

Existential possessive modality in the emergence of Modern Hebrew

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Abstract

This paper documents the evolution of existential possessive modals in a literary corpus of Emergent Modern Hebrew (EMH). Modal uses of the existential element *yeš* are shown to have changed their form and their meaning during this period. Morphosyntactically, the possessive variant declined, and it became impossible to inflect modal *yeš*. Semantically, a special meaning of ability that was available in the classical Hebrew variants of the construction was lost, and modal *yeš* turned into an expression that exclusively conveys impersonal deontic necessity. Language contact, primarily with Russian, is suggested to have shaped the morphosyntax of existential possessive modals in EMH, whereas internally-motivated processes based on the inherited semantics may explain the meaning modal *yeš* ultimately developed. On this view, the grammar of Modern Hebrew combines features from multiple languages that were in contact at the time of language revival.

1 Introduction

Modality is a notional category present in all human languages. All languages have means for talking about not just what is part of reality, but also about what is merely possible, desirable, required, or inevitable. Modal words are found in all grammatical categories (Kratzer, 1981; Palmer, 2001; Nauze, 2008). There are modal discourse particles, modal auxiliaries, modal verbs, modal adjectives, modal nouns, and more. As has been extensively documented in the literature, modals may have their origins in lexical items that are not modal, and once modal their grammatical function and their semantic contribution may change over time (Traugott, 1989; Bybee et al., 1994; Goossens, 2000; Traugott and Dasher, 2002; Narrog, 2012; Hacquard and Cournane, 2016).

This paper focuses on one case of change in the field of modality in Hebrew: a development in which a construction based on the existential element *yeš*, which had modal uses in classical Hebrew, changed its form and meaning during the emergence of Modern Hebrew. The sentences in (1) exemplify the starting point of this rather recent historical change, and the sentence in (2) exemplifies its endpoint.¹

- (1) a. *ve-uxal lišpot šad kama yeš l-i lemalot drišot-av*
and-can.1SG.FUT to.judge up.to how.much EX to-me to.fill demands-its
'... and I will be able to judge how much I can do to fill [the people's] demands.' (Ahad Ha'am, letter to Y. H. Ravnitzki; 1896)
- b. *va-ařilu mi še-eyn-am mitšanim be-yom ha-kipurim modim ki*
and-even who that-EX.NEG-3MPL fast.MPL in-the.day.of.atonement admit that

¹I gloss the Hebrew existential element EX throughout the paper, following Francez (2007); Kuzar (2012). This gloss is superior to glosses such as 'be' or COPULA, which imply a relation to copular constructions. If Francez (2007) is correct, existential and copular constructions do not share the same syntactic and semantic analysis (p. 128).

yeš lehitʕanot be-tišʕa be-av
EX to.fast in-nine in-Av

‘And even those who do not fast on the Day of Atonement admit that one must fast on Tisha B’Av.’ (E. L. Lewinsky, *Astrology II*; 1896)

(2) *yeš leħadeš ot-o be-heqdem*

EX to.renew ACC-it in-earliness

‘[If your Driver License has expired:] It must be renewed as soon as possible.’ (March 2017)

(1a) and (1b) were both written in 1896, in the early stages of Emergent Modern Hebrew (EMH).² (1a), with a dative phrase, is no longer grammatical in Modern Hebrew.³ The typical contemporary modal use of *yeš* is exemplified in (2). It echoes the EMH variant in (1b) in form, but as we will see, not in meaning. As will be established in the course of the discussion, the historical change consists of three inter-related components:

- (3) (A) Loss of the optional dative “possessor” (e.g., *l-i* ‘to-me’ in (1a))
- (B) Loss of the ability to inflect *yeš*: examples with *haya* ‘EX.PAST’ were attested in EMH, but became obsolete
- (C) Limitation in the range of modal interpretations available: ‘can’ is a possible paraphrase in EMH (e.g., in (1a)) but not in contemporary examples like (2)

We call the modal construction in (1a) possessive because it includes the typical ingredients of predicative possession in Hebrew, namely the existential *yeš* followed by a dative phrase (Pat-El, 2013; Henkin-Roitfarb, 2013). We call the variants in (1b) and (2) existential, to highlight the absence of the possessive dative.⁴ The literature on modal interpretations of existential and possessive constructions (*existential possessive modality* for short) has focused mainly on possessive variants. I begin by introducing some crosslinguistic generalizations about possessive modality, as well as central notions in the semantic study of modality that will figure in our discussion.

Crosslinguistic generalizations and background on modality The basic facts concerning existential possessive modality can be demonstrated with data from Hindi-Urdu (Bhatt, 1998). (4) is an existential construction, expressed with the copular verb ‘be’. With an oblique subject (a dative in (5)), the same verb expresses possession.⁵

(4) *kamre mē aadmi hai*

room LOC man be.PRES

‘There is a man in the room.’

(Bhatt, 1998)

²See Doron (2015, 6-8) and the introduction to this volume for a brief overview of the historical stages of Hebrew.

³An important caveat raised by a reviewer concerns the contemporary Hebrew of individuals with orthodox religious upbringing, where according to the reviewer the possessive modal construction seems to be productive. This is a fruitful area for future research on the development of existential possessive modals in Hebrew.

⁴I use these terms as morphological and not as syntactic terms. For example, I call the modal *yeš* construction in Modern Hebrew “existential” because it lacks a possessor, remaining non-committal about its precise syntactic components. Section 4 discusses some common syntactic assumptions about possessive modals.

⁵Bhatt (1998) notes that case marking on the possessor varies in Hindi-Urdu according to the type of possession expressed (inalienable, alienable, etc.). Dative marking reflects experiencer possession.

- (5) *John-ko sirdard hai*
 John-DAT headache be.PRES
 ‘John has a headache.’ (Bhatt, 1998)

A morphosyntactic connection between existential and possessive constructions has been documented in a wide range of languages.⁶ Perhaps more surprising is the connection between existence and possession on the one hand, and modality on the other hand. In Hindi-Urdu, the addition of a nonfinite verbal phrase (a gerund according to Bhatt 1998) to the possessive construction results in a meaning of obligation: (6) says not that John is or has been eating apples, but that he is for some reason obligated to eat them. In other words, the gerund gives rise to a modal meaning in an otherwise extensional possessive construction.

- (6) *John-ko seb khaa-naa hai*
 John-DAT apple eat-GERUND be.PRES
 ‘John has to eat the apple.’ (Bhatt, 1998)

There is a long tradition in philosophy and in linguistics of characterizing modality in terms of two semantic-pragmatic dimensions.⁷ The first dimension, *modality type* (also commonly called *modal flavor*), refers to the type of background assumptions on which the modal claim rests. It is standard to distinguish between assumptions relating to knowledge (epistemic modality), rules or norms (deontic modality), goals (teleological modality), personal preferences (bouletic modality), and abilities (dynamic modality), to name a few major types. The umbrella term *priority modality* (Portner, 2009) refers to all modalities that in some way reference priorities or preferences, including deontic, bouletic, and teleological modalities. *Circumstantial modality* is a cover-term for modalities that depend on the existence of certain circumstances (as opposed to knowledge).⁸ The second dimension is *modal force*. It can be thought of as a scale ranging from possibility to necessity, with endpoints corresponding, respectively, to the operators \diamond and \square of modal logic.

Using this terminology, the possessive modal construction in (6) expresses a deontic necessity, or obligation.⁹ This particular combination of modality type and modal force is not unique to possessive modal constructions in Hindi-Urdu. An interpretation of obligation arises in possessives in a variety of languages, including Spanish, German, English (as seen in the translation in (6)), Bengali, Temne, and others (Bybee et al., 1994; Bhatt, 1998; Bjorkman and Cowper, 2016). I will use the term *possession-obligation generalization* to refer to the tendency of possessive constructions across languages to take on deontic necessity meanings.

⁶See Benveniste 1966; Clark 1978; Freeze 1992, among many others. Specifically concerning Akkadian and other Semitic languages, see Bar-Asher Siegal 2011 and reference cited therein. Syntactic approaches to the ‘have’-‘be’ connection have been developed by Kayne 1993; Harley 2002; Boneh and Sichel 2010; Myler 2016, among others.

⁷See Portner 2009 for discussion of the roots of this idea in modal logic. For one widely accepted formal implementation see Kratzer 1981, 1991, 2012.

⁸In the context of the present study, we will distinguish between circumstantial modality that is not priority-oriented (e.g., ability modality) and circumstantial modality that has a priority-oriented component (e.g., deontic modality). We use the term *circumstantial modality* to refer narrowly to the first kind. For an overview of circumstantial modality and its sub-types see Palmer 2001; Kratzer 1981; Portner 2009.

⁹Bybee et al. (1994) characterize obligation in deontic terms, as a report of external, social conditions compelling an agent to act (p. 177).

The exceptionality of Hebrew Possessive modality in Hebrew does not fit neatly into this generalization. The present day construction has the expected meaning but atypical morphosyntax, while the historical construction had the right morphosyntax but a surprising range of interpretations.

At first glance, Modern Hebrew seems to behave like other languages in allowing obligational uses of its existential possessive element (Shehadeh, 1991; Kuzar, 2012; Boneh, 2013). Existence (7a), possession (7b), and obligation (7c) can all be expressed with *yeš*.

- (7) a. *yeš bakkuk yayin*
 EX bottle wine
 ‘There is a bottle of wine.’
- b. *yeš l-i bakkuk yayin*
 EX to-me bottle wine
 ‘I have a bottle of wine.’
- c. *yeš lišmor ot-o be-qerur*
 EX to.keep ACC-it in-refrigeration
 ‘It must be kept refrigerated.’

