Space in the causal chain:
The perspective from French and Biblical Hebrew

Camil Staps
@SemiCamil
info@camilstaps.nl

Johan Rooryck
@JohanRooryck
johan.rooryck@gmail.com

COCOA, 9th November 2022

1 Outline

1. Languages with multiple Agent prepositions are problematic for current accounts of Agent PPs
   (a) These prepositions have interpretive differences, which we can explain with the Space ⇒ Causation metaphor (Croft 2012)
   (b) We need a formalism that remains close to conceptual thinking about causation: force dynamics (Copley and Harley 2015, 2020)
   (c) This allows a polymorphic denotation of Agent prepositions with which we can predict the interpretive differences based on spatial meaning
2. Space in the causal chain can be interpreted in different ways
   (a) In French, greater distance indicates a lack of influence …
   (b) … but in Biblical Hebrew, greater distance indicates more control.
   (c) This is acceptable if we understand that languages can have different PERSPECTIVES ON THE CAUSAL CHAIN

2 Agent PPs

2.1 The Space ⇒ Causation metaphor (Croft 2012)

Croft (2012) makes a distinction between roles that precede the Object in the causal chain and roles that follow it:

(1) *Sue broke the coconut for Greg with a hammer.* (Croft 2012, 224)

Sue	→	hammer	→	coconut	⇢	Greg
Subject		Antecedent oblique		Object		Subsequent oblique

Antecedent obliques are commonly marked with ablative/perlative/proximative prepositions (2), and subsequent obliques with allative ones (3):

(2) a. Cause: *The rabbit died from/of thirst.* (Croft 2012, 223)
b. Agent: *The cat food was eaten by raccoons.*
c. Means: *I went downtown by bus.*
d. Instrument: *Sue broke the coconut with a hammer.*
e. Comitative: *I went to the park with Carol.*

(3) a. Result: *They smashed the statue to pieces.* (Croft 2012, 223)
b. Result: *The boy carved the stick into a knife.*
c. Beneficiary: *Sue broke the coconut for Greg.*

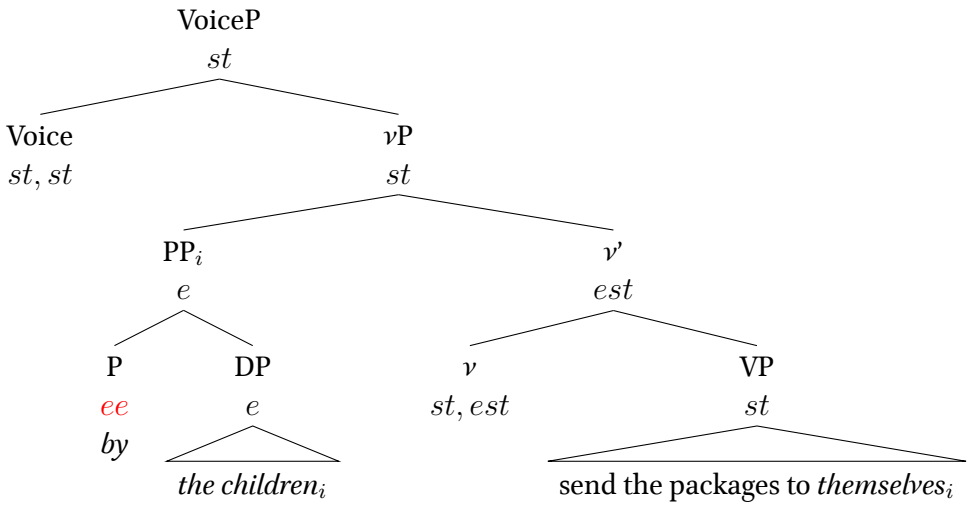
This suggests the SPACE ⇒ CAUSATION METAPHOR:

(4) *Causation:* antecedent role ⇑ Object ⇑ subsequent role (Croft 2012, 225)
Space: ablative/origin locative allative/goal

2.2 A formal account of Agent PPs

In the formalization that we will adopt, Agent PPs merge in the same place as the external argument in the active voice (Angelopoulos et al. 2020). This is preferable over an adjunct position because the Agent PP can bind a reflexive pronoun:

(5) *The packages were sent by the children$_i$ to themselves$_i$.*
(Angelopoulos et al. 2020, 14, types added)



But note that the Agent preposition is seen as a purely functional element with type ee, denoting the identity function: $[\![by]\!] = \lambda x.x$. It thus assumes homonymy of the Agent preposition *by* with spatial *by*, as in *the house by the lake*. There is no room for semantic content of the Agent preposition.

