Semantic properties of prepositions:
The distinction between causal *min* 'from' and b^e 'in'

Camil Staps
Leiden University Centre of Linguistics, Leiden University, Leiden, The Netherlands
Department Textual, Historical and Systematic Studies of Judaism and Christianity, Radboud University Nijmegen, Nijmegen, The Netherlands
info@camilstaps.nl

Martijn Beukenhorst
Religions, Spiritualities, Cultures, Societies Research institute, Faculty of Theology, University of Louvain, Louvain-la-Neuve, Belgium
martinus.beukenhorst@uclouvain.be

Semantic properties of prepositions:
The distinction between causal *min* 'from' and b^e 'in'

Abstract

In Biblical Hebrew, both *min* 'from' and b^e 'in' are used to mark causing arguments (Agents, Instruments, Reasons, …). Reference works list the thematic roles each preposition can mark, but do not address the differences between the two. We argue that the contrast is one of 'dominance': *min*-causers are more dominant than b^e-causers. They can fully determine the effect, whereas the effect of a b^e-causer can be altered or prevented. This distinction derives from the spatial meanings of these prepositions based on an abstract spatial representation of the causal domain. The object of *min* is a Source or Origin, which is interpreted as being the instigator of a causal chain, and thus having dominance over that chain from instigation to effect. By contrast, the Locative preposition b^e describes a location close to a Ground, which is interpreted as being able to cause an effect, but not necessarily in a dominant way.

Keywords

1 Introduction

When two prepositions can be used in the same context, the choice between them often depends on subtle differences in meaning. Reference works tend to have fairly in-depth descriptions of Biblical Hebrew prepositions individually, but the contrasts between them are rarely made explicit. As a result, it often remains hard to articulate why the choice for a particular preposition in a specific text was made. The present article aims to address part of this gap by looking at the prepositions b^e 'in' and *min* 'from'. In particular, we are concerned with the causal uses of these prepositions, as exemplified in the following examples:[1]

(1) Josh 10:11: רַבִּים אֲשֶׁר־מֵ֫תוּ בְּאַבְנֵי הַבָּרָד מֵאֲשֶׁר הָרְגוּ בְּנֵי יִשְׂרָאֵל בֶּחָרֶב׃

rabb-îm	*ᵃšęr*	*mēṯ-û*	b^e=*ʾaḇn-ê*	*hab=bārāḏ*	*mē*=ᵃ*šęr*
many-PL	REL	die\PERF-3PL	**in**=stone-PL.of	the=hail	from=REL
hārᵉḡ-û	*bᵉn-ê*	*yiśrāʾēl*	*bę=ḥāręḇ*		
kill\PERF-3PL	son-PL.of	Israel	**in**=sword		

'There were more who died *because of* the hailstones than the sons of Israel killed *with* the sword.' (ESV)

(2) 1 Sam 28:20: וַיְמַהֵר שָׁאוּל וַיִּפֹּל מְלֹא־קוֹמָתוֹ אַרְצָה וַיִּרָא מְאֹד מִדִּבְרֵי שְׁמוּאֵל

wa-y-maher-Ø	*šā'ûl*	*way-y-ippol-Ø*	*mᵉlō*	*qômāṯ=ô*	*'arṣ=â*
and.PRET-3M-hurry-SG	Saul	and.PRET-3M-fall-SG	filled.of	length=3M.SG.POSS	earth=wards

way-y-irā-Ø	*mᵉ'ōḏ*	**mid**=*diḇr-ê*	*šᵉmû'ēl*
and.PRET-3M-fear-SG	very	**from**=word-PL.of	Samuel

'Then Saul fell at once full length on the ground, filled with fear *because of* the words of Samuel.' (ESV)

In (1), *bᵉ* is used twice to mark the Instrument used by another entity.[2] In (2), *min* is used to mark the Reason for Saul's fear. But *min* can also be used to mark Instruments, as seen in (3), and *bᵉ* can be used to mark Reasons (4):

(3) 2 Sam 7:29: וְעַתָּה הוֹאֵל וּבָרֵךְ אֶת־בֵּית עַבְדְּךָ ... וּמִבִּרְכָתְךָ יְבֹרַךְ בֵּית־עַבְדְּךָ לְעוֹלָם

wᵉ='attâ	*h-ô'el-Ø*	*û=bārek-Ø*	*'eṯ*	*bêṯ*	*'aḇdᵉ=kā*	...
and=now	CAUS-please\IMP-2M.SG	and=bless\IMP-2M.SG	OBJ	house.of	servant=2M.SG.POSS	...

*û=**mib**=birkāṯᵉ=kā*	*y-ᵉḇōrak-Ø*	*bêṯ*	*'aḇdᵉ=kā*	*lᵉ='ôlām*
and=**from**=blessing=2M.SG.POSS	3-bless\PASS.IPFV-M.SG	house.of	servant=2M.SG.POSS	to=eternity

'Now therefore may it please you to bless the house of your servant, ..., and *with* your blessing the house of your servant shall be blessed forever.' (ESV)

(4) Gen 41:36: וְלֹא־תִכָּרֵת הָאָרֶץ בָּרָעָב

wᵉ=lō	*ṯ-ikkāreṯ-Ø*	*hā='āreṣ*	***b**=ā=rā'āḇ*
and=NEG	3F-cut\MID.IPFV-SG	the=land(F)	**in**=the=famine

'(That food shall be a reserve ...), so that the land may not perish *through* the famine.' (ESV)

The reference works describe the arguments of these prepositions with terms like Reason, Instrument, Cause, and passive Agent, but often lack a clear working definition of such thematic roles.[3] Furthermore, the examples above show that there is overlap between the causal functions of *bᵉ* and *min*. The literature is by and large silent on the precise factors conditioning the choice between them.

This article argues that there is a difference in the degree of 'dominance' that the argument has over the situation: *min*-causers are (nearly) fully dominant, while *bᵉ*-causers are less dominant. In the examples above, this works as follows. In (1), hailstones and swords are manipulated by other entities (God and the Israelites, respectively) to bring about the event. These other entities are in control of the situation; *bᵉ* is used because the hailstones and the sword participate in the event but could not, as inanimate entities,

---

[2] The capitalized terms Agent, Cause, Instrument, and Reason represent thematic roles (Davis 2011; Harley 2011; Primus 2016). We only use these roles to give a quick impression of the functions of these prepositions, and replace thematic roles with more precisely defined notions in section 3. When discussing secondary literature, we only capitalize these terms when it is clear that the author sees them as thematic roles.

[3] The exact description varies; see section 2 for details. The main reference works consulted are Gesenius et al. (1910), Waltke & O'Connor (1990), Joüon & Muraoka (2006), Van der Merwe et al. (2017), and, specifically on *bᵉ*, Jenni (1992).

prevent it from happening or otherwise change the outcome. In (2), with *min*, Saul is completely overcome by fear of the words of Samuel; those words have taken full control over him and are the only reason for his current state of mind. In (3), *min* is used to mark the blessing as dominant over other, hypothetical, intervening causers: it is even so powerful that it lasts forever, no matter what other events may occur. Finally, in (4), *b^e* is used to downplay the famine as only a minor influence; after all, Egypt has prepared for this famine by storing up food: the famine is here dominated by an intervening cause (the storing of food by the Egyptians); as a result, the land does not perish.

We will show below how this notion of "dominance" can be formalized using causal models (Pearl 2000; Halpern & Pearl 2005 among others). We also argue that this semantics can be derived from the spatial meaning of the prepositions, explaining how the spatial notion of distance is interpreted in the causal domain. We first summarize how *min* and *b^e* are usually described (section 2). Section 3 discusses the relevant theoretical background on causation and gives a formal definition of the notion of 'dominance'. In section 4 we show how this definition accounts for the distribution of *min* and *b^e* in environments where both are possible. Section 5 briefly discusses the status of the difference in meaning between *min* and *b^e* by investigating the behavior under negation, and section 6 concludes.

2 Current descriptions of *min* and *b^e*

There is quite some discussion in the reference works as to the different causal functions of these prepositions.[4] First, Waltke & O'Connor (1990: §11.2.5) distinguish a great number of uses of *b^e*, three of which are causal. The division depends on inherent properties of the argument: inanimates are instruments (5–6), animates are agents (7), and reasons or originating forces are causes (8):

(5) Mic 4:14: בַּשֵּׁבֶט יַכּוּ עַל־הַלְּחִי אֵת שֹׁפֵט יִשְׂרָאֵל

    ***b*=aš=šebeṭ** *y-akk-û*   *'al hal=l^eḥî*   *'eṯ* *šōp̄eṭ-Ø*   *yiśrā'ēl*
    in=the=rod 3M-strike\IPFV-PL on the=cheek OBJ judge\PTCP-M.SG Israel
    '*with* a rod they strike the judge of Israel on the cheek' (ESV)

(6) 1 Kgs 1:40: וַתִּבָּקַע הָאָרֶץ בְּקוֹלָם

    wat-t-ibbāqa^ʿ-Ø   *hā=ʾāreṣ*   ***b^e*=qôl=ām**
    and.PRET-3F-split\MID-SG the=earth(F) **in**=sound=3M.PL.POSS
    'so that the earth was split *by* their noise' (ESV)

(7) Gen 9:6: שֹׁפֵךְ דַּם הָאָדָם בָּאָדָם דָּמוֹ יִשָּׁפֵךְ

---

4   Many works also discuss a causal meaning of *l^e* 'to', but the examples are not convincing and are not discussed here. These cases are problematic since they can be read as 'in relation to', a more common meaning of *l^e*, as in Gen 31:15: 'Aren't we considered foreigners *by/in relation to* him?' It seems that agency or causality is an epiphenomenon at best, and not contributed by the preposition proper. See Gesenius et al. (1910: §119f); Waltke & O'Connor (1990: §11.2.10g); Joüon & Muraoka (2006: §132f, 133d); Van der Merwe et al. (2017: §39.11.6df); Jenni (2000: 299–300).