The possessive meaning in (7b) requires adding a dative phrase to the existential element, similarly to what we saw in Hindi-Urdu. The modal meaning in (7c) has a deontic flavor to it, or more accurately a priority-type meaning: we understand the sentence to mean that refrigerating the wine bottle is for some reason desirable (e.g., as an expression of the wine maker’s instructions on how to store the wine so it remains in peak condition). The modal meaning arises when the existential, *yeš*, combines with a nonfinite verbal preajacent, as in other languages described so far in the literature. However, upon closer inspection, existential possessive modals in Modern Hebrew stand out in a number of ways from parallel constructions in other languages. First, from a morphosyntactic perspective, present day modal examples in (2) and (7c) are strictly speaking not possessive, but existential; they are ostensibly missing the dative phrase seen in (7b).¹⁰ Lacking a specification of any particular individual, the modality they express is impersonal. It contrasts with Hindi-Urdu (6) in this respect, and with more typical expressions of modal necessity in Modern Hebrew, shown in (8), which can be used to describe obligations that are directed toward particular individuals.

- (8) a. *šal ha-qone/-ay lišmor ot-o be-qerur*
 on the-buyer/-me to.keep ACC-it in-refrigeration
 ‘The buyer/I must keep it refrigerated.’

¹⁰I use the term *dative* somewhat loosely in the paper, to refer both to the prepositional phrase as a whole and to the noun phrase to which the preposition attaches. As pointed out to me by Mira Ariel, there is another modal use of *yeš* in Modern Hebrew, exemplified in (i), in which a *l-* ‘to’ phrase is obligatory (cf. Kuzar 2012, p. 97). This use appears (morphologically) more similar to an ordinary possessive construction:

- (i) *yeš l-i lišmor ot-o be-qerur*
 EX to-me to.keep ACC-it in-refrigeration
 ‘One of the things I have to do is keep it (the wine bottle) refrigerated.’

Interestingly, this modal use differs from the one in (7c) in several respects: it cannot express deontic obligation, it is not impersonal, and it is very informal and characteristic of everyday conversation. I set it aside in the present paper, noting a potential relation to the *is to* modal construction in English which is similarly obligational in a specific sense relating to an externally imposed schedule (Bybee et al., 1994).

- b. *ha-qone/ani ĥayav lišmor ot-o be-qerur*
 the-buyer/-I must to.keep ACC-it in-refrigeration
 ‘The buyer/I must keep it refrigerated.’

A second peculiarity of present day modal uses of *yeš* concerns inflection. Existential *yeš* cannot inflect for tense in the impersonal modal construction (9a).¹¹ This is surprising since the inflected forms exist and are fully productive in non-modal existential and possessive constructions, as shown in (9b). A periphrastic tensed construction is also ungrammatical (9c).¹² There is simply no way to use an existential modal to express past or future obligations (cf. *had to/will have to* with *have*, or *was to* as past tense of *be*); a different modal expression must be used for this purpose (9d)-(9e).

- (9) a. * *haya lišmor ot-o be-qerur*
 EX.PAST.3MSG to.keep ACC-it in-refrigeration
 (Intended: ‘It had to be refrigerated.’)
- b. *haya (l-a) meqarer*
 EX.PAST.3MSG (to-her) refrigerator
 ‘There was a fridge.’ (‘She had a fridge.’)
- c. * *haya yeš lišmor ot-o be-qerur*
 EX.PAST.3MSG EX to.keep ACC-it in-refrigeration
- d. *hayiti ĥayevet lišmor ot-o be-qerur*
 EX.PAST.1SG must.FSG to.keep ACC-it in-refrigeration
 ‘I had to keep it refrigerated’.
- e. *haya ĥal-ay lišmor ot-o be-qerur*
 EX.PAST.3MSG on-me to.keep ACC-it in-refrigeration
 ‘I had to keep it refrigerated’. (cf. (8a))

A third point of difference concerns language use. The Modern Hebrew existential possessive modal construction is not characteristic of everyday speech and belongs to a formal register (Shehadeh 1991, 440). As such, it contrasts with a possessive modal like English *have*, which is robustly attested in conversation (Tagliamonte, 2004; Krug, 2000).

As previewed in the discussion of (1a), if we go back slightly in time to the turn of the twentieth century, we find possessive modality in Emergent Modern Hebrew that is more well behaved in terms of morphosyntax (and seemingly also register). Possessive variants of modal *yeš* were grammatical and inflectable. An inflected past tense form *haya* ‘EX.PAST.3MSG’ resulted in past-shifted modality, as in (10) (compare with the ungrammatical (9a)).

- (10) *Context: The word Phos referred to both man and light in the language of the Greeks and the Romans, and on Saturnalia, the ancient festival in honor of Saturn, . . .*

haya la-hem lehadlik ner lifney pisl-o ve-hem zavĥu l-o adam
 EX.PAST.3MSG to-them to.light light before statue-his and-they offered to-him man

¹¹Rosén 1977b; Kuzar 1992, Boneh 2013, among others.

¹²See Boneh and Doron (2010) on periphrastic *hyy* ‘be’ in other modal constructions of Modern Hebrew.

‘They were required to offer light before Saturn’s statue, but they sacrificed a man for him [because they interpreted the word incorrectly].’ (S. Rubin, *Tehilat ha-ksilim*; 1880)

Possessive modality in EMH was atypical for a different reason. Modal *yeš* in a possessive construction could express obligation in EMH (as in (10)), as per the possession-obligation generalization,¹³ but it did not *necessarily* express obligation. Contrary to the tendency captured by the generalization, possessive modals in EMH allowed strict possibility readings and they were not all deontic or priority-oriented, i.e., they had a wider range of possible interpretations in terms of both modal force and modality type. (1a), for example, speaks not about what the author thinks he is obliged to do (in view of the norms), but about what he thinks he can do (in terms of his abilities) in order to respond to his readers’ critique. Our corpus study in Section 2 also reveals a class of examples we call *possibility-cum-necessity*, which are expressions of possibility that can be interpreted as also expressing necessity. These examples also do not fit well with the possession-obligation generalization. They do fit well, however, with the profile of existential possessive modality in classical Hebrew.

Continuity and change Overall, modal *yeš* changed dramatically during the relatively short period of time in which Modern Hebrew consolidated. We will argue that existential possessive modals in EMH, at the initial point of the change under discussion, are best understood as continuing their counterparts in classical varieties of Hebrew, and that they changed due to a combination of external and internal forces. The end product may be called a *hybrid grammar* in the sense of Aboh (2015): a recombination of grammatical features from different languages in contact.

As we review in Section 3.1, Biblical, Mishnaic, Talmudic, and Medieval Hebrew all had modal uses of *yeš*. They came in the two varieties discussed above: a possessive construction, with a possessor phrase, and an existential construction, without one. Ben-Ḥayyim (1953, 1992) famously noted the unusual interpretation of the two constructions from the perspective of Modern Hebrew (without distinguishing between the two), stating that they were essentially expressions of ability, or more broadly, possibility modality.

Similarly in EMH, modal *yeš* had both possessive and existential variants. As we saw, the possessive construction could express a wide range of modalities. The same options were found also in the existential variant, but with a different distribution: a possibility interpretation was available (as in (11)) but rare, and the majority of examples expressed priority-type necessity, as in (1b) above.

(11) *Context: describing the decline of nations and the rise of states.*

et kol ze ... yeš lir?ot bi-ymey qedem ...
 ACC all this EX to.see in-days.CS antiquity ...

¹³We note for completeness that obligation interpretations (calling for a translation with *should*) are found also with present tense *yeš* in EMH possessive constructions:

(ii) *adraba harbe yeš l-anu lehicta?er ?al ?oser ha-ma?ase*
 on.the.contrary much EX to-us to.regret on lack.CS the-doing

‘On the contrary, we should greatly regret lack of doing.’ (Bar Tuvia, *Necaḥ Yisra?el*; 1909)

‘... all this ... can be seen in antiquity [especially in Ancient Rome, and it is also not difficult to find examples in our time].’ (A. D. Gordon, *Le-verur raḡayonenu mi-ysodo*; 1919)

In (11), the author uses an existential modal construction (*yeš lirʔot* ‘EX to.see’) to remind the reader of a particular fact about Ancient Rome, with no accompanying overtone that it would be good or beneficial to recall this fact, or that there is permission to do so. The modal flavor is dynamic, conveying ability or opportunity. In contrast, a normative overtone is present in examples like (1b), and these convey a force of necessity.

Examples like (1b) are the most similar to present day modal *yeš*, exemplified in (2). Why were they retained, and all others of the inherited stock lost? The assumption in the literature has been that possessive modals in languages like Yiddish and German influenced Hebrew through contact. So far, I have not found evidence for semantic borrowing from these languages, and accordingly, I refine the standard answer in two ways. First, I discuss a potential source of influence which has not been entertained before, namely impersonal modal constructions in Russian. This external source of influence is relevant for the morphosyntax of the Modern Hebrew construction. Second, I suggest that the meaning of the present day construction developed from the meanings it had in classical Hebrew, in response to the morphosyntactic changes. This aspect of the change may thus have a language-internal source. My proposals for the different aspects of the historical change in (3) are summarized in (12).

- (12) (A) Loss of the optional dative “possessor”:
- Influence from Russian morphosyntax (dative infinitive modals with no thematic arguments)
 - Internal consistency (weeding out of a highly variable and semantically opaque construction)
- (B) Loss of the ability to inflect *yeš*:
- Internal consistency (analysis of *yeš* with INF as an instance of an evaluative modal impersonal)
- (C) Limitation in the range of modal interpretations available:
- Continuity (retaining the inherited semantics)

Outline of the discussion The rest of the paper is structured as follows. Section 2 presents a corpus study of existential possessive modality in literary EMH. It establishes that non-obligational possibility readings of *yeš* were attested in the beginning of the EMH period and it tracks the morphosyntactic and semantic change that modal *yeš* underwent as Modern Hebrew consolidated (specifically: loss of the possessor phrase, loss of inflection, loss of modal force variability, and an invariable meaning of obligation). Section 3 puts the data in a broader historical and crosslinguistic perspective. In Section 3.1, I argue based on studies of modal *yeš* in classical Hebrew and Jewish Aramaic (Ben-Ḥayyim, 1953, 1992; Shehadeh, 1991) that existential possessive modals in EMH closely resemble their counterparts in earlier varieties. Given that the starting point in EMH represents linguistic continuity, I then ask what accounts for the changes that took place in Modern Hebrew. The role of contact in this process is the topic of Section 3.2. I suggest that the possessor phrase was lost due to influence from Russian dative infinitive modals and impersonal modals,

with reinforcement from a language-internal preference for consistency that disfavored the possessive modal variant due to its variable modal force and flavor. In Section 3.3, I point out that the resulting construction has all the properties of the predicate-initial modal evaluative impersonal, and suggest that its inability to inflect and its use in formal language derive from this fact.

