one syntactic function as verb modifiers.

A final facet of the quintet described here is embedded in discourse. As we have seen above, the usage of manner adverbials is often extended beyond verb modification to discourse functions. Berman and Slobin (1994:300-302) describe the functions of *pit'om* in oral narratives elicited from Hebrew-speaking children and adults by the Frog Story series of pictures. It has a U-shaped developmental distribution in their subjects' texts. Young children under 5 use it sparingly in idiosyncratic, nonconventional ways. 5 year olds use *pit'om* extensively to mark noteworthy new occurrences at clause initial positions, usually accompanied by the conjunction *ve-* 'and', as a mechanical means of dividing up the narrative into its component parts, although the content of the episodes introduced by *pit'om* does not suggest an unexpected and abrupt change of state. From age 9 onwards, the frequency *pit'om* starts to drop and it appears in positions other than clause-initial. Adults use *pit'om* sparingly again and for specific narrative styles. They also combine *ta'f-leand pit'om* to form the literary, high-register expression *ta'f-le pit'om* 'all of a sudden'. We do not have empirical information yet about the other 'sudden' expressions, but a preliminary survey shows that their

categorization relates to genre rather than degree of formality, since they can be divided into literary *ta'f-ta / le'pand be-maftia* vs. high-register though academic *be-pit'omiyut* and *fen ḥ-be .pit'omi*. This example constitutes an initial window into the mapping of adverbial constructions onto discourse functions from developmental, functional and semantic perspectives.

4.2 Conclusion

This paper has applied a Cognitive Linguistics framework of analysis to Hebrew manner adverbials. We have shown that the class of Modern Hebrew adverbs is a peripheral member of the class of lexical categories, and is included in a larger category of adverbials. The heterogeneity of Hebrew adverbials is the result of both the wealth of structures bequeathed by a long history and a universal characteristic of a modifying rather than primary class. Clearly, these stand at the junction of the universal and the particular, the lexical and the syntactic, the productive and the lexicalized. We believe that a theoretical linguistic model which regards variation, heterogeneity and multifunctionality as inherent in language is particularly appropriate to this analysis.

References

- Aisenman, Ravid A. ed. *Working papers in “developing literacy across genres, modalities, and languages*. Tel Aviv: Tel Aviv University Press..
- Aronoff, Mark. 1976. *Morphology in generative grammar*. Cambridge, Mass: MIT Press.
- Avineri, Shlomo. 1962. “Classifying Hebrew adverbs”. *Leshonenu La-am* 10.97-122.
- Ben-Asher, Mordechai. “Modern Hebrew adverbs”. In Mordechai Ben-Asher *Readings in Modern Hebrew syntax*, 21-33. Tel Aviv: Ha-kibbutz Ha-me’uchad.
- Berman, Ruth A. 1987. “Productivity in the lexicon: New-word formation in Modern Hebrew”. *Folia Linguistica* 21.225-254.
- Berman, Ruth A. & Dan I. Slobin. 1994. *Relating events in narrative*. Hillsdale, NJ: Erlbaum.
- Blau, Yehushua. 1971. *Hebrew phonology and morphology*. Tel Aviv: Ha-kibbutz Ha-meuchad.
- Bybee, Joan L. 1985. *Morphology: a study of the relation between meaning and form*. Amsterdam: Benjamins.
- Cahana-Amitay, Dalia. 1999. “Developing verb structures across text types and modalities”. In Ravid A. Aisenman, ed. *Working papers in “developing literacy across genres, modalities, and languages*, 142-157. Tel Aviv: Tel Aviv University Press..
- Edri, Hagit. 1997. *A cognitive linguistics approach to the classification of English adverbs*. MA thesis, Bar Ilan University.
- Fruchtman, Maya. 1984. “The adverbs ta’lef ‘suddenly’ and bimhirut ‘fast’”. *Hebrew Computational Linguistics* 21.5-7.
- Gesenius, 1910. *Gesenius' Hebrew Grammar*, edited by E. Kautzsch, revised by A.E. Cowley. Oxford: Clarendon Press.