šōp̄ek̲-Ø	*dam*	*hā=ʾāḏām*	*b=ā=ʾāḏām*	*dām=ô*	*y-iššāp̄ek̲-Ø*
pour_out\PTCP-M.SG	blood.of	the=man	**in**=the=man	blood=3M.SG.POSS	3M-pour_out\MID.IPFV-SG

'Whoever sheds the blood of man, *by* man shall his blood be shed' (ESV)

(8)   Gen 18:28: הֲתַשְׁחִית בַּחֲמִשָּׁה אֶת־כָּל־הָעִיר

hᵃ=t-ašḥît-Ø	*b=a=ḥᵃmiššâ*	*ʾet̲*	*kŏl*	*hā=ʿîr*
Q=2M-destroy\IPFV-SG	**in**=the=five	OBJ	whole.of	the=city

'Will you destroy the whole city *for* lack of five?' (ESV)

The causal categories of *min* are very similar: this preposition, too, can mark causes and means (9–11), as well as agents (12) and reasons for fear (13–14) (Waltke & O'Connor 1990: §11.2.11d):

(9)   Ezek 28:18: מֵרֹב עֲוֺנֶיךָ בְּעֶוֶל רְכֻלָּתְךָ חִלַּלְתָּ מִקְדָּשֶׁיךָ

mē=roḇ	*ᵃwōnēy=k̲ā*	*bᵉ=ʿᵉwel*	*rᵉk̲ullāt̲=ᵉk̲ā*	*ḥillal-tā*
from=greatness.of	sin=2M.SG.POSS	in=injustice.of[5]	trade=2M.SG.POSS	profane\PERF-2M.SG

miqdāš-ēy=k̲ā
sanctuary-PL=2M.SG.POSS

'*By* the multitude of your iniquities, in the unrighteousness of your trade, you profaned your sanctuaries' (ESV)

(10)   2 Sam 3:37 (see section 4.3): כִּי לֹא הָיְתָה מֵהַמֶּלֶךְ לְהָמִית אֶת־אַבְנֵר בֶּן־נֵר

kî	*lō*	*hāyᵉ-t̲â*	*mē=ham=melek̲*	*lᵉ=hā-mît̲*	*ʾet̲*	*ʾaḇnēr*	*ben*	*nēr*
COMP	NEG	be\PERF-3F.SG	**from**=the=king	to=CAUS-die\INF	OBJ	Abner	son	Ner

'… that it had not been the king's *will* (lit.: *from* the king) to put to death Abner the son of Ner' (ESV)

(11)   Gen 9:11: וְלֹא־יִכָּרֵת כָּל־בָּשָׂר עוֹד מִמֵּי הַמַּבּוּל

wᵉ=lō	*y-ikkāret̲-Ø*	*kŏl*	*bāśār*	*ʿôḏ*	*mim=m-ê*	*ham=mabbûl*
and=NEG	3M-cut_off\MID.IPFV-SG	all.of	flesh	again	**from**=water-of	the=flood

'… that never again shall all flesh be cut off *by* the waters of the flood' (ESV)

(12)   Lev 21:7: אִשָּׁה גְרוּשָׁה מֵאִישָׁהּ

---

5   We take *bᵉ* here as circumstantial: '*during* the unrighteousness …' (*pace* Jenni 1992: 145).

ʾiššâ	*geᵉrûš-â*	*mē=ʾîš=āh*
woman	divorce\PTCP.PASS-F.SG	**from**=man=3F.SG.POSS

'a woman divorced *from* her husband' (ESV)

(13) Ps 27:1: מִמִּי אִירָא

mim=mî	ʾ-îrā
from=who	1SG-fear\IPFV

'whom shall I fear?' (ESV)

(14) Exod 34:30: וְהִנֵּה קָרַן עוֹר פָּנָיו וַיִּירְאוּ מִגֶּשֶׁת אֵלָיו

weᵉ=hinnēh	*qāran-Ø*	*ʿôr*	*pān=āyw*	*way-y-îrᵉ᾿-û*
and=behold	shine\PERF-3M.SG	skin.of	face=3M.SG.POSS	and.PRET-3M-fear-PL
mig=gęšęṯ	*ʾēl-āyw*			
from=approach\INF	to-3M.SG			

'and behold, the skin of his face shone, and they were afraid *to* come near him' (ESV)

Waltke & O'Connor (1990) do not address the question what the difference between *bᵉ* and *min* is, if both of them are used to mark instruments/means, agents, and reasons.[6] As mentioned before, this is true for all the reference works we consulted.[7] The discussion in the reference works seems to be hampered by the use of thematic roles like Agent and Instrument, often without a rigorous definition. For example, Joüon and Muraoka (2006: §132d) suggest that the cause in (11) is "only instrumental" (presumably with God setting the event in motion). Perhaps the hesitance to read the waters in (11) as an ultimate causer rather than an instrument is based on the assumption that ultimate causers must be animate (cf. Bicknell 1984: 44). Modern theoretical linguistic work has suggested, however, that many phenomena that seem to be restricted by animacy are in fact restricted by *teleological capability*: the inherent ability of the entity to participate in the eventuality (Folli & Harley 2008). Natural forces, like the flood in (11), are textbook examples of entities that are conceived of as producing energy of themselves, and could therefore be

---

6   We do not find it plausible that the two prepositions are simply "interchangeable", apparently without any difference in meaning and distribution. This is what Haber (2009) seems to suggest (we thank Tania Notarius for this reference). For instance, Haber explains the use of *min* in Prov 5:18 as a "valid late interchange". The fact that the meanings of the prepositions remain clearly distinct in most instances suggests that the occasional "interchanges" we do see cannot be random.

7   For Joüon & Muraoka (2006) the prepositions have roughly the same meaning as for Waltke & O'Connor (1990): *bᵉ* marks instrument or means, instrumental cause, or plain cause with infinitives; they also mention that verbs of 'rejoicing in' can be seen as causal (Joüon & Muraoka 2006: §133c). *Min* expresses cause, source, or origin (ibid.: §133e). In discussing the opposition between causal *bᵉ* and *min*, they write that *min* expresses "*from whom* the action comes, *who* is the cause of it", whereas *bᵉ* marks an "instrumental cause" (ibid.: §132de, emphasis original). The present paper can be seen as an attempt to capitalize on that intuition in a more rigorous way. Other grammars do not go into as much detail. Gesenius et al. (1910: §119f) make a distinction similar to the one of Joüon & Muraoka (2006) when they compare the "*min* of origin" to the "*beth instrumenti*", but provide no definitions of the terms and very few examples. Van der Merwe et al. (2017: §39.1.3.3b) mention that passive Agents can be marked by *bᵉ* and *min*, but in the discussion of these prepositions this function does not return (§39.6.3a, on *bᵉ*, only mentions *bᵉyaḏ* 'by the hand of' to refer to Agents; §39.14.4a on *min* mentions an Instrumental function, but the example is not convincing). *Bᵉ* can mark the instrument, cause, or ground, and *min* can mark an instrument or ground (ibid.: §39.11.3ab; §39.14.4b). But this discussion does not offer much over that of Waltke & O'Connor (1990) and Joüon & Muraoka (2006) since it does not define its terms or compare the two prepositions.

seen as instigating a causal chain of events. In this way the use of ill-defined notions prevents an accurate description of the causal meanings of these prepositions.

In general, the grammars use slightly different terms for what seems to be the same notion (such as "instrument", "means", and "instrumental cause"), or use the same term in different ways (such as whether or not inanimates can be "agents"). Some studies that look more specifically at the causal meanings of b^e and min provide better definitions, but the confusion over these terms remains considerable. For instance, Bicknell (1984: 46) defines Agents as "actors or sources of action" (and argues that animacy is a corollary of this definition). Instruments are "inanimate objects with which the action is carried out". But the use of inherent properties (animacy) of the argument instead of relational properties (like whether the argument volitionally participates in the event; cf. Næss 2007: 30–32) to define at least the Instrument role leads to a number of unusual decisions: for (7), Bicknell argues that b^e marks an Agent because the argument is animate, while most grammarians see it as an Instrument because God is exacting punishment using the man; in (6), Bicknell sees the noise as an Instrument, but there is no Agent who uses the noise to split the earth. Other authors have by and large refrained from giving a formal definition of terms like Agent, and instead given tests with which an Agent can be recognized. In this respect one often finds the test that Agents are subjects of prototypical active transitive clauses (e.g. Sollamo 2003; Jones 2018). However, as many of the examples in this paper show, the causal use of b^e and min is not limited to the passive voice, and there is no reason to think the prepositions behave differently in passive sentences.

3 New lexical semantics for *min* and b^e

The previous section has shown that a traditional approach using thematic roles is only to a limited extent useful to describe the causal meanings of *min* and b^e. Furthermore, it has little explanatory value, as it does not predict differences in meaning between the two. This is not entirely surprising, since there have been long-standing doubts on the theoretical status of thematic roles like Agent and Instrument.[8] We propose that it is more fruitful to derive the causal meaning of these prepositions from their spatial meanings, using an abstract spatial model of causality.[9] The assumption, based on much cognitive linguistic work (e.g. Radden 1985; Talmy 1988; Dirven 1995; Croft 2012), is that humans conceptualize of causation in a kind of abstract space. Spatial prepositions can be used to express relations in this space.

---

8   For example, it has long been recognized that thematic roles like Cause, Reason, Instrument, and Agent cannot be clearly separated (Dowty 1991; Davis 2011; Harley 2011; Primus 2016). There is no definitive list of such roles, and the boundaries between them are often vague. There has been work on distinguishing Agents and Causers (e.g. Pylkkänen 2008; Martin & Schäfer 2013), but the reference works we are dealing with here use these terms in a less well-defined, intuitive fashion.

9   Of course, this does not mean that earlier findings are entirely wrong. As just one example, it remains true that Instruments marked by b^e are "typically non-living" (Van der Merwe et al. 2017: §39.6.3a). This is, however, not the most efficient description of the linguistic system. As we see it, inanimacy is an epiphenomenon: an inanimate tool will not be marked by *min* in regular language use, because a tool is always manipulated by another entity and is therefore never fully dominant. We suggest that the description of the causal meanings of *min* and b^e can be made much simpler and at the same time more precise by referring to the notion of 'dominance'.

When speakers do this, the prepositions develop a causal meaning based on their spatial meaning. This approach not only circumvents terminological issues with thematic roles, but is also more economical, as it can derive differences in causal meaning without having to store extra information in the lexicon (cf. the notion of principled polysemy developed by Tyler & Evans 2003).

The abstract model that we will employ is that of a causal model (Pearl 2000; Halpern & Pearl 2005; among others). A causal model describes the dependencies between a set of variables. It can be represented as a directed graph, as in (15). This model expresses that the occurrence of Fire (F) depends on whether there is lightning (L) and whether a match is lit (M). In this case, all variables range over truth values (indicated by the subscript $\{0,1\}$), and F depends on L and M via inclusive or.

(15)

$$L_{\{0,1\}}$$

$$F = L \lor M$$

$$M_{\{0,1\}}$$

(Halpern & Pearl 2005: 848–850)
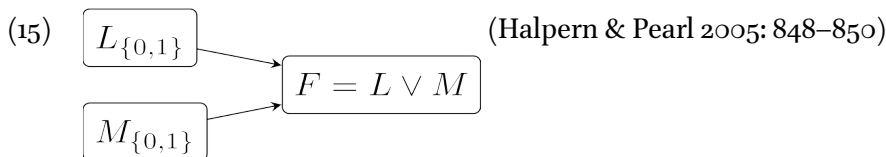
In this model, L and M do not depend on other variables. These variables are called exogenous. F is an endogenous variable, as it does depend on other variables.