In section 4, I turn to the theoretical implications of the Hebrew data. As the possession-obligation generalization is robust crosslinguistically (yet by no means universal), semanticists have been working hard to explain why and how possessive constructions come to express obligation when they include a nonfinite verbal component (Bybee et al., 1994; Bhatt, 1998; Bjorkman and Cowper, 2016). Classical Hebrew and Emergent Modern Hebrew show that existential possessive modals are not obligatorily deontic and that they allow variability in modal force. These conclusions call for a refinement of existing theories of possessive modality.

Section 5 concludes with plans for future work.

2 Existential possessive modality in EMH: a construction in flux

As with any investigation in historical linguistics, there is no way of examining directly the grammatical properties of existential possessive modals in EMH. There are no available records of speech and no living speakers to interview. Texts are our only witnesses of how the language was used. Historical research on EMH has therefore concentrated on three main sources: the *Ma'agraim* corpus of the Historical Dictionary Project at the Academy of the Hebrew Language, the corpus of the *Ben-Yehuda Project* (henceforth BYP), and the corpus of *Historical Jewish Press*.¹⁴ Of these three, only the first two include manually transcribed texts, and the BYP alone is freely available for research. This is the corpus on which we conducted our study.

The Ben-Yehuda Project was launched in 1999 by Asaf Bartov as an effort to create an open virtual library of cultural heritage in Hebrew. It provides open access over the internet to a wide range of literary creations in the Hebrew language, including poetry, essays, reference works, translations, and more. The online corpus of the BYP constantly grows as new works are transcribed. Due to its open access policy, the BYP includes only content that is old enough to be in the public domain (or for which specific distribution rights have been granted). The bulk of the collection thus consists of works created within the EMH period. In this study, we report on findings based on a snapshot of this corpus from 2014.¹⁵ We set aside translated works and focused only on works created originally in Hebrew.

2.1 Research questions

We examined the use of existential possessive modals in EMH over several decades. The study aimed at establishing the historical development of the construction from a morphosyntactic and

¹⁴These three resources are found online, respectively, at: maagarim.hebrew-academy.org.il, benyehuda.org, web.nli.org.il/sites/JPress.

¹⁵We thank Asaf Bartov and the BYP for providing a ready-to-use version of the corpus at the Ben-Yehuda Hackathon (THATCamp Haifa, University of Haifa; February 2014).

semantic perspective. We set out to answer the following questions:

1. What were the morphosyntactic variants of the construction in early EMH? When was the dative phrase lost?
2. What modal forces and modality types did the possessive modal construction convey (with a dative phrase)?
3. What modal forces and modality types did the existential modal construction convey (without a dative phrase)?
4. What was the path of development, decade by decade?

2.2 Procedure

While the BYP provides a rich resource for studying Hebrew of the revival period, it has a serious drawback: it is not annotated with dates. This results from the Project's original focus on authors, not on literary works. Sometimes a work's date of creation is implicit in its web page, but not all dates are provided this way and there is no systematic annotation of metadata overall.

In order to prepare the corpus for our study, we began to enrich it with dates. Roughly 20% of the corpus has been manually dated so far, based on information gleaned from the BYP files or from bibliographic searches. The present study was carried out on this subpart of the BYP: a 4.3 million words corpus from the years 1840-1980.

It is important to note that the BYP corpus is not annotated for morphological or syntactic information. Therefore, we could not construct searches that referred to parts of speech, lemmas, phrase structure, or any other linguistic feature. Accordingly, we carried out string-based searches, with the goal of finding as many relevant examples as possible. All files were searched for instances of *yeš* 'EX' followed by a string beginning with *l*, the first character in an infinitive. In order to match instances of the possessive construction as well, we allowed *yeš* to be optionally followed by a dative phrase. Due to lack of annotation, we focused just on pronominal datives (spelled as *li* 'to me', *lnu* 'to us', *lx* 'to you(SG)', and so forth) and limited the search window to three words.¹⁶ These very general (yet inherently limited) searches unearthed examples of our target constructions alongside many irrelevant instances. We manually went over the results and excluded the irrelevant cases.¹⁷

We added two semantic annotations to every existential possessive modal in the list of relevant instances: its modal force and its modality type. Modal forces were possibility, necessity, or a combination of the two in examples that could be understood both ways. Modality type was annotated as circumstantial or priority (with note of particular sub-types, e.g., teleological or bouletic,

¹⁶We considered only instances of *yeš* that occurred as an independent word in an attempt to weed out irrelevant strings that end in the letters *yš*.

¹⁷Clearly irrelevant were non-modal possessives in which the pronominal dative was followed by a string beginning with *l* which was not an infinitive (e.g., *yeš lo lifšamim regašim* 'He sometimes has moments', Ahad Ha'am, *Šal parašat draxim*; 1903). This issue occurs also with existential *yeš*. We also excluded cases in which an infinitive occurred somewhere downstream, outside the predefined window of three words (as in *yeš lo lašorex lehabit* 'the editor should look at [additional things]', Ahad Ha'am, letter to Mr. Atlas; 1897). These examples are in fact relevant examples of existential possessive modals, but since we did not systematically search for such long strings, we excluded them from the quantitative report. Future work should attempt to achieve a more comprehensive sample based on a parsed version of the corpus.

when these were especially salient). Cases with variable modal force usually also varied in their modality type, as discussed in more detail in the following section.

2.3 Corpus findings

Frequencies of the constructions As seen in Table 1, about 500 relevant instances of existential possessive modals were found in the BYP corpus with dates. Approximately one fifth of them were possessive (*yeš* with both a dative and an infinitival complement) and the rest were existential (*yeš* with just an infinitival complement). These findings provide merely a lower bound on the frequency of the possessive modal construction in EMH, since our searches included only a subset of possessive modals with pronominal datives.¹⁸

	EX + INF	EX + PP + INF
Instances	399	91
Files	166	41
Authors	23	16

Table 1: Existential and possessive modals in our sample of the BYP corpus.

Possessive modals are robustly attested in the EMH corpus both in terms of frequency and in terms of dispersion: they occur in the writings of different individuals, on different occasions (right hand column of Table 1). Given that the construction is strictly ungrammatical in present day Hebrew, we can use the corpus data to track its decline. Table 2 provides the breakdown by decade of all annotated occurrences of both existential and possessive modals in our corpus. Figure 1 plots the normalized relative frequency of both constructions on a timeline.

We see that existential modals are found throughout the EMH period, while possessive modals disappear from literary writing by the 1930s. The timing of this change accords well with previous findings about the development of Modern Hebrew, as we discuss at the end of this section.

We hesitate to propose a definite cutoff point based on these data due to the relatively small number of examples. With an average frequency of 12 per million words for the possessive construction and 95 per million words for the existential construction, the EMH constructions are rare compared to other modal and aspectual constructions that have been studied from a diachronic perspective.¹⁹

Modal force As the morphosyntax of existential possessives changed, so did their modal meaning. Recall that both modal force and modality type were annotated for every relevant instance in

¹⁸Other types of dative phrases were also attested in EMH; see fn. 17 for an example.

¹⁹For example, the progressive in spoken English has been studied diachronically based on reported frequencies of about 6,000 per million words (in the 1960s) to about 7,800 per million words (in the 1990s) (Smith, 2005; Aarts et al., 2010). In the modal domain, Krug (2000) tracks change in English modal verbs based on frequencies that are two orders of magnitude greater than what we have in the EMH corpus (2-14 occurrences per 10,000 words for various modal constructions in the period from 1850 to 1990; p. 168ff.). More recently, however, Bauman (2016) has carried out a diachronic study of possession and obligation in Spanish based on corpus frequencies that are similar to the ones reported here for EMH.

	EX + INF			EX + PP + INF	
	Instances	Frequency per 1000 words	Corpus size (tokens)	Instances	Frequency per 1000 words
pre 1880	0	0.000	216,657	0	0.000
1880-1889	2	0.013	151,480	0	0.000
1890-1899	10	0.020	505,995	2	0.004
1900-1909	103	0.109	946,578	68	0.072
1910-1919	85	0.195	436,043	5	0.011
1920-1929	53	0.079	669,872	10	0.015
1930-1939	20	0.086	231,838	1	0.004
1940-1949	25	0.081	310,217	0	0.000
1950-1959	52	0.111	467,727	2	0.004
1960-1969	39	0.139	281,374	3	0.011
1970-1979	10	0.115	87,176	0	0.000
Total	399		4,304,957	91	

Table 2: Frequencies of the constructions in our corpus, by decade.