2.3 Multiple Agent prepositions: the case of French

In French passives the Agent can be introduced by both *de* 'from' and *par* 'by, via'. Which prepositions are allowed varies:

(6) a. *Le chien est lavé par/*de Marie.* (Straub 1974, 584)
'The dog was washed by Mary.'

b. *Le mois de février est précédé du/*par le mois de janvier.* (Straub 1974, 591)
'February is preceded by January.'

c. *Les étudiantes sont accompagnées par/de leurs familles.* (after Gaatone 1998, 200)
'The students are accompanied by their families.'

d. *Le détenu est accompagné par le/*du policier.*
'The inmate is accompanied by the policeman.'

We will argue that the difference between *de* and *par* has to do with INFLUENCE: In (6d), the inmate is somehow 'influenced' by the policeman, whereas the students in (6c) are not necessarily 'influenced' by their parents. Hence *de* marks a lack of influence. This can also be seen in (6a)–(6b).

Although the French data confirm Croft's (2012) Space ⇒ Causation metaphor, his theory cannot explain the difference between *de* and *par*. Both mark an antecedent role, but Croft does not make further distinctions:

> Although one cannot predict which participant roles a specific Oblique case marking will subsume—case markers are usually quite polysemous—one can predict that a specific Oblique case marking will subsume only antecedent roles or only subsequent roles. That is, one can generally categorize Oblique morphosyntactic markers as either Antecedent or Subsequent, as in (2)–(3). (Croft 2012, 223, emphasis added)

The formal approach also has trouble handling the French data. If the Agent preposition denotes the identity function, how can we differentiate between *de* and *par*?

We need a formalism that remains closer to intuitive thinking about causation. To be able to implement the ideas from Croft (2012) we want a single denotation for each preposition, from which can derive both spatial and causal meanings. Force dynamics (Talmy 1988; Copley and Harley 2015, 2020) will help us with this.

2.4 A polymorphic denotation of *de* and *par*

The use of *de* and *par* outside passives first suggests that force dynamics might be the right approach. *De* is used to name Causes that are situations (7), while *par* is used to name Causes that are forces (8).

(7) a. *Jean est mort de/*par* {*faim / vieillesse / la maladie de Parkinson*}.
'Jean died of hunger / old age / Parkinson's disease.'

b. *Marie* {*s'est écriée / a gémi*} *de/*par* {*douleur / admiration / plaisir*} / ??*de l'impact du ballon*.
'Marie cried out / groaned from pain / admiration / pleasure / the impact of the ball.'

(8) *La fenêtre s'est cassée *de/par* {*un tremblement de terre / l'impact du ballon*}.
'The window broke due to an earthquake / the impact of the ball.'

This is similar to what Copley and Harley (2015, 139–142) describe for English *from*, which can mark forces but not entities:

(9) a. *The floor broke from the *(weight of the) elephant.* (Copley and Harley 2015, 141)

b. *The window broke from John*('s hitting it).*

With a distinction between entities (type e), forces (type f), and situations (type s) we can obtain a formalization that derives the correct facts for (7)–(8), and the behaviour of *de* and *par* in passives as well.

We will give *de* and *par* an abstract definition based on its basic spatial meaning. The type is $\eta\theta t$, where η and θ can be any type as long as the abstract spatial meaning has a reasonable interpretation for that type (cf. Morrill 1994, 162).

(10) a. $[\![de]\!]_{\eta\theta t} = \lambda x_\eta \lambda y_\theta$. FROM$(x, y)$, for any types η, θ

b. $[\![par]\!]_{\eta\theta t} = \lambda x_\eta \lambda y_\theta$. THROUGH$(x, y)$, for any types η, θ

For instance:

(11) a. *un médecin de Paris*
'a doctor from Paris'

b. $[\![de]\!]_{eet} = \lambda x_e \lambda y_e$. FROM$(x, y)$, interpreted as "$y$ comes from x".

(12) a. *le train à Lyon par Dijon*
'the train to Lyon via Dijon'

b. $[\![par]\!]_{eet} = \lambda x_e \lambda y_e$. THROUGH$(x, y)$, interpreted as "$y$ goes through x".

For the Cause markers *de* and *par* we get:

(13) a. *Jean est mort de/*par faim.*
'Jean died of hunger.'