Now consider (1–4) again. We repeat only translations here, and give a causal model for each. The models with *min* are relatively simple:

(2′)   1 Sam 28:20: 'Then Saul fell at once full length on the ground, filled with fear *because of* (*min*) the words of Samuel.' (ESV)

(16) $$\text{Samuel's words}_{\{0,1\}} \longrightarrow \text{Saul's fear} = \text{SW}$$
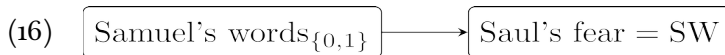
(3′)   2 Sam 7:29: 'Now therefore may it please you to bless the house of your servant, …, and *with* (*min*) your blessing shall the house of your servant be blessed forever.' (ESV)

(17) $$\text{God's blessing}_{\{0,1\}} \longrightarrow \text{Blessedness} = \text{GB}$$

The models expressed with b^e are more complex. In (18), the number of dead soldiers ranges over non-negative integers rather than truth values, and the formula computing the number of dead soldiers is such that the hailstones have a greater effect. In (19), the land perishes precisely if there is a famine and there are no reserves:

(1′)   Josh 10:11: 'There were more who died *because of* (b^e) the hailstones than the sons of Israel killed *with* (b^e) the sword.' (ESV)

(18)

$$\text{Hailstones}_{\{0,1\}}$$

$$\text{Number of dead soldiers} = p \cdot \text{H} + q \cdot \text{S}, p > q$$

$$\text{Israelites}_{\{0,1\}} \longrightarrow \text{Sword} = \text{I}$$
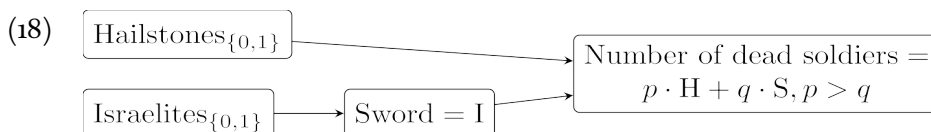
(4′)   Gen 41:36: '(That food shall be a reserve …), so that the land may not perish *through* (b^e) the famine.' (ESV)

(19)

$$\boxed{\text{Famine}_{\{0,1\}}} \qquad \boxed{\text{Perishing} = \text{F\&}\neg\text{R}}$$
$$\boxed{\text{Reserves}_{\{0,1\}}}$$
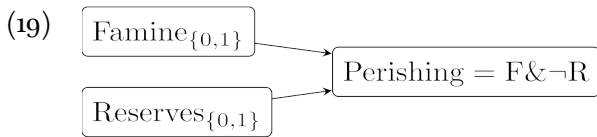
There are two crucial differences between the causes in (16–17), marked by *min*, and the causes in (18–19), marked by b^e. First of all, the causes marked by *min* are represented by exogenous variables: they do not depend on other variables (contrast (18), in which the sword marked by b^e is itself dependent on the action of a volitional Agent). Secondly, the causes marked by *min* are also the *only* exogenous variable on which the effect depends (contrast (19), in which the perishing of the land does not only depend on the famine marked by b^e, but on the land's reserves as well). We therefore define dominance as follows:

(20)   A cause *C* of an effect *E* is represented as 'dominant' if (a) *C* is exogenous (not dependent on other variables) and (b) *E* does not depend on any other exogenous variables besides *C*.

This definition entails that if there is a dominant cause, the effect is presented as fully determined by that cause. It thus formalizes an intuitive notion of dominance. First, being represented by an exogenous variable, a dominant cause is not caused itself, but rather influences the endogenous variables in the model. Thus, an Agent would be dominant, but an Instrument would not be, since the Instrument variable depends on the Agent variable. Second, a dominant cause precludes the existence of other causes of this type (being the only exogenous variable in the model).

Our claim is that *min* marks such dominant causes, while b^e is unmarked and can in principle mark any cause. However, we can expect b^e to be blocked from marking dominant causes by Gricean maxims (Grice 1989): a speaker is required to use the more specific *min* if possible, so that b^e becomes infelicitous for dominant causes despite its general lexical semantics.[10]

Schematically, the simplest causal model with a *min*-causer is as in (21a). An example of a more complex model with a *min*-causer is given in (21b): intermediate variables are allowed, as long as the *min*-causer is the only exogenous variable. Two types of causal models that require b^e are shown in (22): in (22a), there is more than one exogenous variable; in (22b), the causer is not exogenous itself.

(21)   a. $\boxed{\text{C }(min)} \longrightarrow \boxed{\text{E}}$

      b.

---
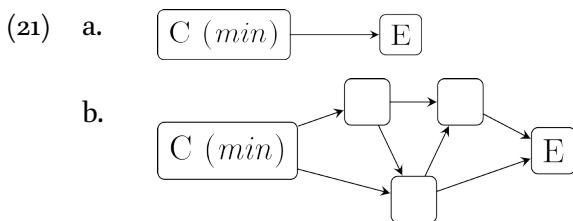
10   An anonymous reviewer suggests that *min* may select '*the* cause' of an event as opposed to '*a* cause' (cf. the discussion of causal selection in Bar-Asher Siegal & Boneh 2020: 21–28). This notion may turn out to overlap with dominance. However, as Bar-Asher Siegal & Boneh note, the identification of '*the* cause' often depends on "the normality of the potential causal factors [...], or [...] on conversational principles, given assumptions about the state of knowledge and interests of the seeker of a causal judgment" (2020: 21; and see there for more references). A discussion of such factors would take us too far afield here.

(22) a.

   b.
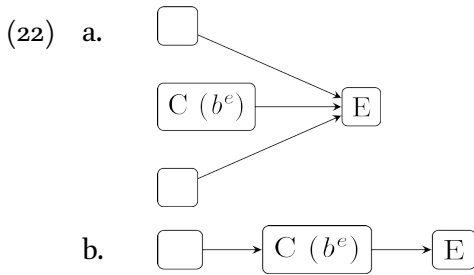
Thus, by using *min*, a speaker can make explicit that a causer is (a) not caused itself and (b) ultimately the only factor on which the outcome depends.

This hypothesis trivially derives the well-known fact that b^e is used to mark instruments. In (23), it is the man who is dominant, and not the rod. The event is represented as in (22b), in which the rod must be marked by b^e and the man is the dominant causer. Similarly, in (24), God is invoked by another Agent, and is therefore not a dominant cause for the swearing.

(23) Exod 21:20: וְכִי־יַכֶּה֩ אִ֨ישׁ אֶת־עַבְדּ֜וֹ אֽוֹ אֶת־אֲמָתוֹ֙ בַּשֵּׁ֔בֶט

w^e=ḵî	y-akkē-Ø	ʾîš	ʾęṯ	ʿaḇd=ô	ʾô	ʾęṯ	ˣ¹māṯ=ô
and=when	3M-strike\IPFV-SG	man	OBJ	servant=3M.SG.POSS	or	OBJ	maid=3M.SG.POSS

b=aš=šeḇęṭ
in=the=rod
'When a man strikes his slave, male or female, *with* a rod, …' (ESV)

(24) Gen 21:23: וְעַתָּ֗ה הִשָּׁ֤בְעָה לִּי֙ בֵאלֹהִים֙ הֵ֔נָּה

w^e=ʿattâ	hiš-šāḇ^{eʿ}-â	l-î	bē=ʾlōhîm	hennâ
and=now	IMP-swear-2M.SG	to-1SG	**in**=God	here

'Now therefore swear to me here *by* God that …' (ESV)

On the other hand, *min* is often found to describe that something is made impossible (25), and b^e is never used this way. This is an instance of the model in (21a), where the *min*-causer alone influences the ability to do something.

(25) Gen 16:10 (also 32:13): הַרְבָּ֥ה אַרְבֶּ֖ה אֶת־זַרְעֵ֑ךְ וְלֹ֥א יִסָּפֵ֖ר מֵרֹֽב

ha-rbâ	ʾ-arbę̄	ʾęṯ	zarʿ=ēḵ	w^e=lō
CAUS-be_great\INFABS[11]	1SG-be_great\CAUS.IPFV	OBJ	seed=2M.SG.POSS	and=NEG

y-issāp̄er-Ø mē=roḇ
3M-count\MID.IPFV-SG **from**=greatness
'I will surely multiply your offspring so that they cannot be numbered *for* multitude.' (ESV)

The proposed lexical semantics of the causal meaning of *min* and b^e can be derived from the original spatial meaning of these prepositions. Consider the model in (26), which has both a dominant causer (C_1) and a non-dominant causer (C_2):

---

11   The 'infinitive absolute' strengthens the immediately following verbal form.

(26) $C_1 \longrightarrow C_2 \longrightarrow E$
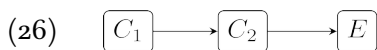
The dependency chain represented by this model can be seen as originating from the dominant causer C_1. It is therefore natural for the dominant causer to be marked by a preposition that also in the spatial domain marks an origin (as in *miyyiśrā'ēl* 'from Israel'). Furthermore, the dominant cause is further removed from the effect than the intermediate cause. It is therefore to be expected that the dominant cause is marked by a preposition that expresses a greater distance between Figure and Ground than the preposition for the intermediate cause (*min* 'from' as opposed to b^e 'in'). The causal meanings of *min* and b^e can therefore be derived from a mapping of the causal domain onto the spatial domain, consistent with much work in cognitive linguistics (Radden 1985; Talmy 1988; Dirven 1995; Croft 2012; among others).[12]

The behavior of these prepositions matches that described by Croft (2012: 222–226) in particular. Croft observed that in a variety of languages causers are typically marked by prepositions with an ablative, perlative, or locative meaning ('from', 'through', and 'in, by, with', respectively), describing locations either close to the Ground ('in', 'by', 'with') or on a path from the Ground to the Figure ('from', 'through'). The prepositions *min* 'from' and b^e 'in' fit this pattern. What we add to this analysis is the proposal that the causal meaning of a preposition is not only determined by the relative location to a Ground it describes, but also by the distance to the Ground that it expresses: concrete distance in the spatial sense corresponds to abstract distance in the causal model.

4 Biblical Hebrew evidence

To test our hypothesis that *min* is used to mark dominant causers, while b^e is unmarked, we compiled a dataset of causal uses of these two prepositions. Instances were classified as causal when they marked an argument which brings about or plays a facilitating role in the realization of an event or state, in the sense that the effect would not have occurred without intervention of that argument (cf. Mackie 1965; Lewis 1973a, 1973b; and see Bar-Asher Siegal & Boneh 2020: 5 for more references). For causers marked by b^e we relied on the comprehensive overview by Jenni (1992), drawing our examples from rubrics 16 through 19 (*beth causae, instrumenti, pretii,* and *communicationis*).[13] Causers marked by *min* were collected manually. We performed a comprehensive analysis of the instances in a number of narrative

---

12   It is often the case that multiple cognitive mappings are, in principle, feasible. A well-known example is the two conceptualizations of time described by Lakoff & Johnson (1980): moments in time can be conceptualized as both stationary (*the weeks **behind** us*) and moving (*there's a **deadline coming up***). Staps & Rooryck (in preparation) show the French Agent marker *de* 'from, by' marks a less agentive causer than *par* 'through, by'. This seems at first sight to conflict with the causal meanings of Biblical Hebrew *min* and *bə*, which have similar spatial meanings. As Staps & Rooryck (in preparation) explain, Biblical Hebrew and French can be seen as mapping the causal domain in distinct ways onto the spatial domain.

13   Not all cases compiled by Jenni are relevant here, but based on the description of the other rubrics these four rubrics form a superset of the data that we are interested in.

books, since we expect most unambiguously interpretable causal uses in these texts.[14] We do not have space to discuss every instance here, but our analysis of other instances can be looked up in the data set accompanying this paper (Staps 2023). After the initial compilation we used specific verbs and prepositional objects in our dataset to search in the entire Hebrew Bible for more examples for comparison. We excluded examples with a reasonable spatial, temporal, or other non-causal reading of the preposition, even if causality is still implied or contextually inferred. In such cases the preposition may be chosen for reasons other than its causal meaning.[15] We also excluded possibly fossilized uses of *min* and *b^e* in complex prepositions (e.g. *millip̄nê* 'from the presence of'), because their meaning may have developed independently (see e.g. Rodriguez 2017; Hardy 2022).