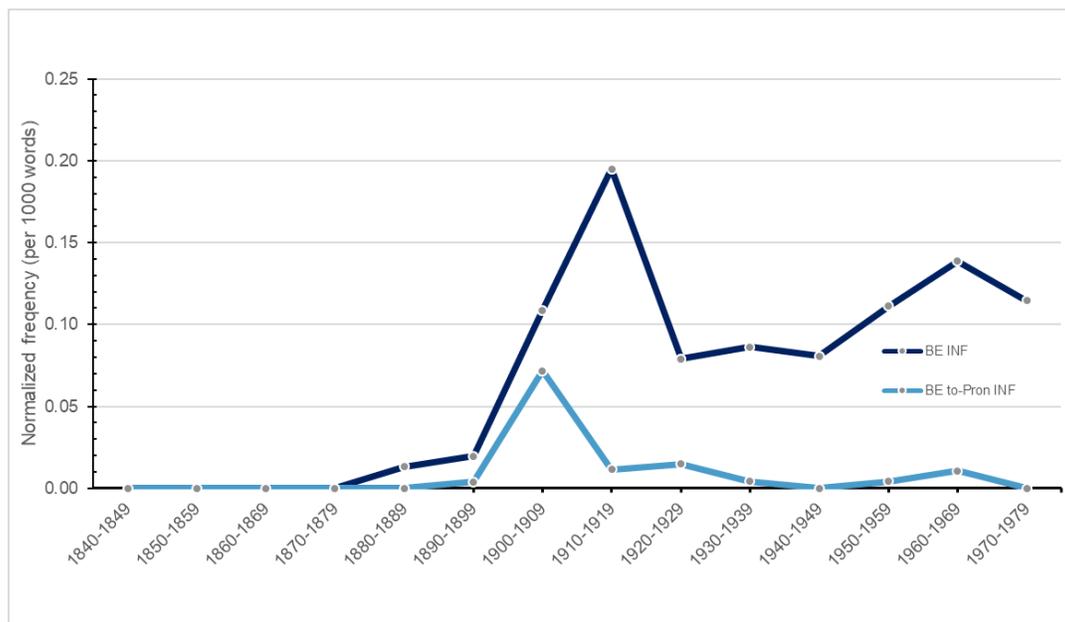


Figure 1: The decline of the possessive modal construction (bottom) in comparison to the existential modal construction (top) in our corpus.

our sample. Focusing first on force, Table 3 summarizes the distribution of possibility interpretations in each of the two modal *yeš* constructions. Figure 2 adds a temporal dimension to the data, showing the relative frequency of possibility interpretations in the existential construction, which is the one whose relative frequency did not change substantially throughout the corpus.

	EX + INF	EX + PP + INF
Possibility (only)	35 (12) [9% (3%)]	65 (4) [71% (4%)]

Table 3: Existential possessive modals with intended possibility interpretations in our corpus.

As seen in the right hand column of Table 3, the possessive modal construction in EMH was largely an expression of possibility: 65 out of a total of 91 examples (71%) had possibility as one of their intended interpretations. It was a special type of possibility, however, strikingly different from the more familiar possibility that modals in English and in present day Hebrew convey. Possessive modals in EMH were expressions of possibility that did not rule out a necessity interpretation. An example of this special possibility-cum-necessity force can be seen in (13).

- (13) *kvar yeš le-xa laħšov ġal dvar ha-yeci?a mi-kan*
 already EX to-you to.think about matter.CS the-leaving from-here.
 ‘You can/should start thinking about leaving this place.’ (E. Meidanek, *ħulša*; 1904)

Only 4 out of the 65 possibility examples did not allow a ‘must’ or ‘should’ paraphrase and expressed possibility exclusively. (1a), repeated below, is one of these cases.

- (14) *ve-uxal lišpot ġad kama yeš l-i lemalot drišot-av*
 and-can.1SG.FUT to.judge up.to how.much EX to-me to.fill demands-its
 ‘... and I will be able to judge how much I can do to fill [the people’s] demands.’ (Ahad Ha’am, letter to Y. H. Ravnitzki; 1896)

Finally, examples conveying necessity accounted for just under a third of the examples in the possessive construction. One of these is (15) (repeated here from footnote 13):

- (15) *adraba harbe yeš l-anu lehictaġer ġal ħoser ha-maġase*
 on.the.contrary much EX to-us to.regret on lack.CS the-doing
 ‘On the contrary, we should greatly regret lack of doing.’ (Bar Tuvia, *Necaħ Yisra?el*; 1909)

The example is part of the author’s lament that a certain leader had rejoiced in the relative apathy with which calls to emigrate (to Palestine) have been received. The author uses a possessive modal to convey his opinion that one *should* regret it when things do not happen, not to say that it is *possible* to do so.²⁰

²⁰It is useful to compare (15) and (13) in terms of modal force. When a normative overtone cannot be ignored, as in (15), the only interpretation available is necessity.

In contrast with the possessive EX + PP + INF construction, the existential EX + INF construction was generally a vehicle for expressing necessity. Only 35 out of 399 (9%) of existential instances had a trace of the possibility-cum-necessity force. Only 12 examples (3%) were strictly expressions of possibility. One of these few possibility uses can be seen in (11) above. An example of possibility-cum-necessity is shown in (16). The more typical force of the construction, namely necessity, can be seen in example (17) (repeated from (1b)).

- (16) *u-ma še-raʔinu b-a-yaħid yeš lirʔot gam b-a-ʕam*
 and-what that-see.PAST.1PL in-the-individual EX to.see also in-the-people
 ‘And what we saw in the case of the individual we can/should see also in the people.’ (A. D. Gordon, *Mi-tox qriʔa*; 1918)

- (17) *va-afilu mi še-eyn-am mitʕanim be-yom ha-kipurim modim ki*
 and-even who that-EX.NEG-3MPL fast.MPL in-the.day.of.atonement admit that

yeš lehitʕanot be-tišʕa be-av
 EX to.fast in-nine in-Av

‘And even those who do not fast on the Day of Atonement admit that one must fast on Tisha B’Av.’ (E. L. Lewinsky, *Astrology II*; 1896)

Not only were possibility uses of existential modals rare, they seem to have been characteristic of particular writers. Out of the 35 existential modals conveying possibility (left hand column in Table 3), 21 are found in the writing of one author, namely A. D. Gordon. In fact, all (twenty) examples of possibility uses in the 1910s are due to Gordon. (Examples in the decades before were not similarly skewed; for instance, the 6 possibility uses in the 1900s are due to three different authors.) While the existential modal constructions is attested in the writing of 23 authors, only eight of them use it with a force of possibility.

It is also noteworthy that most of these attestations are confined to a small set of somewhat idiomatic expressions, in particular *yeš lirʔot* ‘EX to.see’ in A. D. Gordon’s writing and *yeš limco* ‘EX to.find’ for a number of other authors.

Importantly, possibility uses of the existential construction were not evenly distributed over time. They were characteristic of early EMH and dwindled from the 1920s and on (Figure 2). The existential modal construction, the one that persisted, did not take on meanings associated with the disappearing possessive construction.

In sum, although clearly a marginal interpretation of existential modals, a force of possibility was grammatical in EMH for at least some authors using the construction. So, while the overt form of *yeš* with an infinitive did not change, the construction’s modal meaning shifted over time from an expression which at least partly conveyed possibility toward an expression conveying just necessity.

Modality type Turning to the type of modality conveyed by modal *yeš*, we find a correlation with modal force that cross cuts both existential and possessive variants. Examples describing strict possibility had circumstantial modal flavor (e.g., possessive (1a) and existential (11)), examples that expressed both possibility and necessity had in addition a priority modal flavor on their necessity interpretation (e.g., possessive (13) and existential (16)), and examples annotated with

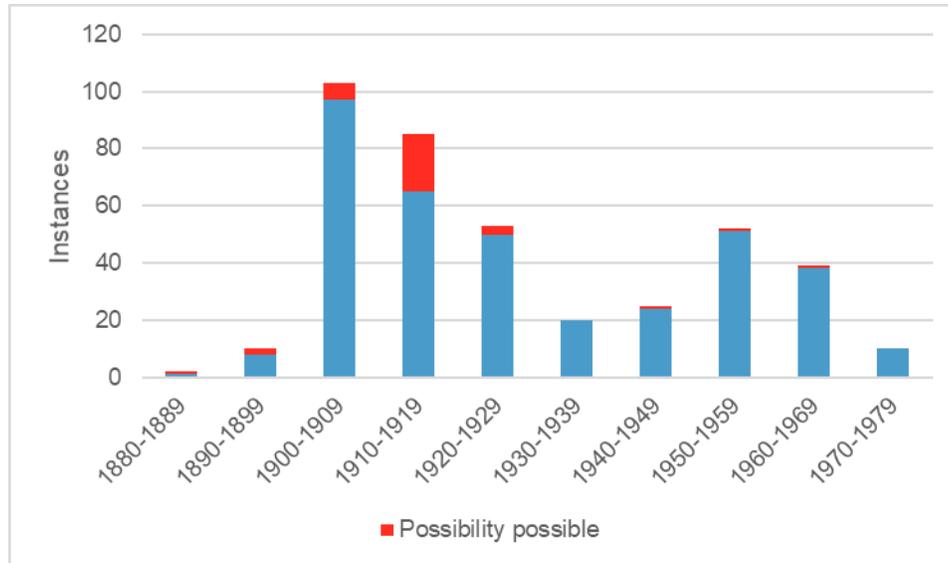


Figure 2: Possibility as a possible interpretation of the existential modal construction, by decade.

the force of necessity were interpreted as expressing priority modality (e.g., deontic modality in the existential construction (1b)). Other combinations were not attested. In particular, there were no priority-type possibility examples (paraphrasable, e.g., as *allowed* or *permitted* in their deontic sense) and no circumstantial necessity examples (paraphrasable as *have to* as in *I have to sneeze*). Examples annotated as circumstantial varied in their precise sub-type or sub-flavor. Some described possibilities defined by a particular situation or set of circumstances, as in (18), while others had a salient dynamic interpretation, emphasizing relevant abilities of an individual (1a) or opportunities opened up by the circumstances (11).

- (18) *heyxan yeš limco kšeyrot be-yom kipur*
 where EX to.find koshers in-day.of.atonement
 ‘Where can one find kosher food on the Day of Atonement?’ (A. Druyanow, *Sefer ha-bediħah ve-ha-ħidud*; 1922)

To conclude, existential modals that expressed necessity also conveyed priority modality. This makes the vast majority of examples similar to present-day EX + INF in both force and flavor. The now-obsolete possessive construction, on the other hand, had a majority of possibility-cum-necessity uses, which conveyed a combination of circumstantial and priority modality.