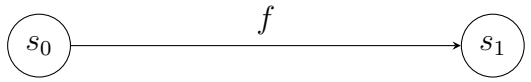
b. $[\![de]\!]_{sst} = \lambda s_0 \lambda s_1$. FROM$(s_0, s_1)$, interpreted as $(\text{net}(s_0))(s_0) = s_1$.

(14) a. *La fenêtre s'est cassée *de/par un tremblement de terre.*
'The window broke due to an earthquake.'

b. $[\![par]\!]_{fst} = \lambda f \lambda s_1$. THROUGH$(f, s_1)$, interpreted as $\exists s_0 : \text{net}(s_0) = f \wedge f(s_0) = s_1$.

Mapping the concepts of force dynamics onto Croft's (2012) Space ⇒ Causation metaphor, we can explain why *de* has type sst but not fst, and why *par* has type fst but not sst.

(15)

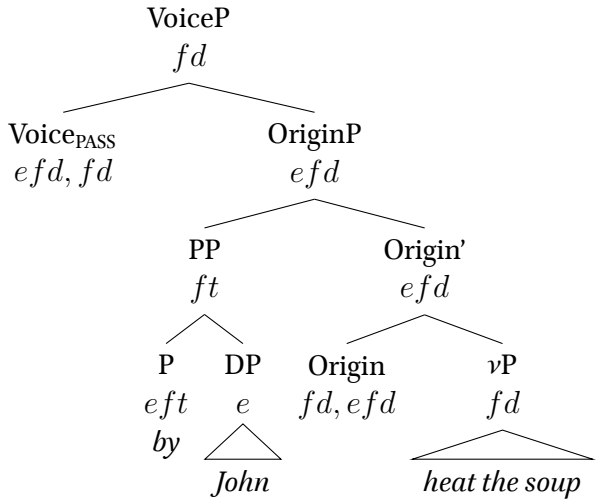


Ablative	Perlative	Object
de 'from'	*par* 'through'	passive subject

2.5 Formalizing the Agent prepositions

We assume an intermediate projection which we will call OriginP to implement the argument strategy (Angelopoulos et al. 2020) in the framework of Copley and Harley (2020):

(16) *the soup was heated by John*



(17) a. $[\![\text{Origin}]\!] = \lambda p_{fd} \lambda e \lambda f, \text{Origin}(f, e).p(f)$

b. $[\![by]\!] = \lambda e \lambda f.\ \text{Origin}(f, e)$

c. $[\![\text{Voice}_{\text{PASS}}]\!] = \lambda p_{efd} \lambda f. \exists x : p(x, f)$

(18) $[\![\text{VoiceP}]\!]$

$= \lambda f. \exists x : [\![\text{OriginP}]\!](x, f)$ (17c)

$= \lambda f. \exists x, [\![\text{PP}]\!](f) : [\![\text{Origin'}]\!](x, f)$ (Predicate Restriction)

$= \lambda f. \exists x, [\![\text{PP}]\!](f), \text{Origin}(f, x).[\![v\text{P}]\!](f)$ (17a)

$= \lambda f. \exists x, \text{Origin}(f, [\![\text{John}]\!]), \text{Origin}(f, x).[\![v\text{P}]\!](f)$ (17b)

$= \lambda f, \text{Origin}(f, [\![\text{John}]\!]).[\![v\text{P}]\!](f)$ (redundant existential bind)

So we're looking for an interpretation of *de* and *par* with type eft:

(6c) *Les étudiantes sont accompagnées par/de leurs familles.* (after Gaatone 1998, 200)
'The students are accompanied by their families.'

(19) $[\![de]\!]_{eft} = \lambda e \lambda f$. FROM$(e, f)$, interpreted as Origin$(e, f)$.

(20) $[\![par]\!]_{eft} = \lambda e \lambda f$. THROUGH$(e, f)$, interpreted as Agent$(e, f)$.

We hypothesize, based on Croft (2012), that spatial distance is related to distance to the Patient in the causal chain. A greater distance (FROM) is interpreted as a general Origin. The origin of the causal chain is used not only for Agents, but for anything that can be seen as the ultimate starting point of a force: volitional agents, but also natural phenomena or reasons, for example.

An entity that is more proximal to the Patient (THROUGH) more likely manipulates the Patient directly. We describe that here with Agent, for lack of a better term.

This link between proximity to the Patient and direct manipulation is not surprising. We see it also in the distinction between the English Agent marker *by* and Instrument marker *with*. Instruments manipulate the Patient more directly, and *with* is more proximal than *by*: cf. *the girl by/with the bike*.