This method uncovered a number of minimal pairs where the same type of event can be caused by both a *min*-causer and a *b^e*-causer. As can be seen from the data set (Staps 2023), the main evidence suitable for comparison comes from mental states and events. We begin our discussion in section 4.1 with a number of relatively straightforward examples concerning the mental state of drunkenness. In section 4.2 we discuss mental states expressed by psychological verbs such as *fear* or *be happy*; we finish in section 4.3 with mental acts related to volitionality.

4.1   Drunkenness

In our corpus, a great number of examples describe someone's mental state after alcohol consumption. With *min* we have the expression *miyyayin* 'from wine':[16]

(27)   Isa 51:21: לָכֵן שִׁמְעִי־נָא זֹאת עֲנִיָּה וּשְׁכֻרַת וְלֹא מִיָּיִן

lāḵēn	*šimʿ-î*	*nā*	*zōṯ*	*ᵃniyy-â*	*û=šᵉḵūr-aṯ*
therefore	hear\IMP-2F.SG	please	this	afflicted-F.SG	and=become_drunk\PTCP.PASS-F.SG

wᵉ=lō	*miy=yāyin*
and=NEG	from=wine

'Therefore hear this, you who are afflicted, who are drunk, but not *with* wine' (ESV)

(28)   Ps 78:65: וַיִּקַץ כְּיָשֵׁן אֲדֹנָי כְּגִבּוֹר מִתְרוֹנֵן מִיָּיִן

way-y-īqaṣ-Ø	*kᵉ=yāšēn*	*ʾaḏōn=āy*	*kᵉ=ḡibbôr*
and.PRET-3M-awaken-SG	like=sleeping	lord=1SG.POSS	like=man

m-iṯ-rônēn-Ø	*miy=yāyin*
PTCP-REFL-shout\INTENSIVE-M.SG	from=wine

---

14   In particular: Genesis, Exodus, Joshua, Samuel, Ruth, Ecclesiastes, and Esther. These books were chosen to obtain texts from a variety of subgenres and topics. We did not observe differences in causal use between Early and Late Biblical Hebrew, so we consider the corpus homogeneous for the purposes of this article.

15   For example, Gen 17:16 'I will give you a son by (*min* 'from') her' (ESV); 19:32 'let us make our father drink wine, and we will lie with him, that we may preserve offspring from (*min*) our father' (ESV). The preposition *min* can be said to mark a causal relationship here, but it can also be seen as spatial, because the offspring (*zᵉraʿ* 'seed') literally comes out of the father. We have tried to err on the side of caution by selecting the most unambiguously causal examples here.

16   Hos 7:5 can be explained similarly, but is excluded here because of text-critical issues.

'Then the Lord awoke as from sleep, like a strong man shouting *because of* wine.' (ESV)

With the preposition b^e we find the expression *ṭôḇ leḇ* NP *bayyayin* 'NP's heart is good with wine':

(29) 2 Sam 13:28: רְאוּ נָ֠א כְּט֨וֹב לֵב־אַמְנ֤וֹן בַּיַּ֙יִן֙ וְאָמַרְתִּ֣י אֲלֵיכֶ֔ם הַכּ֧וּ אֶת־אַמְנ֛וֹן וַהֲמִתֶּ֥ם אֹת֖וֹ

rᵉ'-û	*nā*	*kᵉ=ṭôḇ*	*leḇ*	*'amnôn*	**b**=*ay*=*yayin*	*wᵉ*-*'āmar-tî*	*ˣlê-ḵem*
see\IMP-2M.PL	please	as=good.of	heart.of	Amnon	**in**=the=wine	and.MOD-say-1SG	to-2M.PL
hakk-û		*'ēt*	*'amnôn*		*wa-hᵃ-mit-ṭem*		*'ōṭ-ô*
strike\IMP-2M.PL		OBJ	Amnon		and.MOD-CAUS-die-2M.PL		OBJ-3M.SG

'Mark when Amnon's heart is merry *with* wine, and when I say to you, 'Strike Amnon,' then kill him.' (ESV)

(30) Est 1:10–11: בַּיּוֹם֙ הַשְּׁבִיעִ֔י כְּט֥וֹב לֵב־הַמֶּ֖לֶךְ בַּיָּ֑יִן אָמַ֡ר ... לְהָבִ֞יא אֶת־וַשְׁתִּ֧י הַמַּלְכָּ֛ה לִפְנֵ֥י הַמֶּ֖לֶךְ בְּכֶ֥תֶר מַלְכֽוּת

b=*ay*=*yôm*	*haš=šᵉḇî'î*	*kᵉ=ṭôḇ*	*leḇ*	*ham=męlęḵ*	**b**=*ay*=*yāyin*	*āmar-Ø* ...
in=the=day	the=seventh	as=good.of	heart.of	the=king	**in**=the=wine	say\PERF-3M.SG ...
lᵉ=*hā-ḇî'*		*'ēt*	*waštî*	*ham=malkâ*	*li-p̄n-ê*	*ham=męlęḵ*
to=CAUS-come\INF		OBJ	Vashti	the=queen	to=face-of	the=king
b^e=*ķętęr*	*malḵûṯ*					
in=crown.of	kingship					

'On the seventh day, when the heart of the king was merry *with* wine, he commanded ... to bring Queen Vashti before the king with her royal crown' (ESV)

Suppose that we measure drunkenness on a scale from sober to fully intoxicated, represented in a causal model by a real-valued variable. In the model in (31), a person's drunkenness is modeled as dependent on both alcohol intake and someone's personal alcohol tolerance:[17]

(31) $\text{Intake}_{[0,1]}$ → $\text{Drunkenness} = \text{I} \cdot (1 - \text{T})$
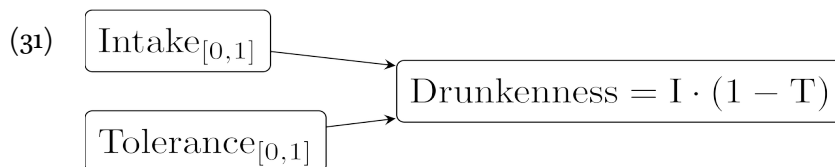
$\text{Tolerance}_{[0,1]}$

In (29–30), the drinker's alcohol tolerance still reduces the level of drunkenness. In (30), the king is still capable of giving commands and engaging in a discussion of law (Est 1:15–20). In (29) it is likewise not required that Amnon is knocked out by the drink; he only needs to be off his guard. In both cases, then, the degree of drunkenness is not fully dependent on the alcohol intake. The preposition b^e is used because alcohol intake is not the only exogenous variable in the model.

This is different in (27–28). The use of *min* here excludes other exogenous variables from the model: the alcohol intake is so high that no level of alcohol tolerance can reduce the degree of drunkenness. In (27), 'drunk with (*min*) wine' is used as a description of the inhabitants of Jerusalem, who are afflicted by 'devastation and destruction, famine and sword' (v. 19). The high degree of drunkenness implied by the use of *min* is used as a metaphor for this severe affliction. Example (28) is to be understood similarly. The

---

17   In this model, the subscript [0,1] indicates that variables range over real values between 0 and 1 (inclusive).

psalm goes on to describe how God puts his adversaries to everlasting shame. The frightening image of 'a strong man' completely inebriated by alcohol is used to indicate the kind of fear the adversaries should have on account of God. By removing possible tempering causers (someone's alcohol tolerance) from the model, the use of *min* implies that the effect of the cause is severe.

The following example with both *b*ᵉ and *min* can be used as further evidence:

(32)   Isa 28:7: וְגַם־אֵ֜לֶּה בַּיַּ֣יִן שָׁג֗וּ וּבַשֵּׁכָר֙ תָּע֔וּ כֹּהֵ֣ן וְנָבִיא֮ שָׁג֣וּ בַשֵּׁכָר֒ נִבְלְעוּ֙ מִן־הַיַּ֔יִן תָּע֖וּ מִן־הַשֵּׁכָֽר׃

wᵉ=ḡam	*ʾellē*	*b=ay=yayin*	*šāḡ-û*		*û=b=aš=šēḵār*		*tā'-û*
and=also	these	**in**=the=wine	go_astray\PERF-3PL		and=**in**=the=strong_drink		stagger\PERF-3PL
kōhēn	*wᵉ=nābî'*		*šāḡ-û*		*b=aš=šēḵār*		
priest	and=prophet		go_astray\PERF-3PL		in=the=strong_drink		
*ni-bl*ᵉ*'-û*		***min***	*hay=yayin*	*tā'-û*		***min***	*haš=šēḵār*
MID-numb\PERF-3PL		**from**	the=wine	stagger\PERF-3PL		**from**	the=strong_drink

'These also reel *with* wine and stagger *with* strong drink; the priest and the prophet reel *with* strong drink, they are swallowed/confused *by* wine, they stagger *with* strong drink' (ESV)

The combinations of verb and prepositional object show a clear climax:

1. *šāḡâ **b**=ay=yayin*: 'go astray', '*in*', 'the wine'
2. *tā'â **b**=aš=šēḵār*: 'stagger', '*in*', 'the strong drink'
3. *šāḡâ **b**=aš=šēḵār*: 'go astray', '*in*', 'the strong drink'
4. *ni-bla' **min** hay=yayin*: 'mid-numb', '*from*', 'the wine'
5. *tā'â **min** haš=šēḵār*: 'stagger', '*from*', 'the strong drink'

Taken separately, the verbs are not in strictly ascending order in terms of severity, and neither are *yayin* and *šēḵār* strictly ordered by strength.[18] This is presumably done to avoid a highly repetitive pattern. When the verbs and nouns are taken together, it is clear that the text is climactic. This climax is also mirrored in the choice of prepositions (three times *b*ᵉ followed by two times *min*). This verse therefore lends further support for the claim that *min* marks dominant causers.

4.2   Psychological verbs

Psychological verbs describe the mental state of an Experiencer, often with respect to some other argument. This mental state can be expressed in two ways: (a) as a two-place relation between the Experiencer and a Target or Subject Matter, as in *Sue delights in the rain*, or (b) as a one-place property of the Experiencer, which may be caused by a Cause, as in *Sue is delighted* (*because of the rain*) (Pesetsky

---

18   We take *šēḵār* 'strong drink' to be stronger than *yayin* 'wine'. Although the two words often stand parallel to each other, the root *škr* more frequently has pejorative overtones (*šikkar/hiškîr* 'make lose control'; *šikkôr* 'utterly drunk' in e.g. 1 Sam 1:13); cf. Oeming (2006: 1–2). The text thus contains two climactic sequences if we look at the nouns (items 1–3 and 4–5). For the verbs, we assume based on other uses that *tā'â* 'stagger' is stronger than *šāḡâ* 'go astray', with *nibla'* 'be numbed' somewhere in between. The verbs are thus also ordered in two climactic sequences (items 1–2 and 3–5).