Anticipating the discussion of classical Hebrew in the next section, it is important to note that the vast majority of possibility and possibility-cum-necessity uses in our corpus are original creations of their authors. They represent productive use insofar as they come with a variety of different verbs and seem not to be quotations or fixed phrases. A minority of cases do seem to echo the classical literature. (19) is one such example. In this text, Y. L. Gordon embeds the well known Mishnaic phrase ‘to plead in favor of someone’ in his philosophical musings about current affairs.²¹

²¹Y. L. Gordon is an author known for his profound knowledge of biblical and talmudic sources. These are *synthesized* into his own creative writing, to use Harshav’s (1990) terminology (synthesis is the second out of three levels of integration he lists – quotation, synthesis, and fusion – that characterize the influence of classical Hebrew on the

- (19) *aval gam ʕaley-hem yeš lelamed zxut*
 but also on-them EX to.speak virtue
 ‘But we should plead in their [our ancestors’] favor as well’ (Y. L. Gordon, feuilleton; 1886; see Mishnaic source in (22) below)

As we will see in the next section, classical varieties of Hebrew are crucial for understanding the roots of the construction in EMH.

Summarizing the EMH data, we have seen that change in existential possessive modals had both a morphosyntactic component, namely loss of the dative phrase, and a semantic component, specifically loss of the ability to express circumstantial possibility in the EX + INF construction. It is noteworthy that the change culminated in the 1930s. Harshav (1990, 1993) argues that the remarkable linguistic development of Modern Hebrew can only be understood within a broader cultural and social context, pointing to the early 1920s as the time in which Hebrew became a foundational, *base language* of society (Harshav, 1990, p. 91).²² While Hebrew was written and spoken by individuals in certain contexts long before the period of EMH,²³ at this time a relatively uniform standard register became identifiable (Blanc, 1954; Reshef, 2009, 2013a; Reshef and Helman, 2009). Reshef claims, moreover, that some grammatical changes were quicker to take effect than others. Discussing non-literary texts in particular, Reshef (2009) states that morphological selection from the inherited linguistic stock had already concluded by the early 1920s, while morphological developments influenced by “lexical, syntactic, and pragmatic” considerations took longer to conclude (p. 161).²⁴ The decline of the possessive construction fits this general pattern.

3 Continuity and forces of change

Existential possessive modality in EMH merits our attention due to its special force and flavor. As we have seen, one component of its meaning expresses circumstantial possibility (translatable by *able to* or *can*), with a ‘must’ or ‘necessary’ interpretation implied in many but not all cases. In this section, we will see that the sources of this special kind of modality, what we have called possibility-cum-necessity, are to be found in older varieties of Hebrew and in Jewish Aramaic.²⁵ The historical facts provide additional motivation for reconsidering the possession-obligation generalization, an issue taken up in Section 4.

modern language; p. 28; cf. the use of the term by Rabin 1985, 283). Locutions including existential possessive modals from classical Hebrew were found in our corpus also in the writings of Rabbi Ze’ev Yavetz.

²²These years saw the third large wave of Jewish immigration to Palestine, known as the Third Aliyah (1919-1923).

²³Harshav 1990, p. 20; Reshef 2013b.

²⁴See also Reshef 2013a, p. 401.

²⁵It should be noted that the discussion is based on existing descriptions in the literature and not on independent examination of the relevant corpora. Such an examination is clearly called for, especially in order to question whether modal *yeš* had different interpretations with and without a dative phrase. Previous literature has not explicitly dealt with this possibility.

3.1 Existential possessive modality in classical Hebrew

Traditional descriptions of Hebrew suggest that existential possessive constructions in early stages of the language expressed possibility, not necessity as in Modern Hebrew (Ben-Ḥayyim, 1953, 1992; Shehadeh, 1991; Sharvit, 2008).

But those who are well versed in the ancient language sources, the Hebrew Bible, the Talmud and its armor-bearers, do well remember that “[and-EX.IMP the-sun to.come]” or “[EX to-him to.plead.in.favor.of]”, “[EX to.say]”, etc. have a different interpretation. ‘[EX to.say]’ in the Talmud and related literature means: one can say, one may say, but need not say. (Ben-Ḥayyim 1992, 55-56; my translation)

Examples like (20) provide compelling evidence for the possibility interpretation Ben-Ḥayyim (1992) is referring to. In this talmudic example,²⁶ two existential possessives are conjoined that have incompatible prejacent: one may reach one of two incompatible conclusions (or more literally, there are two incompatible things one may say).²⁷ Necessity is not a possible interpretation in either conjunct.

- (20) *ʔikka: Imemar haḳi v-ʔikka: Imemar haḳi ...*
EX.here to.say thus and-EX.here to.say thus
‘One could say this and one could say that.’ (Bava Batra 154A, Gemara)

Example (21) is one of three examples said to establish a possibility meaning for existential possessives already in Biblical Hebrew (see Shehadeh 1991 for a summary).²⁸ The English translation with *be able* reflects the basic possibility meaning of this example.

- (21) *yēš laʔdōnōy lōtēt ləkō harbēh mizzeh*
EX to.God to.give to.you much than.this
‘[And the man of God answered:] “The Lord is able to give thee much more than this”.’ (2 Chronicles 25:9)

The textbook example of the seemingly weak, possibility meaning of existential possessives in Mishnaic Hebrew is ‘EX to plead in favor of/against’, as in (22). The context is legal protocol, specifically concerning the examination of witnesses. Note that the English translation in this case is faithful to the possessive use of *yeš*.²⁹

²⁶Note that the language of the example is (Jewish Babylonian) not Hebrew. In the literature, this parallel Aramaic construction is said to express “possibility or permission to perform the action described by the verb” (Bar-Asher Siegal, 2016, 264). Aramaic also had a possessive modal construction, which we see translated variably with possibility and necessity modals (‘can’, ‘should’; p. 265), and different exponents of the existential particle depending on whether or not the dative phrase was present (ibid.). A detailed comparison with Aramaic is beyond the scope of this paper. See Bar-Asher (2012, 2016) on linguistic manifestations of the historical connection between Aramaic and Hebrew.

²⁷Talmudic translation based on the Soncino Babylonian Talmud in English: <http://halakhah.com>.

²⁸Biblical examples are taken from the electronic version of the Leningrad Codex, at <http://www.tanach.us/Tanach.xml>. English translations are from Jewish Publication Society’s 1917 edition of the Hebrew Bible in English: <http://www.mechon-mamre.org/p/pt/pt0.htm>.

²⁹Following Bhatt (1999, 2006), it is possible that the infinitive in these cases, covertly, is the element adding a modal meaning to the construction. A semantic analysis is beyond the scope of this paper, but see section 4 for discussion of infinitival relatives and the historical development of *have to* in English.

- (22) *ʔamar ʔeħad min ha-ʕedim yeš l-i lelammed ʕal-aw zəḵut ...*
 said one of the-witnesses EX to-me to.speak on-him virtue
 ‘[If one of the witnesses said,] “I have some points to argue on his behalf for acquittal”,
 [or if one of the disciples (said), “I have (somewhat) to argue against him for conviction”,
 they silenced him.] (Sanhedrin 5: 4)³⁰

Possibility interpretations of the construction persist in Medieval Hebrew. (23) seems to express a type of circumstantial possibility that is similar to that of the examples from Biblical, Mishnaic, and Talmudic Hebrew.³¹ Note that the translator chose a necessity modal in this case, a point we return to shortly.

- (23) *we-yeš l-anu be-kan lidroš ʕal yona ... ʔim qara we-ʔim law ...*
 and-EX to-us in-here to.ask on Jonah whether he.called and-whether not
 ‘Next we have to ask, whether Jonah called or not [when the shipmaster said “Arise and call upon thy God”].’ (Abraham bar Ḥiyya, *Meditation of the Sad Soul*; 11-12th century)³²

A topic of some debate concerns deontic possibility, i.e., permission readings of the construction. Recall that permission readings are absent from our EMH corpus, as discussed in Section 2. There are also no examples with deontic flavor in the handful of modal *yeš* examples in Biblical Hebrew. However, such readings seem to have been attested in Medieval Hebrew, and perhaps also in earlier varieties. For example, (24) is clearly a deontic use and arguably conveys permission.³³

- (24) *Context: examples of ritual objects one may buy in lieu of a ritual object sold. In place of an ark ...*

yeš la-hen liqaħ be-dame-ha mitpaħot ʔo tiq le-sefer tora
 EX to-them to.take in-money-its vestments or case to-book Torah

‘... they may use the money to purchase vestments or a case for a Torah scroll.’ (Maimonides, *Mishneh Torah* Ahava Tefilah 11: 14; 12th century)³⁴

Goshen-Gottstein (2006, pp. 188-189) and Bar-Asher Siegal (2016, pp. 264-265) note that permission readings are found in Jewish Aramaic as well.

Although the received view is that existential possessives conveyed possibility in classical Hebrew, the picture is in fact more complex. (24) from the Maimonides corpus, for example, has been translated with *may* as well as *must* by different writers. In many cases, necessity seems to have

³⁰The Cambridge manuscript of the Mishnah (<http://cudl.lib.cam.ac.uk/view/MS-ADD-00470-00001/5>), with translation from Philip Blackman’s *Mishnayoth* on HebrewBooks.org.

³¹See Shehadeh 1991 for additional examples.

³²Translation by Wigoder (1969, 93).

³³Ariel (2015) argues that Maimonides uses existential possessives predominantly as expressions of deontic possibility throughout the *Mishneh Torah* code. In this particular case, a permission interpretation is definitely available given the broader context of the passage. Presumably, one may purchase any object that is more holy than the object sold, including objects that are much more holy. But note that in the precise context in which the sentence appears, a *weak necessity* paraphrase (a ‘should’-like meaning) is also coherent: given a list of a few exemplary objects, it is most appropriate to use some but not others as replacements for the particular object sold.

³⁴Translation by Kellner (2004: 52-53).

been implied in addition to possibility, leading Shehadeh (1991) to state that the intended meaning is so context dependent and variable that the reader often cannot decide between a possibility interpretation and a necessity interpretation for any given example (p. 416).