2.6 Corollaries

The fact that *par* is especially suited to mark direct manipulators (Agents) has an impact on the further pragmatic interpretation of *de* and *par*. This allows us to explain differences in the distribution of *de* and *par* that were previously not well-described. What we called INFLUENCE above can be derived from Proto-Agent (or Proto-Patient) properties (cf. Dowty 1991). Consider (6d)–(21):

(6d) *Le détenu est accompagné par le/*du policier.*
'The inmate is accompanied by the policeman.'

(21) *L'ex-détenu est apparu devant le tribunal, accompagné par le/du policier qui l'avait alors arrêté.*
'The former inmate appeared in front of the courthouse, accompanied by the policeman that had previously arrested him.'

These examples establish a different relationship between the policeman and the inmate: only in (6d) do we expect the policeman to restrain the inmate in his movements. This difference can be described in terms of Proto-Agent / Proto-Patient properties:

- In (6d), the inmate is more affected, because he is less free to move around.
- In (6d), the policeman is more goal-oriented, because he has the concrete goal to prevent the inmate from escaping.

Example (6d) thus has a more prototypical Agent than (21), which explains why only *par* is allowed.

This also works for examples with inanimate arguments:

(22) a. *Rainer participe pour la première fois à une course de slalom en montagne. Cette course a eu lieu à Reitnau, petit village situé au coeur de la Suisse et surplombé par une chaîne de montagne.*[1]
'Rainer takes part in a mountain slalom for the first time. This race took place in Reitnau, a small village located in the heart of Switzerland and overlooked by a mountain range.'

b. *La première image offerte aux visiteurs est un village paroi surplombé de ses deux tours et de son église auxquels on accède par un réseau de ruelles ou d'escaliers.*[2]
'The first image offered to visitors is a walled village overlooked by its two towers and its church which are accessed by a network of alleys or stairs.'

In (22a) our mental image of the village changes because of the mention of the mountain range: that is what makes it a suitable place for the mountain slalom. This is a more abstract reinterpretation of affectedness and goal-orientedness.

This can become as abstract as visual dominance:

(23) a. *de … hauts plateaux désolés surplombés de sommets déchiquetés*[3]
'desolate highlands overlooked by jagged mountain tops'

b. *un mur d'enceinte surplombé de barbelé*[4]
'a compound wall surmounted by barbed wire'

(24) a. *un sentier surplombé par des rochers de grès rose tout le long du parcours*[5]
'a small path that winds at the feet of pink sandstone cliffs all along the way'

b. *un stade surplombé par un tremplin de saut à ski*[6]
'a [soccer] stadium overlooked by a ski jump'

In the examples in (23), neither participant is foregrounded with respect to the other, a balance emphasised by modifiers (*désolés … déchiquetés*; *d'enceinte*). This is not the case in (24), where the prepositional object really changes the way we see the subject.

By focusing on the force/Agent, *par* can pick out a resultative interpretation of a verb when *de* leads to a stative interpretation:

(25) a. *Notre-Dame délaissé de ses touristes en plein confinement*[7]
'the Notre-Dame, abandoned of its tourists in full lockdown'

b. *En cas d'enfant délaissé par ses parents (art. 501 de la charia), …*[8]
'In case of a child neglected by its parents (art. 501 of the sharia), …'

In this way, the spatial meaning of *de* and *par* still resonates in causal uses, and from there it can have various effects, depending on context.

3 Different perspectives on the causal chain

3.1 Biblical Hebrew

The Biblical Hebrew prepositions *min* 'from, out of' and *b*^{e} 'in, by, against' present a similar problem as French *de* and *par*. Both are said to be Agent markers in the grammars, but we look here at (more frequent) other causal functions.

B^{e} is the default preposition for Instruments (26a), but *min* occurs as well (26b).