1995; Doron 2020; among others). According to Doron (2020: 409–410), the prepositions used to mark the Target/Subject Matter with relational verbs are varied, but lexically selected by the verb (e.g., *rejoice/revel/delight* + *in* vs. *enjoy/like* + direct object). On the other hand, the prepositions used to mark the Cause with property verbs are chosen from a small set of "causal prepositions": prepositions that have causal uses independent of psychological verbs, like *because of* and *due to*. Property verbs are most relevant to us here, since both *min* and *b^e* can be used with these verbs and then have their general causal meaning. However, relational verbs that happen to take both *min* and *b^e* are relevant as well, since we would expect the meanings of these prepositions with the given verb to still reflect their general causal meanings, even if the verb-preposition pair is partially lexicalized. For both types of psychological verbs, we therefore argue that the choice of preposition makes a difference in interpretation, according to the hypothesis spelled out in section 3.[19]

4.2.1 Fear

We find *min* and *b^e* marking the cause of a variety of mental states expressed by psychological verbs. The tendency is for causes of negative mental states to be marked by *min*, while causes for positive mental states are marked by *b^e*. As we will explain below, this is not inherent to the semantics of these prepositions, but rather follows from the fact that *min* marks dominant causers. Furthermore, we will show that the exceptions to this general pattern can be explained by the notion of dominance as well.

One of the most frequent examples of negative mental state caused by a *min*-causer is the state of fear:[20]

(33) Exod 3:6:[21] וַיַּסְתֵּר מֹשֶׁה פָּנָיו כִּי יָרֵא מֵהַבִּיט אֶל־הָאֱלֹהִים׃

*way-y-aster-Ø   mōšę̄ pān=āyw   kî   yārē’-Ø   **mē**=habbîṭ   ’ęl*
and.PRET-3M-hide-SG Moses face=3M.SG.POSS because   fear\PERF-3M.SG **from**=look\INF to
hā=’ᵉlōhîm
the=God

---

19 Psychological verbs often appear in doublets like *x likes y* and *y pleases x*, where the Experiencer is the subject in one construction and the object in the other (e.g. Dowty 1991: 579). Though most of the verbs we discuss here have such a "mirror verb", this feature is not relevant for our discussion, so we set it aside here and focus on any verb that expresses a mental state, either with respect to some Target/Subject Matter (with relational verbs) or brought about by a Cause (with property verbs). Note also that some roots can be used as both a relational and a property verb. According to Doron (2020), in Modern Hebrew, relational verbs appear in the intensive template when the Experiencer is the object, whereas property verbs appear in the causative template in this case. This appears to be the case in Biblical Hebrew as well. Importantly, some roots appear with both templates, and then have the expected difference in meaning (e.g. *śmḥ* 'rejoice': relational 2 Chr 20:27 'the Lord has made them rejoice (intensive) *over their enemies*'; property Ps 89:43 'you have made all his enemies rejoice (causative)'). To determine whether a verb is used to describe a relation or a property, one must look at the meaning in context (whether it is relational or not) and, sometimes, preposition (a verb with a non-causative preposition is necessarily relational). However, determining whether a verb expresses a psychological relation or property is, as explained in the main text, not crucial to our argument.

20 Consider also, without *yārē’* 'fear', 1 Sam 1:16: 'I have been speaking out of (*min*) my great anxiety (*śîaḥ*) and vexation (*ka‘as*)' (ESV).

21 Similarly Exod 34:30.

'And Moses hid his face, for he was afraid *to* look at God.' (ESV)

(34) Eccl 12:5: גַּם מִגָּבֹהַּ יִרָאוּ וְחַתְחַתִּים בַּדֶּרֶךְ

gam   mig=gāḇōah y-īrā'-û   wᵉ=ḥatḥatt-îm   b=ad=dẹrẹḵ
also   from=high 3M-fear\IPFV-PL   and=terror-PL   in=the=way
'they are afraid also[22] *of* what is high, and terrors are in the way' (ESV)

Since fear is typically something that *overcomes* an Experiencer (similar to an excessive amount of alcohol), *min* fits these contexts well: the reason for fear (e.g., the thought of looking at God in (33)) overcomes the Experiencer and thereby excludes any other possible influences on their mental state, excluding causal models such as (22a).

Jenni (1992: 112–113) finds only one case where a cause for fear is marked by *bᵉ*, and it can also be read temporally:

(35) Jer 51:46: וּפֶן־יֵרַךְ לְבַבְכֶם וְתִירְאוּ בַּשְּׁמוּעָה הַנִּשְׁמַעַת בָּאָרֶץ

û=p̄ẹn   y-ērak-Ø   lᵉḇaḇ=ḵẹm   wᵉ=t-îrᵉ'-û   b=aš=šᵉmû'-â
and=lest   3M-be_weak\IPFV-SG   heart=2M.PL.POSS   and=2M-fear\IPFV-PL   in=the=report
han=ni-šma'-aṯ   b=ā='ārẹṣ
the=MID-hear\PTCP-F.SG   in=the=land
'Let not your heart faint, and be not fearful // *at* the report heard in the land' (ESV)

4.2.2   Shame

Also causes for shame are almost exclusively marked by *min*:[23]

(36) Jer 22:22: כִּי אָז תֵּבֹשִׁי וְנִכְלַמְתְּ מִכֹּל רָעָתֵךְ

kî   'āz   t-ēḇōš-î   wᵉ-ni-ḵlam-t   mik=kŏl
COMP   then   2-be_ashamed\IPFV-F.SG and.MOD-MID-be_ashamed-2F.SG   from=all.of
rā'āṯ=eḵ
evilness=2F.SG.POSS
'then you will be ashamed and confounded *because of* all your evil.' (ESV)

Shame may be a more subtle emotion than fear (see section 4.1.2), so it may not be immediately clear that a reason for shame can overcome an Experiencer. How then do we explain the use of *min*? It may be relevant that almost all of the occurrences are in the prophetic literature. In this genre, the reason for

---

22   Here, *gam* 'also' does not imply that 'what is high' is but one of several reasons for fear. Though it is difficult to interpret the structure of the poem, commentators are generally agreed that *gam* applies to the entire clause and describes a way in which the 'days are bad' (12:1) in addition to the other ways mentioned in 12:1–7 (e.g. Krüger 2004: 200–201). We should thus read this as *gam* [*miggāḇōah yīrā'û*] rather than [*gam miggāḇōah*] *yīrā'û*, so the cause for fear is dominant here.

23   We are grateful to an anonymous reviewer for suggesting these cases. Jenni (1992: 112) only mentions one example with *bᵉ*, with the verbs *niḵlam* and *bûš*, both meaning 'to be ashamed' (example [37]). We then looked for examples with these roots and the preposition *min*. With *niḵlam* 'be ashamed', see further Ezek 16:27, 54; 36:32; 43:10, 11; with *bûš* 'be ashamed', Isa 1:29; 20:5; Jer 2:36; 12:13; 48:13; Ezek 32:30; Hos 4:19, 10:6; Mic 7:16; Zeph 3:11; Zech 13:4; Ps 119:116. In Isa 1:29 we also find *ḥāp̄ar* 'be ashamed' with *min*.

shame is typically presented as utterly humiliating, and in that sense excluding other potential influences on the Experiencer's mental state, which may explain the preference for *min*. Notably, the only contrasting example with *b*ᵉ comes from outside the prophetic corpus:[24]

(37) Ps 69:7: אַל־יֵבֹ֣שׁוּ בִ֤י ׀ קֹוֶ֗יךָ אֲדֹנָ֥י יְהוִ֗ה צְבָ֫אֹ֥ות אַל־יִכָּלְמוּ בִ֥י מְבַקְשֶׁ֗יךָ

ʾal   y-ēḇōš-û   **b-î**   qow-ḗ=ḵā   ʾăḏōn=āy   yhwh
not 3M-be_ashamed\JUSS-PL **in**-me trust\PTCP-M.PL=2M.SG.POSS lord=1SG.POSS   YHWH
ṣᵉḇāʾ-ōṯ   ʾal y-ik-kālᵉm-û   **b-î**   m-ᵉḇaqš-ḗ=ḵā
army-PL   not 3M-MID.JUSS-be_ashamed-PL   **in**-me PTCP-seek\M.PL=2M.SG.POSS
'Let not those who hope in you be put to shame *through* me, O Lord God of hosts; let not those who seek you be brought to dishonor *through* me' (ESV)

Besides the difference in genre, it may also be relevant that this instance is found in a negated wish (cf. section 5 below). It has a humbling effect: the psalmist does not want to cause shame in any way, whether dominantly so or not.

4.2.3 Joy

Of the positive mental states, joy is the most frequent. As already mentioned above, causes for positive mental states tend to be marked by *b*ᵉ. Jenni (1992: 106–108) lists 91 cases of causes for joy marked by *b*ᵉ, predominantly with *śāmaḥ* 'rejoice', *gāyal* 'shout out', and *hiṯhallēl* 'boast':

(38) Jdg 9:19: שִׂמְחוּ֙ בַּאֲבִימֶ֔לֶךְ וְיִשְׂמַ֥ח גַּם־ה֖וּא בָּכֶֽם

śimḥ-û   **ba**=ˣᵇîmęlęḵ   wᵉ=y-iśmaḥ-Ø   gam hûʾ **bā**-ḵem
rejoice\IMP-2M.PL **in**=Abimelech and=3M-rejoice\JUSS-SG also he   **in**-2M.PL
'rejoice *in* Abimelech, and let him also rejoice *in* you.' (ESV)

(39) Eccl 5:19: וְלִשְׂמֹ֣חַ בַּעֲמָלֹ֔ו זֹ֕ה מַתַּ֥ת אֱלֹהִ֖ים הִֽיא

wᵉ=li=śmōaḥ   **ba**=ᵃmāl=ô   zōh   matta-ṯ   ˣlōhîm hîʾ
and=to=rejoice\INF **in**=toil=3M.SG.POSS this.F gift(F)-of God   she
'(God has given man the power ... to accept his lot) and to rejoice *in* his toil—this is the gift of God.' (ESV)

In (38), the Addressee has to be given the command to 'rejoice in Abimelech'. This shows that Abimelech alone is not sufficient cause for the joy of the Addressee: in addition to the presence of Abimelech, a command is needed, making the underlying causal model a variant of (22a). The Addressee must be actively involved and choose to follow the command. Example (39) is similar, since 'toil', within the context of Ecclesiastes, is not something that sparks joy in and of itself. In this sense, these causers are not dominant, since the Experiencer's active participation is another factor in the causal model. This explains why these causers are not marked by *min* but by *b*ᵉ. A rare exception to the overall tendency to use *b*ᵉ shows that this is indeed how the preposition should be understood:

---

24 The possible cases in 2 Sam 19:4 and Ezek 16:61 are easier read with a temporal sense.

(40)   Prov 5:18: יְהִי־מְקוֹרְךָ בָרוּךְ וּשְׂמַח מֵאֵשֶׁת נְעוּרֶךָ׃

y-ᵉhî-Ø	*mᵉqôrᵉ=ḵā*	*bārûḵ-Ø*	*û=śᵉmaḥ-Ø*	***mē=ʾēšęṯ***
3M-be\JUSS-SG	well=2M.SG.POSS	bless\PTCP.PASS-M.SG	and=rejoice\IMP-2M.SG	**from=wife.of**

nᵉʿûrę=ḵā
youth=2M.SG.POSS

'Let your fountain be blessed, and rejoice *in* the wife of your youth' (ESV)

This verse appears in a chapter full of warnings against adultery. It should be understood not only as an instruction to 'rejoice in the wife of your youth' (as opposed to doing something entirely different), but first and foremost as a warning *not* to rejoice in any other wife. The 'wife of your youth' is a source of joy to the exclusion of other sources of joy (thus precluding a model like (22a)); in other words, she is the dominating factor. This explains the use of *min*: the use of this preposition indicates that its argument dominates any other hypothetical reason for joy.