Shehadeh's (1991) statement was focused on Medieval Hebrew, but the same variability in force is present also in earlier examples.³⁵ For example, (21) above seems to be simultaneously a statement of God's abilities and something more than that. Not only is God able to give the king more than what he promised the soldiers; he *can* and if the relevant situation arises, he *will*. Similarly, (22) is interpreted not just as a statement of a witness's ability to defend the accused but as a promise or desire to do so given the opportunity. A clear case of an existential possessive modal with an intended necessity interpretation is shown in (25), from the Babylonian Talmud.³⁶

- (25) *Mishnah: If two potters were following one another and the first stumbled and fell down and the second stumbled over the first, the first is liable for the damage done to the second.*

haka ḥayyav še-haya l-o laṣamod we-lo ṣamad
here liable that-EX.PAST to-him to stand and-not stood

'... here there is liability since he had [meanwhile had every possibility] to rise and nevertheless did not rise.' (Bava Kamma 31A, Gemara)

Not only did the first potter have the possibility to rise, he should have done so. The necessity interpretation of this and other talmudic examples is attested in dictionaries, where existential possessive modals in classical sources are paraphrased using stronger modals, e.g., *carix* 'need', *ḥayav* 'must', *raṣuy* 'fitting', and *naḥuc laṣasot* 'necessary to do'. The necessity meaning is given alongside possibility in the dictionaries (see, e.g., Ben-Yehuda 1908/1980, volume 4, p. 2170).

In the rabbinic literature in Aramaic, the phrase *hōva: le lmemar* 'EX.PAST to.him to.say' (a variant of (20)) is a particularly telling case. In the Palestinian Talmud it is usually taken to be an expression of ability or possibility, referring to something (appropriate) that one *could* have said.³⁷ But Schwartz (1992, 79) finds two wrinkles in this conception. He claims that it is usually hard to decide whether the correct understanding of the modality is 'could' (Hebrew: *yaxol*) or 'should' (Hebrew: *carix*). Second, he observes that the difficulty is related to the contexts in which the expression is used. For example, when the alternative is to say nothing, or if what *can* be said will help avoid some kind of difficulty (similarly to the case in (25)), the interpretation is that it is *necessary* to say it.

In light of this evidence, I suggest to modify previous authors' conclusion that the existential possessive construction in classical Hebrew was an expression of possibility (recall the quote from Ben-Ḥayyim 1992 at the beginning of this section and see Shehadeh 1991, 420). I propose instead that we seek a better understanding of the necessity component that accompanies many examples of the construction in the classical literature and ask how it may be related to possibility modality. From an historical perspective, the Hebrew existential possessive seems to have been an ability

³⁵The variation in existential possessive modals is reminiscent of the phenomenon of *quantificationally variable modality* that has been discovered in the past decade and documented in a number of languages (Rullmann et al., 2008; Peterson, 2010; Deal, 2011; Yanovich, 2016). We must leave discussion of this literature in the context of Hebrew for future research.

³⁶The critical part of the sentence, which includes the existential possessive modal, is in Hebrew.

³⁷See Schwartz (1992, fn. 17) for references.

modal which received necessity paraphrases in certain contexts and which survived in Modern Hebrew as a strictly priority-type necessity modal. The necessity component may have been a semantic link connecting the classical usage with the usage that prevailed in EMH and later in Modern Hebrew, especially when possessive modals declined and the existential modal construction took center stage. These possibilities are explored next.

3.2 The role of contact

The relatively abrupt change in the meaning and form of existential possessive modals in EMH stands to be explained. Researchers that noted the semantic break from classical Hebrew hypothesized that contact was responsible (Ben-Hayyim, 1953, 1992; Shehadeh, 1991). They did not, however, provide data or specific arguments to support this hypothesis. In this section I discuss a few reasons to reassess the role of contact in this development.³⁸

Ben-Hayyim (1992) suggests specifically that “Only under the influence of Yiddish, German, and other such languages, in which the parallel syntactic construction expresses necessity, did possibility change to necessity in this [Hebrew] syntactic configuration” (Ben-Hayyim 1992, 56; my translation). The languages mentioned include Yiddish, whose influence on Modern Hebrew is widely assumed and extensively documented (Blanc 1965; Rosén 1956, 1977a; for recent work, see Doron 2016, p. 6, and articles collected there). German, on the other hand, has not been argued to have played a significant (independent) role in the development of Modern Hebrew.

Yiddish was the native language of many of the first generation speakers of Modern Hebrew, many of whom also had knowledge of at least one Slavic language.³⁹ Yiddish and Slavic languages are thus the “usual suspects”, to use Taube’s (2015) words, when it comes to contact-induced influences on Modern Hebrew. A survey of existential possessive modality in these languages is beyond the scope of this paper; in what follows I note a few relevant points.

The status of existential possessive modality in Yiddish is unclear. In his survey of Yiddish modals, Hansen (2014) does not mention existential possessive modal constructions as such.⁴⁰ Possessive ‘have’ appears only in the following example, (26). It arguably exemplifies a possessive parse of ‘have’ which includes a relative clause structure, as discussed below in Section 4.2.

- (26) *er hot mer nit vos tsu ton!*
 he have.3SG more not what to do
 ‘He doesn’t have anything to do.’ (BeFS-1910; Hansen 2014, 157)

³⁸Influence of Yiddish on existentials in Modern Hebrew has been suggested by Taube (2015) regarding accusative marking of definite object NPs in negative existentials (*eyn* ‘EX.NEG’). Taube (2015) hypothesizes that accusative marking started in the negative existential and was extended to positive assertions of existence and possession as an internal development in Hebrew (pp. 32, 35). This section asks whether foreign existential possessive modals, including Yiddish ones, may have influenced modal *yeš* in Hebrew.

³⁹Taube 2015, 33; Doron 2015, 11. See Bachi 1956 for demographic data on the Jewish population in Palestine in the relevant time period.

⁴⁰Hansen’s (2014) study (based on texts from 1900-1950 in the Corpus of Modern Yiddish (CMY)) is inherently restricted, as it intentionally examines only a certain set of modal expressions, those which are morphologically independent and semantically polyfunctional (p. 161). In passing, a necessity meaning seems to be attributed to the element *kern*, translated as ‘to belong to, to have to’ (p. 147). Further work is needed in order to comprehensively describe existential possessive modality in Yiddish.

Slavic languages exhibit substantial variation in their use of ‘have’ and ‘be’ constructions (Isačenko, 1974; McAnallen, 2011). Languages like Czech and Slovak have a verb ‘have’, and like in German and English, it expresses modal necessity in combination with an infinitive (Isačenko, 1974, 70). Russian, on the other hand, is considered a ‘be’ language and although it has a verb *imet’* meaning ‘have’, combining this verb with an infinitive sounds foreign and is not an integral part of the grammar (Isačenko 1974, 71, Timberlake 2004, 311).⁴¹ In contrast, modality does arise with ‘be’. The following example from Jung (2011) illustrates.

- (27) *a začem mne bylo vstavat?*
 and why me.DAT be.PAST.N.SG get up.INF
 ‘And why did I have to get up?’ (Jung, 2011, 98(1), an attested example from Ruscorpora)

The interpretation of this use of the Russian possessive is a topic of debate. Jung (2011) assumes it expresses obligation (calling it a *dative-infinitive deontic modal*), while Bjorkman and Cowper (2016) hesitate to treat it as a “true modal necessity construction” given additional descriptions in the literature (p. 43, fn. 18). Resolving this issue will require in-depth study of the construction in context, but it seems reasonable to assume that some kind of modality is involved, given its translation with modal elements such as *supposed to*, *should*, *in the cards*, and *good to* (ibid.).

It is noteworthy that the argument corresponding to the “possessor” in (27) is dative. Modal ‘be’ behaves in this respect like other modals in Russian, in particular impersonal modals that require dative marking on their subject (de Haan, 2002). The class includes necessity modals *nado* ‘have to’, *nužno* ‘have to’, *nel’zja* ‘impossible’ (p. 93). Importantly, the possessor is marked differently in ordinary possessive constructions. There, it is prefixed by *u* ‘at’ and takes genitive case (Jung, 2011):

- (28) *u menja byla kniga.*
 at me.GEN be.PAST.F.SG book.NOM.F.SG
 ‘I had a book.’ (Jung, 2011, 105)

These two features of modal ‘be’ in Russian – the fact that it differs from possessives in its morphosyntax and is compatible with the morphosyntax of impersonal necessity modals – align well with the characteristics of modal *yeš* in Modern Hebrew and lend plausibility to the view that the construction in MH was influenced by the Russian dative infinitive.

Russian influence on Emergent Modern Hebrew has been suggested more generally by Dubnov (2005, 2008, 2013) in the domain of impersonal constructions. Impersonals, like existential possessive modals, are found already in classical Hebrew, but Dubnov (2008) argues that their frequency and productivity increased substantially in EMH (p. 37).⁴² Dubnov discusses sentences in which an adjective (e.g., *mešanyen* ‘interesting’, *nora* ‘awesome’) is followed by an infinitive, conveying an evaluative modal judgment. Notably, the adjective does not inflect in this construction (a fact we return to below), echoing the Russian impersonal modals listed above and others

⁴¹According to Isačenko (1974), the Russian construction is a loan translation from German. He moreover notes that modal ‘have’ in German differs from *have to* in English in that it imparts a meaning of “inevitable future” (p. 70). These remarks motivate a separate investigation of possessive modality in German.

⁴²On impersonals in Mishnaic Hebrew, see Sharvit 1993, 2008; Azar 1995; Dubnov 2008, among others. Whether or not the earlier variety of Biblical Hebrew had them as well is a topic of debate; see Mor and Pat-El 2016; Mor 2017 for discussion.

that are based on *-o* suffixed adjectival/adverbial predicates. Dubnov (2013) states that “Since the beginning of the 20th century, a large variety of qualitative adjectives are used as predicates of an impersonal nominal construction, most likely under the influence of Russian” (p. 577).⁴³ Existential possessive modality suggests that Russian influence extended beyond adjectives and modal words, to evaluative modal constructions more generally.