- Givʿon, Talmy. 1993. *English grammar*. Amsterdam: Benjamins, Vol 1.
- Glinert, Lewis. 1989. *The grammar of Modern Hebrew*. Cambridge: CUP.
- Greenbaum, Sidney. 1969. *Studies in English adverbial usage*. London: Longman.
- Haspelmath, Martin & Oda Buchholz. 1998. “Equative and similative constructions in the languages of Europe”. In Johan van der Auwera, ed. *Adverbial constructions in the languages of Europe*, 277-334. Berlin: Mouton de Gruyter.
- Hopper, Paul & Sandra Thompson. 1984. “The discourse basis for lexical categories in universal grammar”. *Language* 60.703-752.
- Kaddari, Menachem T. 1985. Modern Hebrew adverbials. In Refael Nir , ed. *Divrey Hasadna A: Academic instruction in Contemporary Hebrew*. Jerusalem: The Council for Teaching Hebrew.
- Kortmann, Bernd. 1998. “Adverbial subordinators in the languages of Europe”. In Johan van der Auwera, ed. *Adverbial constructions in the languages of Europe*, 277-334. Berlin: Mouton de Gruyter.
- Jackendoff, Ray S. 1972. *Semantic interpretation in generative grammar*. Cambridge, Mass: MIT Press.
- Lakoff, George. 1987. *Women, fire, and dangerous things: what categories reveal about the mind*. Chicago: Chicago University Press.
- Langacker, Ronald. 1983. *Foundations of cognitive grammar*. Indiana: Indiana University Club.
- Mor, Galila. 1995. “Modern Hebrew derivatives of *benoni* forms”. *Am Va-sefer* 9.13-29.

- Parsons, T. 1990. *Events in the semantics of English: a study in subatomic semantics*.
Cambridge, Mass: MIT Press.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik, eds. 1985. *A comprehensive grammar of the English language*. London: Longman.
- Ramat, Paolo & Davide Ricca. 1994. "Prototypical adverbs: on the scalarity / radiality of the notion of ADVERB". *Revista di Linguistica* 6.289-326.
- Ramat, Paolo & Davide Ricca. 1998. "Sentence adverbs in the languages of Europe. In Johan van der Auwera, ed. *Adverbial constructions in the languages of Europe*, 187-275. in: Mouton de Gruyter.
- Ravid, Dorit & Yitzhak Shlesinger. 1987. "Analyzing -i suffixed adjectives in Modern Hebrew".
Hebrew Linguistics 25.59-70
- Ravid, Dorit. 1990. "Internal structure constraints on new-word formation devices in modern Hebrew". *Folia Linguistica* 24.289-346.
- Ravid, Dorit. In press. "What is a Hebrew action nominal?" *Hebrew Linguistics* 44.
- Ravid, Dorit. & David Hanauer. 1998. "A prototype theory of rhyme: Evidence from Hebrew".
Cognitive Linguistics 9.79-106.
- Ravid, Dorit & Michal Nir. In press. "The development of the category of Adjective: interrelations between lexicon, morphology, semantics and syntax" In *CLS 1997 Proceedings: The Amsterdam Series in Child Language Development*
- Rosch, Eleanor. 1978. "Principles of categorization". In Eleanor Rosch & Barbara B. Lloyd, eds. *Cognition and categorization*. Hillsdale, NJ: Erlbaum.
- Ross, Charles N. 1984. "Adverbial change: implications of a theory of lexical change". *CLS*

20.243-250.

Schachter, Paul. 1985. "Parts-of-speech systems". In Timothy Shopen ed. *Language typology and syntactic description, Vol. I: Clause structure*, 3-61. Cambridge: Cambridge University Press.

Schwarzwald, Ora R. 1982. Feminine formation in Modern Hebrew. *Hebrew Annual Review* 6.153-178.

Shlesinger, Yitzhak. In preparation. *Journalistic Hebrew*. Bar Ilan University ms.

Taylor, John R. 1989. *Linguistic categorization: prototypes in linguistic theory*. Oxford: Clarendon Press.

Tomasello, Michael. In press. "Cognitive Linguistics". In W. Bechtel & G. Graham (eds.) *A companion to cognitive science*. Oxford: Basil Blackwell.

Traugott, Elizabeth.C. 1989. "On the rise of epistemic meanings in English: an example of subjectification in semantic change". *Language* 65.31-55.

van der Auwera, J. 1998. "Introduction". In Johan van der Auwera, ed. *Adverbial constructions in the languages of Europe*, 1-23. Berlin: Mouton de Gruyter.

Wierzbicka, Anna. 1986. "What's a noun? (or how do nouns differ in meaning from adjectives)". *Studies in Language* 10.353-389.

Zucchi, Alessandro. 1993. *The language of propositions and events*. Dordrecht: Kluwer Academic Publishers.