4.2.4   Having (had) enough

In this paragraph we discuss the verb *śābaʿ* 'have (had) enough of something, find something enough'.[25] This verb is not inherently positive or negative, but does entail that the subject evaluates the object (namely, as being 'enough'), and thus qualifies as a relational psychological verb (for the notion of evaluation in relation to psychological verbs, see Pesetsky 1995: 56). It most frequently combines with *min*, but examples with *bᵉ* are not uncommon.[26] With this root, *min* most clearly implies that the causer is the *only* source for satisfaction, as in (41) as opposed to (42):[27]

(41)   Eccl 6:3: וְנַפְשׁוֹ לֹא־תִשְׂבַּע מִן־הַטּוֹבָה

wᵉ=napš=ô	*lō*	*t-iśbaʿ-Ø*	***min***	*haṭ=ṭôḇâ*
and=soul=3M.SG.POSS	NEG	3F-be_satisfied\PERF-SG	**from**	the=good

'(If a man fathers a hundred children and lives many years …), but his soul is not satisfied with [life's] good things, …' (ESV)

(42)   Ezek 16:29: וַתַּרְבִּי אֶת־תַּזְנוּתֵךְ … וְגַם־בְּזֹאת לֹא שָׂבָעַתְּ

wat-t-arbî-Ø	*ʾęṯ*	*taznûṯ=ēḵ*	*… wᵉ=ḡam*	***bᵉ*=zōṯ *lō***
and.PRET-2-be_great\CAUS-F.SG	OBJ	whoring=2F.SG.POSS	… and=also	**in**=this NEG

śāḇāʿ-at
be_satisfied\PERF-2F.SG

'You multiplied your whoring … and even *with* this you were not satisfied' (ESV)

In (41), the use of *min* implies that the writer would expect the man who lives many years to be satisfied from life's good things alone (as opposed to being satisfied from these things in combination with other

---

25   We are grateful to an anonymous reviewer for drawing our attention to this root.

26   Some of the instances of *bᵉ* may be best understood as instrumental: Ps 103:5; Lam 3:15, 30. We focus here on the clearest examples.

27   Similar examples with *min* are Ezek 32:4; Ps 104:13; Job 19:22; Prov 1:31; 12:14; 14:14; 18:20. With *bᵉ*: Ps 65:5. One can also compare examples with *nimlā'* 'be full': with *min* Ezek 32:6; with *bᵉ* Prov 24:4. With *rāwâ* 'be saturated' we only find *min*: Isa 34:7; Jer 46:10.

circumstances; contra a model like (22a); for the interpretation of *min* with negation, see section 5 below). On the other hand, in (42), the 'whoring' is presented as yet another sin of the Addressee, which even in addition to (*gam* 'even, also') the earlier sins does not satisfy them. The fact that this source of satisfaction is not the *only* source requires the use of b^e, as it suggests a model like that in (22a).

The contribution of *min* can here be shown by the addition of 'alone' in translation: (41') is an accurate translation of (41) but (42') does not faithfully reflect (42):

(41')   'and his soul is not satisfied with life's good things *alone*'

(42')   #'... and even with this *alone* you were not satisfied'

This contrast follows directly from the definition of dominance in (20) above.

4.2.5   Psychological verbs: conclusion

As has become clear, the general tendency is for psychological verbs describing a negative mental state to have causers marked by *min*, whereas verbs describing a positive mental state tend to have causers marked by b^e.[28] This is also true for verbs with which we find only one preposition. These verbs do not lend themselves for a comparison of minimal pairs and the preposition may be lexically selected by the verb, but it is nevertheless noteworthy that the examples confirm the hypothesis (with *min*: *dāʾaḡ* 'worry' [Josh 22:24; Jer 42:16; Ps 38:19]; *dālal* 'be low' [Jdg 6:6]; with b^e: *hiṯḥazzēq* 'strengthen oneself' [1 Sam 30:6]). The generalization extends beyond the class of psychological verbs; thus with *min* we find *ʾānaḥ* 'groan' (Exod 2:23), *bālâ* 'wear out' (Josh 9:13), *zāʿaq* 'cry out' (Exod 2:23; 1 Sam 8:18; Isa 26:17; Job 35:9; 2 Chron 20:9), and *šāwaʿ* 'cry out' (Exod 2:23). The verb *mûṯ* 'die' occurs almost exclusively with b^e, though many instances can be seen as instrumental or circumstantial. The single causal use of *min* has *mippᵉnē* 'from the face of' (Jer 38:9). It fits our hypothesis, but we leave open the possibility that *mûṯ* lexically selects b^e to mark causers as the result of a TEMPORAL > CAUSE shift (Kuteva et al. 2019: 425) and that this one instance with *min* is idiosyncratic. With the exception of *mûṯ* 'die', all frequent verbs occur with both *min* and b^e.

As we have argued above, the fact that positive mental states co-occur with b^e, while negative mental states co-occur with *min*, is probably a side effect of the dominance expressed by *min*, per the hypothesis in (20). At least in our corpus, negative mental states such as fear and shame (in the prophetic literature) are typically felt as things that *overcome* an Experiencer. Causes for these emotions are marked by *min*

---

28   If quantitative data are desired, consider the frequency with which b^e and *min* mark causes for joy and fear, the most common categories in the corpus. Whereas Jenni (1992) lists 91 cases where b^e marks a cause for joy (primarily in Isaiah and Psalms; 6 in our corpus), we found only three cases with *min* (two in our corpus, in the same verse) by looking at other occurrences of the same verbs and phrases that occur with b^e (Mannati 1970 suggests that *min* in Ps 4:8 may be causal as well, but the passage remains troublesome). For causes for fear, the distribution is completely different. Jenni counts only seven cases where b^e marks the cause of a negative inner process (zero in our corpus), of which one for fear. Here, *min* is more frequent, with ten examples in our corpus alone. Clearly, b^e is better suited for marking causes for joy and *min* is better suited for marking causes for fear.

because they take control and cancel out other possible intervening causers (excluding a model like in (22a)), in much the same way as excessive alcohol intake does (see section 4.1). By contrast, the causes for positive mental states like joy do not typically cause a kind of overjoyed mental state that cancels out any other possible intervening causers, so b^e is a more appropriate preposition for these causers: the corresponding causal model may have more than one exogenous variable, so the b^e-causer is not dominant.

4.3   Intentions and taking action

A third context in which we find both *min*-causers and b^e-causers is that of decisions. The distribution is that *min* is used to mark causers who volitionally *take* a decision (10, 43), whereas b^e is used for factors influencing such decisions (44–46):

(10)   2 Sam 3:37: כִּי לֹא הָיְתָה מֵהַמֶּלֶךְ לְהָמִית אֶת־אַבְנֵר בֶּן־נֵר

kî   lō   hāy^e-tâ   mē=ham=mẹlẹk l^e=hā-mît   ʾẹt ʾaḇnēr bẹn nēr
COMP NEG be\PERF-3F.SG **from**=the=king to=CAUS-die\INF OBJ Abner son Ner
'... that it had not been the king's will (lit.: *from* the king) to put to death Abner the son of Ner' (ESV)

(43)   Gen 24:50: מֵיְהֹוָה יָצָא הַדָּבָר לֹא נוּכַל דַּבֵּר אֵלֶיךָ רַע אוֹ־טוֹב

mē=yhwh   yāṣā-Ø   had=dāḇār lō   n-ûḵal   dabbēr   ʾelẹy-ḵā
from=YHWH go_out\PERF-3M.SG the=matter NEG 1PL-be_able\IPFV speak\INF to-2M.SG
raʿ   ʾ̇ô   ṭôḇ
bad   or   good
'The thing has come *from* the Lord; we cannot speak to you bad or good.' (ESV)

(44)   Exod 16:8: בְּתֵת יְהֹוָה לָכֶם בָּעֶרֶב בָּשָׂר לֶאֱכֹל ... בִּשְׁמֹעַ יְהֹוָה אֶת־תְּלֻנֹּתֵיכֶם

b^e=tēt   yhwh   lā-ḵẹm bāśār lẹ=ʾẹkol ... bi=šmoaʿ yhwh ʾẹt t^elunnoṯê=ḵẹm
in=give\INF YHWH to-2M.PL meat to-eat\INF ... in=hear\INF.of YHWH OBJ grumbling=2M.PL.POSS
'When the Lord gives you in the evening meat to eat ..., *because* the Lord has heard your grumbling' (ESV)

(45)   Gen 15:8: וַיֹּאמַר אֲדֹנָי יֱהֹוִה בַּמָּה אֵדַע כִּי אִירָשֶׁנָּה

way-y-ōmẹr-Ø   ʾaḏōn=āy   yhwh   bam=mâ   ʾ-ēḏaʿ   kî
and.PRET-3M-say-SG lord=1SG.POSS YHWH **in**=what   1SG-know\IPFV   COMP
ʾ-îrāš-ẹnnâ
1SG-inherit\IPFV-3F.SG.OBJ
'But he said, "O Lord God, how (lit.: *by* what) am I to know that I shall possess it?"' (ESV)

(46)   Gen 42:15: בְּזֹאת תִּבָּחֵנוּ חֵי פַרְעֹה אִם־תֵּצְאוּ מִזֶּה כִּי אִם־בְּבוֹא אֲחִיכֶם הַקָּטֹן הֵנָּה

bᵉ=zōṯ	*t-ibbāḥēn-û*		*ḥ-ê*	*parʿōh*	*ʾim*	*t-ēṣᵉ·-û*	*miz=zē̬*	*kî*	*ʾim*

bᵉ=zōṯ *t-ibbāḥēn-û* *ḥ-ê* *parʿōh* *ʾim t-ēṣᵉ·-û* *miz=zē̬* *kî* *ʾim*
in=this 2M-test\MID.IPFV-PL life-of Pharaoh if 2M-go_out\IPFV-PL from=this but if

bᵉ=ḇô *ˣ¹ḥî=ḵẹm* *haq=qāṭōn* *hennâ*
in=come\INF brother=2M.PL.POSS the=small here

'*By* this you shall be tested: by the life of Pharaoh, you shall not go from this place unless your youngest brother comes here.' (ESV)

In (43), Abraham's servant has asked Laban and Bethuel if he may take Rebekah (Laban's sister and Bethuel's daughter) as a wife for Isaac (Abraham's son), since God has pointed out Rebekah to him. Laban and Bethuel answer that it is not their place to question a decision of God (a 'thing … come from the Lord').[29] The use in (10) is similar. On the other hand, in (44) *bᵉ* marks the reason why God decides to provide food, and in (45–46) *bᵉ* marks signs that can be interpreted to obtain knowledge (which can be seen as reasons for deciding to consider something to be the case).