Entertaining the possibility of Russian influence, an immediate question is why EMH rapidly lost the ability to express the “possessor” in the possessive modal construction, despite its presence in the relevant Russian constructions (both with modal ‘be’ and with impersonal modals). The change may seem surprising from a language-internal perspective as well, since other modals in Hebrew kept their optional dative phrases, witness *asur* ‘forbidden’, *mutar* ‘permitted’ and others, which associate with a dative in a manner that is superficially similar to Russian.⁴⁴

Why was modal *yeš* different? Why did it fail to retain an overt “possessor”? I point out two potential catalysts for this development, one external and one internal.

Considering first foreign influence, Jung (2011) argues that the dative phrase in the dative infinitive modal construction is not a thematic argument of an existential element (in contrast with two other infinitival modal constructions in Russian, in which it is; p. 192). If speakers of EMH transferred this feature of Russian into their Hebrew, they would have desired a different morphosyntax for modal *yeš* and possessive *yeš*, one in which modal *yeš* does not take arguments. The possessive modal construction that was inherited from classical Hebrew would not fit this bill, given our finding that almost all datives in possessive modals appeared thematic; they denoted human individuals with an ability, preference, or obligation to act. Dropping the individual argument would make the Hebrew modal *yeš* ‘EX’ argument-less, like its Russian ‘be’ counterpart.

Second, from a Hebrew-internal perspective, dropping the possessor had the advantage of getting rid of an ambiguity at the syntax-semantics interface of the emerging grammar. The dative phrase was always optional in modal *yeš* constructions in classical Hebrew, and its presence or absence had subtle effects on interpretation, which were not entirely transparent to readers of later generations. In EMH, EX + PP + INF expressed variable modal forces and flavors, while EX + INF rather consistently expressed priority-type necessity (Section 2.3). It is possible to view the loss of the possessor as resulting from a preference for consistency at the syntax-semantics interface in the course of language development.

⁴³In addition, the possibility of Yiddish influence is mentioned in Dubnov’s earlier work (see Dubnov 2008, pp. 39-40), meriting further investigation.

⁴⁴Prepositional datives are found in EMH (and in Modern Hebrew) both when the dative is the target of the modality, e.g., the bearer of obligation in (iiib), and when it is not (iiia).

- (iii) a. *gam šal odot meʔora ha-ason šelaxem asur l-a ladašat davar*
 also on matter happening the-tragedy of.2MPL forbidden.MSG to-3FSG to.know thing
 ‘She should also know nothing about the tragedy that happened to you.’
- b. *hu yodeša še-asur l-o lalexet aval be-hakara hu holex*
 he knows that-forbidden.MSG to-3MSG to.go but in-consciousness 3MSG goes
 ‘He knows he should not go but consciously he goes [where danger lies].’
 (Both from Y. H. Brenner, *Beyn mayim l-mayim*; 1909/1910)

As seen in (iiia), the dative does not trigger agreement with the modal predicate, hence I refrain from calling it a subject (following E. Rubinstein 1967; Berman 1980, 2011; Kuzar 1992, 2012, among many others; see Mor and Pat-El 2016 for a different view regarding Biblical Hebrew and Amarna Canaanite).

Regarding the morphosyntax, contact may have played a role in the development of existential possessive modals along the lines just outlined. Semantically, the resulting construction quite clearly expresses priority modality and does not have the illusive meaning that the literature has attributed to its Russian counterpart. Without giving a detailed semantic analysis, I would like to suggest that the semantic aspect of the change has a language-internal source. Specifically, as discussed in Section 2.3, modal *yeš* in Emergent Hebrew imparted a priority-type necessity meaning in both the EX + INF and EX + PP + INF constructions. Other modal interpretations, in particular ones of circumstantial possibility, were largely characteristic of the EX + PP + INF construction, and arguably were dependent on its morphosyntax. Once the possessor argument was lost, modal *yeš* became an impersonal modal construction expressing priority-type necessity.

3.3 The exceptionality of Modern Hebrew

In the beginning of the paper, we noted that the modal use of existential *yeš* in Modern Hebrew is exceptional from a crosslinguistic point of view. Unlike existential possessive modals in other languages, modal *yeš* is ungrammatical with a possessor, it does not inflect, and it belongs to a formal register. In the previous section, I proposed a historical explanation for the loss of the possessor and characterized modal *yeš* in contemporary Hebrew as an impersonal modal construction. I summarize this section by noting that the remaining exceptional properties of the construction follow from features of the evaluative modal impersonal in Modern Hebrew.

The evaluative modal impersonal is known in the literature on Modern Hebrew as *hg"m* (following Rosén 1966/1977, pp. 218-222), an acronym for ‘lacking person, gender, and number’.⁴⁵ The construction consists of an evaluative predicate that is initial in the clause, does not show agreement, and is followed by an infinitive or a *še-* ‘that’ clause. A dative phrase following the evaluative predicate is optional. There are no restrictions on the syntactic category, or part of speech, of the evaluative predicate. Semantically, the construction imparts an evaluative or modal judgment.

Although researchers tend to discuss impersonals with *yeš* separately from ones with adjectives or nouns, the commonalities between them have been repeatedly noted in the literature (see E. Rubinstein 1967, p. 166). Kuzar (2012) states that the existential and evaluative sentence patterns (*EX S* and *EV S* in his terms) share the same form (p. 109) and constitute “two foci in one formal category” (p. 113). According to our proposal, the changes that *yeš* underwent during the emergence of Modern Hebrew led to it being analyzed, when followed by an infinitive, as belonging to the evaluative modal impersonal construction. This predicts that it would not show tense inflection. (Of course, this is not an explanation of *why* there is no inflection, merely an expectation based on the empirical properties of the construction; a syntactic-semantic analysis is obviously still needed.) Semantically, being a strictly impersonal *priority* modal means that *yeš* describes very broad obligations and requirements, applicable to anyone and everyone. Its meaning might provide at least a partial explanation for why EX + INF is restricted today to formal register, unlike other evaluative modal impersonals, which are part of the informal spoken language.⁴⁶

In summary, if our explanation of the development of modal *yeš* is on the right track, it suggests

⁴⁵Central references in this literature include E. Rubinstein 1967; Rosén 1977a,b; Berman 1980, 2011; Stern 1983; Kuzar 1992, 2012; Dubnov 2005, 2008; Mor and Pat-El 2016.

⁴⁶See Kuzar (1992) on *madliq* ‘wonderful, terrific (lit. lights, turns on)’, *šigašon* ‘craziness’ (p. 247).

a more nuanced view of the role of contact in shaping existential possessive modals in EMH. I have not found evidence for *semantic borrowing* from foreign languages (Russian, Yiddish, or German). In contrast to previous literature, I have suggested that contact with a Slavic ‘be’ language like Russian may have shaped the *morphosyntax* of the existential possessive modal in EMH, whereas internal adjustments, based on the *inherited semantics* of the construction, may explain the meaning it ultimately developed. We may have here novel evidence for Aboh’s (2015) proposal that language change in situations of contact involves recombination of grammatical features, in particular at the syntax-semantics interface (pp. 153-154).

4 Theoretical implications

Our conclusions about classical Hebrew and EMH raise a number of theoretical questions regarding the meaning and form of existential possessive modality. By highlighting these questions, this section aspires to set the stage for future work on the morphosyntactic and semantic changes in the construction.

4.1 Theoretical implications: Meaning

Several semantic issues are raised by the historical existential possessive constructions in Hebrew. A central issue concerns modal force. Whereas the literature presents existential possessive modals as necessity modals (e.g., Bybee et al. 1994 and Bhatt 1998 referring to obligation; Bjorkman and Cowper 2016 speaking more generally about necessity of different modality types), in classical Hebrew and in EMH possessive modals had possibility as an intended interpretation in over 70% of their occurrences (Table 3). There are cases in which possibility is the only intended interpretation. Existing analyses cannot account for these facts. Bjorkman and Cowper (2016), for example, have necessity built into their analysis of possessive modals. They offer an attractive analysis of possession, applicable to both ‘be’ and ‘have’ possession, according to which possessive modality manifests the same logical relation that is responsible for non-modal possession, namely inclusion. On their analysis, inclusion holds either between entities, giving rise to non-modal possession, or between sets of worlds, giving rise to modal possession. This unified analysis predicts that modal possession can only have the force of necessity. This is a welcome prediction for English, Hindi-Urdu, and other languages, but one that does not sit well with the variable modal force and flavor that was seen historically in Hebrew.⁴⁷

Another implication of our findings concerns the relationship between modal force and modality type. The historical Hebrew data clearly show that existential possessive modality may have modal flavors that are neither deontic nor epistemic. Unlike *have to*, existential possessive modals in EMH and in classical Hebrew could convey a force of possibility, and when they did, they expressed modalities of the circumstantial kind, notably abilities and opportunities. They challenge us to better understand the semantic connection between existence, possession, and modality, ideally in a way that aligns with the morphosyntax.

⁴⁷Bjorkman and Cowper (2016, 42) mention this prediction as an argument against Bhatt’s (1998; 2006) proposal that possessive modality arises from a covert modal present in infinitives. This argument should be reconsidered, especially given the fact that this covert modal may have variable force according to Bhatt (2006).

Finally, the fact that modal flavor and modal force correlate to a large extent in the data prompts questions about the connection between, on the one hand, circumstantial meanings and possibility, and on the other hand, deontic/teleological meanings and necessity. Theories that explain modal flavor by appealing to contextual parameters, notably Kratzer (1981, 1991, 2012), have moving parts to accommodate combinations of force and flavor that are generally licit but unavailable in the existential possessive construction. In particular, the combination of deontic flavor and a force of possibility, i.e., permission modality, appears to have been ruled out in EMH. The Hebrew data provide a test case for enriching theories of modality in a way that will explain the restricted interpretation of existential possessive modals.

4.2 Theoretical implications: Form

In the transition from EMH to Modern Hebrew, changes in the meaning of existential possessive modals went hand in hand with changes in the morphosyntax. In particular, the dative phrase was lost and *yeš* – only in the modal construction – became frozen and uninflectable (in contrast to past tense modal *haya* that existed in EMH, recall (10)).⁴⁸ In this section I probe more deeply into the syntactic configuration of the evolving construction. I argue that modal *yeš* in EMH behaved more like a full verb of possession, contrasting markedly with its idiomatic behavior in Modern Hebrew.

A central issue in modality concerns the argument structure of modal expressions: do they instantiate a control configuration, in which the surface subject is their argument, or is the subject merely a raised subject, related thematically to another predicate? Traditionally, it was claimed that modals split into two classes, with epistemics instantiating a raising syntax, and non-epistemics (“root” modals) exhibiting a syntax of control (Hofmann, 1976; Ross, 1969; Perlmutter, 1970, 1971; Jackendoff, 1972). Later research argued for a uniform raising syntax for all modals, including ability modals and deontics (Bhatt, 1998; Wurmbrand, 1999; Hackl, 1998). Possessive modality, in particular, has been given a raising analysis by Bjorkman and Cowper (2016) in both ‘have’ and ‘be’ languages (specifically, English and Indo-Aryan languages like Hindi-Urdu and Bengali; see also Bhatt 1998). Portner’s (2009) evaluation of these debates concludes that neither camp is entirely right. While some root modals appear to be raising predicates, as argued by Bhatt, Wurmbrand and others, not all of them are. In particular, Portner argues that ability modals and some priority modals are control predicates, as per the traditional view (pp. 200-201).

Turning to Hebrew, if the possessive construction was a raising construction in EMH, the dative phrase following *yeš* need not have necessarily referred to the individual who ‘can’ or ‘should’ act. In other words, not all instances of the construction should be like (13) or (1a) above, in which the dative refers to the individual who has the relevant ability or obligation. In order to evaluate the possibility of a raising interpretation, I examined all instances of *yeš* in our corpus that are followed by a sequence of two words beginning with *l* (targeting a ‘to’-phrase followed by an infinitive).⁴⁹ These included all the possessive modals in the original sample, as well as a few instances in which the dative was not pronominal. Except for one example, (29) below, the dative always denoted the human individual who had the ability, the preference, or the obligation to act.⁵⁰

⁴⁸The present study engaged only with the first of these two processes. Future work should also follow the decline of past tense modal *haya* in the EMH corpus.

⁴⁹I thank Idan Landau for raising this issue.

⁵⁰Another noteworthy example, from Ze’ev Yavetz, speaks about Assyrian chronology that ‘EX to-it to bow its head’

- (29) *yeš l-o l-a-šolam lehitqayem šad ha-elef ha-šviši ...*
 EX to-it to-the-world to.exist until the-millennium the-seventh
 ‘The world is to exist until the seventh millennium’. (Mendele Mocher Sforim, *The travels of Benjamin III*; 1896)

The fact that the vast majority of examples where unlike (29) does not refute the raising analysis, but it is suggestive of a control-type syntax.⁵¹ Moreover, a thematic relation between *yeš* and the dative is expected if the syntax of possessive modals was similar to the syntax of the non-modal *yeš*. If so, possessive modality in EMH might turn out to be exceptional from its crosslinguistic counterparts not only in its semantics, but also, if existing proposals for Hindi-Urdu are correct, in terms of its syntax.

A pressing question concerns the syntactic developments linking non-modal and modal possessives. There are several proposals about the stages possessive *have* went through in turning to a semi-modal *have to* (Visser, 1969-1973; Fleischman, 1982; Heine, 1993; Brinton, 1991; Fischer, 1994; Bybee et al., 1994; Krug, 2000). Authors disagree about whether the process was quick or slow and how precisely meanings changed, but a recurring theme is that modal *have to* developed out of possessive *have* in cases where the possessee headed a nonfinite relative clause. On this view, sentences like *I have a letter to mail* provided the stepping stone to modality in *I have to mail/write a letter* (Krug 2000, p. 55). According to Fischer (1994), changes in word order played an important role in the development. The possessee object noun phrase, NP_{o/i} in (30a), was first rebracketed into the infinitival relative clause modifying it. The subscript *i*, which indicates a syntactic relationship between the main clause object and the infinitival object, is gone when the object is analyzed as the object of the infinitive (NP_o in (30b)). Later, changes in word order in Middle English would have placed this object at the end the infinitive, as in (30c).

- (30) a. NP_s have NP_{o/i} [\emptyset _i to-infinitive]
 b. NP_s have [NP_o to-infinitive]
 c. NP_s have [to-infinitive NP_o]
 (Fischer, 1994, p. 149)

Is there evidence in the historical record for a parallel development in Hebrew? This question was not discussed in the literature on classical Hebrew, to the best of my knowledge. But there are traces of it that are worth mentioning. These traces are found in translations from classical Hebrew, as seen in Greek and Aramaic renderings of Biblical Hebrew existential modals (31), and in dictionaries (32).⁵²

- (31) a. *hă-yēš ləḏabbēr lōk ʔel ham-meleḵ* (2 Kings 4: 13)
 whether-EX to.speak to-you to the-king

before the “mathematical accuracy” of the Jewish religious texts (http://benyehuda.org/yavets/03_totsaot.html). This example clearly involves personification. It should also be noted that Yavetz is translating a German source in this sentence.

⁵¹A reviewer notes that one might be able to calculate the significance of finding even a single example like (29) given the size of the corpus. Since general expectations about the frequency of raising and control constructions are involved, I leave this important question unresolved here.

⁵²Underlining has been added for presentational purposes and is not present in the cited sources. I thank Noam Mizrahi for discussion of these data.

Septuagint (Greek): “whether is a word for you to the king”

Targum Pseudo-Jonathan (Aramaic): “is there a word for you to speak with the king”

Ben-Yehuda presents the verse in (32) as exemplifying the construction *yeš l-o šal-av* ‘EX to-him on-him’, suggesting that he associates the infinitival construction with the relative clause construal found in his translation.

(32) *šal mi yeš l-o lehitrašem* (Midrash Rabbah Genesis 27)

on who EX to-him to.become.angry

‘Meaning he has an argument to argue against him or a grievance’ (Ben-Yehuda, 1908/1980, 2170)

Note that in the original Hebrew text the infinitival ‘to.become.angry’ is adjacent to *yeš* and to the ‘to’-phrase due to displacement of the *wh*-phrase *šal mi* ‘on who’ to the beginning of the sentence. I call this construction the *split infinitival relative*. It is amply attested in our EMH corpus, both in construction with a possessor phrase, e.g., ‘to-me’ in (33), and without it (34).

(33) *u-ma yeš l-i lašasot?*

and-what EX to-me to.do

‘And what can/should I do?’ (E. Meidanek, *Ha-qabcan ha-šiver*; 1901)

(34) *ki ma yeš lehašiv l-a-adam ...*

because what EX to.reply to-the-person

‘... what can/should one say someone [who tells you ... that he understands what you think and how you feel]?’ (A. D. Gordon, *Hilxot dešot u-milhemet dešot*; 1919/1920)

The connection between these and the Yiddish possessives with infinitival relative clauses is striking (see (26) above).

Examples like these may be ambiguous between two parses: one in which the *wh*-phrase is reconstructed as a possessed phrase heading a relative clause (‘I have [X [to do]]’) and one in which it is analyzed as belonging inside an infinitival clause that functions as a modal preagent (‘I have [to do X]’).⁵³ Due to this potential ambiguity, split infinitival relatives may have served as a bridge between non-modal and modal existential possessives more generally.

5 Conclusion

This paper provides the first diachronic study of the semantic development of existential possessive modals in literary Emergent Modern Hebrew. We have seen that existential modals (without a dative) and possessive modals (with a dative) were both present in EMH, albeit with distinct semantic profiles in terms of modal force and modality type. The possessive modal construction declined in use and was lost around the beginning of the 1930s. The timing of this change fits previous claims about the consolidation of the modern Hebrew grammar: as a change that had morphosyntactic as well as semantic components, it took longer to culminate than changes that did not alter semantic

⁵³A reviewer points out correctly that these examples seem fine in contemporary Hebrew.

representations (cf. Reshef 2009). Future work may pinpoint the loss of possessive modals more exactly by considering larger and more diverse corpora of EMH.

Possessive modality in Hebrew in EMH and, following previous literature also in earlier varieties, challenges the possession-obligation generalization. The majority of possessive examples in our data were found to convey not necessity, but a force that combines possibility and necessity, where the necessity component was priority-oriented (broadly, “obligational”) and the possibility component dynamic or circumstantial. Syntactically, I presented initial evidence supporting a thematic relation between *yeš* and the dative in EMH, contrasting with the non-thematic relation argued for in the literature on possessive modals in other languages. These findings call for further investigation of the relationship between existential and possessive constructions, specifically taking into account their modal uses.

The paper led to a reconsideration of the role of contact in the consolidation of the existential modal in Hebrew. While more research is needed on the properties of possessive and existential modal constructions in Yiddish and German, the languages claimed by Ben-Hayyim (1953) to have been the source of influence, I provided some reasons to think that Russian should be considered a contender as well. I argued for a nuanced view regarding the development of existential possessive modals, in which external influence is but one contributing factor. I have not found evidence for semantic borrowing from foreign languages, suggesting instead that foreign (primarily Russian) influence may have shaped the morphosyntax of existential possessive modals in EMH, whereas internally-motivated processes based on the inherited semantics of the construction may explain the meaning it ultimately developed. On this view, the grammar of Modern Hebrew combines features from multiple languages that were in contact at the time of language revival. It is a hybrid grammar, in the sense of Aboh (2015). The Hebrew data thus provide new evidence for Aboh’s (2015) proposal that language change in situations of contact involves rearrangement of grammatical features, in particular at the syntax-semantics interface.

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