We argue that the distinction between causers *taking* a decision (marked by *min*) and causers *influencing* a decision (marked by *bᵉ*) boils down to a difference in dominance. In particular, the distribution matches what Malle & Knobe (1997) call the "folk concept of intentionality". In this model, which is intended to capture how people intuitively think about intentionality, a person's intention depends on (a) a desire to obtain a certain outcome and (b) beliefs about the world concerning how this outcome can be brought about. Whether an action is then taken depends on the person's intention and his skills. Sloman et al. (2012) summarize this with the following causal model:[30]

(47)
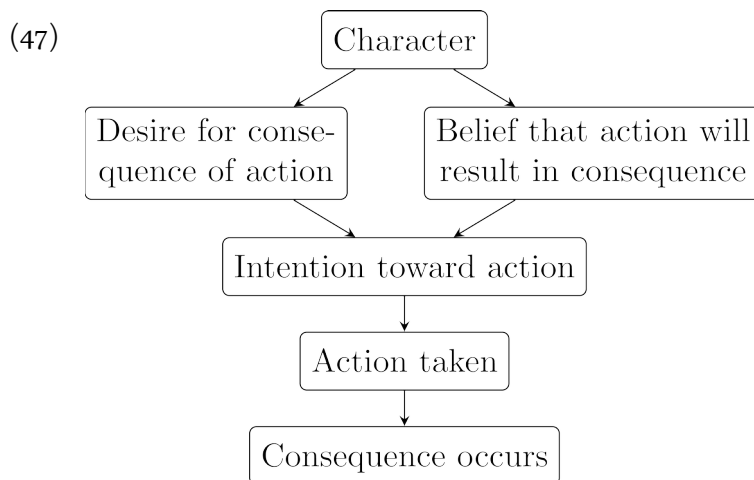
For instance, if someone has the desire to have many flowers in their garden, and believes that watering regularly will bring about that effect, they will have the intention to do so. They will take the action if they also have the skills to perform it, which can then lead to the desired effect.

There is an important difference between the examples with *min* in (10, 43) and those with *bᵉ* in (44–46), which can be captured using this model. The examples in (10) and (43) are primarily about the intention

---

29 Other decisions made by God marked by *mē-YHWH* are for Samson to take a Philistine wife (Jdg 14:4); the kingdom to be given to Solomon (1 Kgs 2:15); the roll of the dice (Prov 16:33); and perhaps to assemble Israel (1 Chr 13:2).

30 For simplicity, some variables irrelevant to our discussion have been left out.

of the Agent (whether the king *wanted* to kill Abner; whether the *decision was made* by God), not whether the event actually occurs. These examples therefore only express part of the model in (47), as in (48):

(48)

```
                    ┌─────────────┐
                    │  Character  │
                    └─────────────┘
                    ╱             ╲
        ┌──────────────────┐   ┌──────────────────────┐
        │ Desire for conse-│   │ Belief that action will│
        │ quence of action │   │ result in consequence  │
        └──────────────────┘   └──────────────────────┘
                    ╲             ╱
                ┌──────────────────────┐
                │ Intention toward action│
                └──────────────────────┘
```
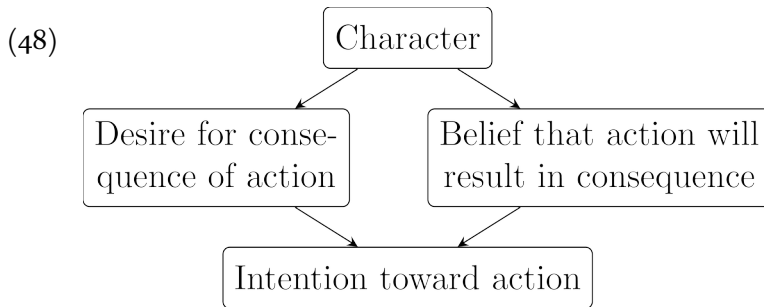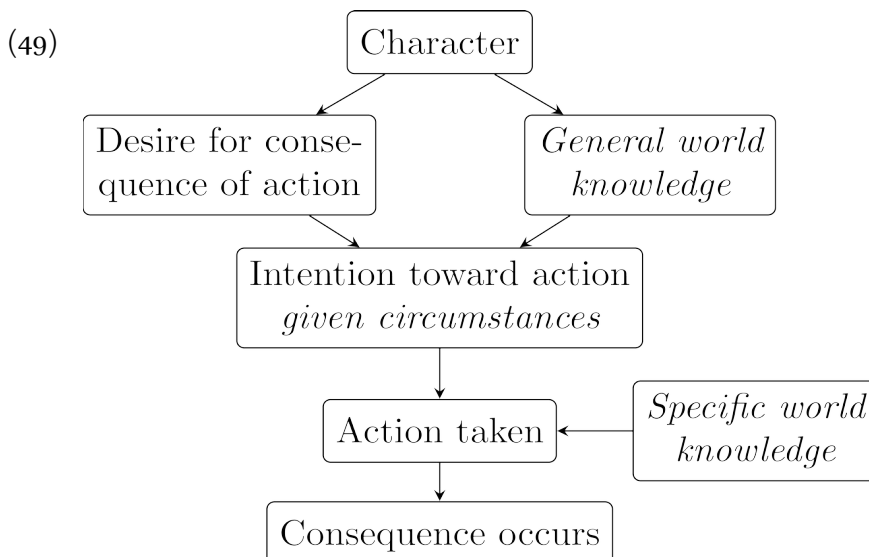
In this model, the volitional Agent ("character") is a dominant cause for their intention, which explains why this dependency is marked by *min* in (10) and (43).

The sentences in (44–46) describe a different causal dependency, namely the dependency of the occurrence of the action or consequence (the provision of meat; obtaining knowledge) on something external (hearing the people's grumbling in (44) and a sign in (45–46)). To incorporate this external variable in the causal model in (47), we propose the revised model in (49). In this revision, the "belief that action will result in consequence" is split between general world knowledge and specific world knowledge (note that in this revision, the character is still a dominant causer for intention, as in (48)). In the example of watering the garden above, general world knowledge would be: "plants need water to grow". The person's intention then becomes: "*if* there is no rain, *then* I intend to water the plants". Whether the action (watering the plants) is executed now depends on specific world knowledge (whether it has rained recently).

(49)

```
                    ┌─────────────┐
                    │  Character  │
                    └─────────────┘
                    ╱             ╲
        ┌──────────────────┐   ┌──────────────────┐
        │ Desire for conse-│   │ General world     │
        │ quence of action │   │ knowledge         │
        └──────────────────┘   └──────────────────┘
                    ╲             ╱
            ┌──────────────────────────┐
            │ Intention toward action  │
            │   given circumstances    │
            └──────────────────────────┘
                         │
                ┌────────────────┐      ┌──────────────────┐
                │  Action taken  │◄─────│ Specific world    │
                └────────────────┘      │ knowledge         │
                         │              └──────────────────┘
                ┌────────────────────┐
                │ Consequence occurs │
                └────────────────────┘
```

Similarly, whether God provides meat in (44) depends not only on his intention not to let the people starve but also on the specific world knowledge that there is not enough food. In (45) and (46), the specific world knowledge includes the sign that can be interpreted by the character to obtain knowledge

(the "action"). Crucially, in the model in (49), specific world knowledge is not a dominant cause of the action, which also depends on the character's intention: this model is an instance of (22a). This explains why these causal dependencies are marked by b^e.

In sum, passages where decisions are being made describe relatively complex causal models. These models involve the decision-maker, factors influencing their decision, the decision, and possibly the outcome. In an intuitive model, the hypothesis that *min* marks dominant causers explains why decision-makers are marked by *min*, while factors influencing their decision are marked by b^e.

5 Effect under negation

Before concluding the paper, it is worthwhile to pause for a moment to discuss the effect of negation on the meaning of *min*. Consider first the English verb *stop*. Intuitively, *X stopped verbing* implies not only (a) that *X* does not currently *verb*, but also (b) that *X* previously *verbed* (50a). When the sentence is negated, the (a)-implication no longer holds, but the (b)-implication still does (50b). The (a)-implication is an at-issue entailment, while the (b)-implication is a presupposition: it is taken for granted (see Kadmon 2001: 10–15 for an introduction).

(50)   a.   *Sue stopped drinking.*
                ⇒ (a) Sue does not drink; (b) Sue drank.
         b.   *Sue's problem is that she hasn't stopped drinking.*
                ⇒ (b) Sue drank.   (cf. Kadmon 2001: 10)

Something similar is the case for *min*. Under our definition of dominance in (20), this preposition carries two implications: (a) that the object is a causer, and (b) that the object is dominant. In our view, the second implication is a presupposition, since the dominance of the prepositional object is preserved under negation. Consider again (10–11):

(10)   2 Sam 3:37: כִּי לֹא הָיְתָה֙ מֵהַמֶּ֔לֶךְ לְהָמִ֖ית אֶת־אַבְנֵ֥ר בֶּן־נֵֽר׃

   kî   lō   hāye-tâ   mē=ham=mẹlẹk   l^e=hā-mît   ʾẹt   ʾaḇnēr bẹn nēr
   COMP NEG be\PERF-3F.SG **from**=the=king to=CAUS-die\INF OBJ Abner son Ner
   '… that it had not been the king's will (lit.: *from* the king) to put to death Abner the son of Ner' (ESV)

(11)   Gen 9:11: וְלֹא־יִכָּרֵ֧ת כָּל־בָּשָׂ֛ר ע֖וֹד מִמֵּ֣י הַמַּבּ֑וּל

   *w^e=lō   y-ikkārẹt-Ø   kŏl   bāśār ʾôḏ   **mim**=m-ê   ham=mabbûl*
   and=NEG 3M-cut_off\MID.IPFV-SG all.of flesh again **from**=water-of the=flood
   '… that never again shall all flesh be cut off *by* the waters of the flood' (ESV)

If the implication that the object of *min* is dominant were a simple entailment, (10) would be felicitous if the king were not a dominant causer for Abner's death, but only a non-dominant causer. For example, (10) would be felicitous if the king had collaborated with others to bring about Abner's death. In context, however, it is clear that any involvement of the king must be excluded. Similarly, in (11) the promise is not

merely that a flood will never again be the *sole* cause for destruction; rather, it is that a flood will never again be involved in 'cutting off all flesh' in any way. Other cases of negation are similar.[31] We therefore conclude that the dominance of the prepositional object of *min* is preserved under negation and that this aspect of the meaning is presuppositional.[32] It is important to keep this in mind for the correct interpretation of examples with *min*.

6 Concluding remarks

In this paper we have argued that the distinction between the causal uses of b^e 'in' and *min* 'from' is one of dominance. When *min* is used, the argument is a dominant causer, whereas b^e is unmarked, and gets to be used for non-dominant causers. Dominance in a causal model was defined as follows in section 3:

(20)   A cause C of an effect E is represented as "dominant" if (a) C is exogenous (not dependent on other variables) and (b) E does not depend on any other exogenous variables besides C.

We believe our description of these prepositions to be an improvement over the traditional one, in which there was a significant overlap between the functions of the two (see section 2). This improvement could be achieved by doing away with superimposed labels like 'Agent' and 'Instrument'.

Furthermore, we have shown how the fact that *min*, and not b^e, marks dominance, can be derived from the difference in spatial meaning between the two prepositions. In a causal model, a dominant causer stands at maximum distance from the effect and at the origin of the dependency chain, since it is represented by an exogenous variable. It is not surprising that such a causer is marked by a preposition that also marks an Origin or Source in its spatial sense: *min*, as opposed to b^e. On the other hand, when used spatially, b^e describes a physical relation with a smaller distance, and can as a result be used for causers closer to the effect in the causal model (e.g., an Instrument as opposed to an Agent; cf. a model like (22b)).

Though our main goal has been to describe and explain the distribution of causal *min* and b^e, we finish with one example to show the exegetical value of our proposal:

(51)   Exod 15:23: וַיָּבֹ֣אוּ מָרָ֔תָה וְלֹ֣א יָֽכְל֗וּ לִשְׁתֹּ֥ת מַ֙יִם֙ מִמָּרָ֔ה כִּ֥י מָרִ֖ים הֵ֑ם עַל־כֵּ֥ן קָרָֽא־שְׁמָ֖הּ מָרָֽה׃

---

31   Other examples involving a *min*-causer under negation are Gen 46:3; Josh 10:8; Eccl 6:3 (example (41)); 7:10; Est 5:9; and outside our corpus Isa 51:21 (example (27)).

32   Recall that we have described b^e as a more general preposition: both prepositions express a causal relationship (and this aspect of the meaning is, naturally, a simple entailment), but only *min* has the added aspect that the Cause is dominant (and we have argued here that this aspect of the meaning is presuppositional).

way-y-āḇō’-û	*mārāṯ=â*	*wᵉ=lō*	*yāḵᵉl-û*	*li=štōṯ*	*mayim*
and.PRET-3M-come-PL	Marah=wards	and=NEG	be_able\PERF-3PL	to=drink\INF	water(PL)
mim=*mārâ* *kî*	*mār-îm* *hem*		*ʿal kēn*	*qārā-Ø*	
from=Marah because	bitter-PL them		therefore	call\PERF-3M.SG	
šᵉm=āh	*mārâ*				
name=3F.SG.POSS	Marah				

‘When they came to Marah, they could not drink the water *of* Marah because it was bitter; therefore it was named Marah.’ (ESV)

In this verse, *lō yāḵᵉl-û lištōṯ mayim mimmārâ* is typically translated as in the ESV, taking *mimmārâ* with *mayim*: ‘water of Marah’. It is also possible to read *min* as causal, if we take *mārâ* as an abstract noun: ‘because of bitterness’.[33] The *kî*-clause can then not be read causally (because we already have a cause in *mimmārâ*), but can be read as an exclamative clause instead. The translation then becomes:

(51′) ‘…, they could not drink the water *from* bitterness—it was so bitter!—Therefore it was named Marah.’

While the traditional translation remains a good option as well, reading *mimmārâ* as a causal prepositional phrase instead of as a locative phrase yields a more elaborate play on words, and the dominance marked by *min* resonates with the asseverative interpretation of *kî*. Our proposal on the difference between causal *min* and *bᵉ* is therefore not only of theoretical importance, but should be taken into account by translators as well.

Bibliography

Bar-Asher Siegal, Elitzur, and Nora Boneh. “Causation: From Metaphysics to Semantics and Back.” Pages 3–52 in *Perspectives on Causation: Selected Papers from the Jerusalem 2017 Workshop*. Edited by Elitzur Bar-Asher Siegal and Nora Boneh, Jerusalem Studies in Philosophy and History of Science. Cham: Springer, 2020.

Bicknell, Belinda Jean. *Passives in Biblical Hebrew*. PhD Thesis, University of Michigan, 1984.

Croft, William. *Verbs: Aspect and Causal Structure*. Oxford: Oxford University Press, 2012.

Davis, Anthony R. “Thematic roles.” Pages 1:399–420 in *Semantics*. Edited by Claudia Maierborn, Klaus von Heusinger, and Paul Portner, Handbooks of Linguistics and Communication Science 33. Berlin: De Gruyter, 2011.

Dirven, René. “The Construal of Cause: The Case of Cause Prepositions.” Pages 95–118 in *Language and the Cognitive Construal of the World*. Edited by John R. Taylor and Robert E. MacLaury, Trends in Linguistics Studies and Monographs 82. Berlin: Mouton de Gruyter, 1995.

Doron, Edit. “The Causative Component of Psychological Verbs.” Pages 395–416 in *Perspectives on Causation: Selected Papers from the Jerusalem 2017 Workshop*. Edited by Elitzur Bar-Asher Siegal and Edit Doron, Jerusalem Studies in Philosophy and History of Science. Cham: Springer, 2020.

---

33 Cf. Gen 26:35 (**mōrâ*) and Prov 14:10 (**mārrâ*), and for the use of the feminine for abstracts more generally see e.g. Joüon & Muraoka (2006: §134n).

Dowty, David. "Thematic Proto-Roles and Argument Selection." *Language* 67 (1991), 547–619.

Folli, Raffaella, and Heidi Harley. "Teleology and animacy in external arguments." *Lingua* 118 (2008), 190–202.

Gesenius, Wilhelm, Emil Kautzsch, and Arthur Ernest Cowley. *Gesenius' Hebrew grammar*. 2nd ed. Oxford: Oxford University Press, 1910.

Grice, Paul. *Studies in the Way of Words*. Cambridge, MA: Harvard University Press, 1989.

Haber, Esther. "Significance of the interchanging of the mono-consonantal prepositions in Biblical Hebrew: Rabbinic and comparative Semitic evidence." *Maarav* 16 (2009), 29–37.

Halpern, Joseph Y., and Judea Pearl. "Causes and Explanations: A Structural-Model Approach. Part I: Causes". *The British Journal for the Philosophy of Science* 56 (2005), 843–887.

Hardy, Humphrey Hill II. *The development of Biblical Hebrew prepositions*. Ancient Near East Monographs 28. Atlanta: SBL Press, 2022.

Harley, Heidi. "Thematic Roles." Pages 861–862 in *Cambridge Encyclopedia of the Language Sciences*. Edited by Patrick Colm Hogan. Cambridge: Cambridge University Press, 2011.

Jenni, Ernst. *Die hebräischen Präpositionen. Band 1: Die Präposition Beth*. Stuttgart: Kohlhammer, 1992.

Jenni, Ernst. *Die hebräischen Präpositionen. Band 3: Die Präposition Lamed*. Stuttgart: Kohlhammer, 2000.

Jones, Ethan C. "More than 'Before': Semantics and Syntax of לפני." Pages 217–232 in *The Unfolding of Your Words Gives Light: Studies in Honor of George L. Klein*. Edited by Ethan C. Jones. University Park: Eisenbrauns, 2018.

Joüon, Paul, and Takamitsu Muraoka. *A Grammar of Biblical Hebrew*. 2nd ed. Rome: Gregorian & Biblical Press, 2006.

Kadmon, Nirit. *Formal Pragmatics: Semantics, Pragmatics, Presupposition, and Focus*. Malden, MA: Blackwell, 2001.

Krüger, Thomas. *Qoheleth: A Commentary*. Hermeneia: A Critical and Historical Commentary on the Bible. Minneapolis, MN: Fortress Press, 2004.

Kuteva, Tania, Bernd Heine, Bo Hong, Haiping Long, Heiko Narrog, and Seongha Rhee. *World Lexicon of Grammaticalization*. 2nd edition. Cambridge: Cambridge University Press, 2019.

Lakoff, George, and Mark Johnson. *Metaphors We Live by*. Chicago: University of Chicago Press, 1980.

Lewis, David. "Causation." *The Journal of Philosophy* 70 (1973a), 556–567.

Lewis, David. *Counterfactuals*. Malden, MA: Blackwell, 1973b.

Mackie, John L. "Causes and Conditions." *American Philosophical Quarterly* 2 (1965), 245–264.

Malle, Bertram F., and Joshua Knobe. "The Folk Concept of Intentionality". *Journal of Experimental Social Psychology* 33 (1997), 101–121.

Mannati, Marina. "Sur le sens de min en Ps IV 8." *Vetus Testamentum* 20 (1970), 361–366.

Martin, Fabienne, and Florian Schäfer. "On the Argument Structure of Verbs with Mono- and Bi-Eventive Uses." Pages 297–308 in *Proceedings of the 42nd Meeting of the North East Linguistic Society*. Edited by Shayne Sloggett and Stefan Keine. Amherst, MA: Graduate Linguistic Student Association, 2013.

Næss, Åshild. *Prototypical Transitivity*. Typological Studies in Language 72. Amsterdam: John Benjamins, 2007.

Oeming, Manfred. "שָׂכַר." Pages 1–5 in *Theological Dictionary of the Old Testament*, vol. XV. Edited by G. Johannes Botterweck, Helmer Ringgren, and Heinz-Josef Fabry. Grand Rapids, Michigan: Eerdmans, 2006.

Pearl, Judea. *Causality: Models, Reasoning, and Inference*. Cambridge: Cambridge University Press, 2000.

Pesetsky, David. *Zero Syntax: Experiencers and Cascades*. Cambridge, MA: MIT Press, 1995.

Primus, Beatrice. "Participant roles." Pages 403–418 in *Routledge Handbook of Semantics*. Edited by Nick Riemer. Abingdon: Routledge, 2016.

Pylkkänen, Liina. *Introducing Arguments*. Linguistic Inquiry Monograph 49. Cambridge, MA: MIT Press, 2008.

Radden, Günter. "Spatial Metaphors underlying Prepositions of Causality." Pages 177–207 in *The Ubiquity of Metaphor. Metaphor in Language and Thought*. Edited by Wolf Paprotté and René Dirven, Current Issues in Linguistic Theory 29. Amsterdam: John Benjamins, 1985.

Rodriguez, Daniel L. "אחר, מ/לפני, and תחת: An Embodied Cognitive Approach to the Biblical Hebrew Prepositions". PhD Thesis, University of Stellenbosch, 2017.

Sloman, Steven A., Philip M. Fernbach, and Scott Ewing. "A Causal Model of Intentionality Judgment". *Mind & Language* 27 (2012), 154–180.

Sollamo, Raija. "The Passive with an Agent in Biblical Hebrew and Its Rendering in the Septuagint." Pages 617–629 in *Hamlet on a Hill: Semitic and Greek Studies Presented to Professor T. Muraoka on the Occasion of his Sixty-Fifth Birthday*. *Orientalia Lovaniensia Analecta* 118. Edited by M. F. J. Baasten and W. T. van Peursen. Leuven: Peeters, 2003.

Staps, Camil. *Uses of Biblical Hebrew* בְּ *bə and* מִן *min in Genesis, Exodus, Joshua, Samel, Ruth, Ecclesiastes, and Esther* [data set]. Zenodo, 2023. https://doi.org/10.5281/zenodo.8314905

Staps, Camil, and Johan Rooryck. "Formalizing Spatial-Causal Polysemy of Agent Prepositions." Under revision for *Semantics & Pragmatics*.

Talmy, Leonard. 1988. "Force Dynamics in Language and Cognition." *Cognitive Science* 12: 49–100.

Tyler, Andrea, and Vyvyan Evans. *The Semantics of English Prepositions: Spatial Scenes, Embodied Meaning and Cognition.* Cambridge: Cambridge University Press, 2003.

Van der Merwe, Christo H. J., Jacobus A. Naudé, and Jan H. Kroeze. *A Biblical Hebrew Reference Grammar*. 2nd ed. London: T&T Clark, 2017.

Waltke, Bruce K., and M. O'Connor. *An Introduction to Biblical Hebrew Syntax*. Winona Lake, Indiana: Eisenbrauns, 1990.