(26) a. רַבִּים אֲשֶׁר־מֵתוּ בְּאַבְנֵי הַבָּרָד מֵאֲשֶׁר הָרְגוּ בְּנֵי יִשְׂרָאֵל בֶּחָרֶב׃ (Joshua 10:11 ESV)

rabbîm ʾăšer mēṯû b^{e}*=ʾaḇnē hab=bārāḏ mē=ʾăšer hār*^{e}*gû b*^{e}*nē yiśrāʾēl b*^{e}*=ḥāreḇ*
many REL died in=stones of the=hail from=REL killed sons of Israel in=sword

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

b. וְעַתָּה הוֹאֵל וּבָרֵךְ אֶת־בֵּית עַבְדְּךָ ... וּמִבִּרְכָתְךָ יְבֹרַךְ בֵּית־עַבְדְּךָ לְעוֹלָם׃ (2 Samuel 7:29 ESV)

w^{e}*=ʿattâ hôʾēl û=ḇārēḵ ʾeṯ bêṯ ʿaḇd-*^{e}*ḵā ... û=mib=birḵāṯ-*^{e}*ḵā*
and=now want and=bless OBJ house of servant-your ... and=from=blessing-your
y^{e}*ḇōraḵ bêt ʿaḇd-*^{e}*ḵā l*^{e}*=ʿôlām*
will be blessed house servant-your to=eternity

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

Conversely, *min* is the default preposition for Reasons (27a), but *b*^{e} occurs as well (27b).

(27) a. וַיְמַהֵר שָׁאוּל וַיִּפֹּל מְלֹא־קוֹמָתוֹ אַרְצָה וַיִּרָא מְאֹד מִדִּבְרֵי שְׁמוּאֵל (1 Samuel 28:20 ESV)

way^{e}*mahēr šāʾûl wayyippōl m*^{e}*lōʾ qômāṯ-ô ʾarṣ-â wayyīrāʾ m*^{e}*ʾōḏ mid=diḇrê*
and hastened Saul and fell full of height-his earth-wards and he feared very from=words of
š^{e}*mûʾēl*
Samuel

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

b. וְלֹא־תִכָּרֵת הָאָרֶץ בָּרָעָב׃ (Gen 41:36 ESV)

w^{e}*=lōʾ ṯikkārēṯ hā=ʾāreṣ b=ā=rāʿāḇ*
and=not shall be cut off (MID) the=land in=the=famine

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

We argue that *min* 'from' marks DOMINANCE or FULL CONTROL, while *b*^{e} 'in, by, against' is used for entities that are not in full control:

- In (26a), the stones / sword are Instruments of other entities (God and the Israelites): no full control.
- In (26b), the blessing is so powerful that it lasts forever, hence it is dominant.
- In (27a), "at once", "full length", and "very" indicate the complete fear that overcomes Saul: full control.
- In (27b), the famine is not a dominant factor since the land has built up reserves.

3.2 Biblical Hebrew: more examples

When a reason for joy is given, *b*^{e} 'in' is often used, while *min* is used for reasons for fear. This is understandable, since fear is usually something you are overcome by, while joy is something that is more easily controlled.

(28) a. שִׂמְחוּ בַּאֲבִימֶלֶךְ וְיִשְׂמַח גַּם־הוּא בָּכֶם׃ (Judges 9:19 ESV)

śimḥû ba=ʾ^{a}bîmeleḵ w^{e}=yiśmaḥ gam hûʾ bā=ḵem
rejoice in=Abimelech and=let rejoice also he in=you

'rejoice in Abimelech, and let him also rejoice in you.'

b. וְלִשְׂמֹחַ בַּעֲמָלוֹ זֹ֥ה מַתַּ֖ת אֱלֹהִ֥ים הִֽיא׃ (Ecclesiastes 5:19 ESV)

w^{e}=li=śmōaḥ ba=ʿ^{a}māl-ô zô mattat ʾ^{e}lōhîm hîʾ
and=to=rejoice in=toil-his this gift of God she

'(...) and [to] rejoice in his toil—this is the gift of God.'

(29) a. וַיַּסְתֵּ֥ר מֹשֶׁ֖ה פָּנָ֑יו כִּ֥י יָרֵ֖א מֵהַבִּ֥יט אֶל־הָאֱלֹהִֽים׃ (Exodus 3:6 ESV)

wayyastēr mōšę pān-āw kî yārēʾ mē=habbîṭ ʾel hā=ʾ^{e}lōhîm
and hid Moses face-his because feared from=look.INF to the=God

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

b. וְהִנֵּ֤ה קָרַן֙ עוֹר֙ פָּנָ֔יו וַיִּירְא֖וּ מִגֶּ֣שֶׁת אֵלָֽיו׃ (Exodus 34:30 ESV)

w^{e}=hinnēh qāran ʿôr pān-āw wayyîr^{e}ʾû mig=gešeṭ ʾēl-āw
and=look shone skin face-his and they feared from=approach.INF to-him

'and behold, the skin of [Moses's] face shone, and they were afraid to come near him.'

Only *min* 'from' can render something impossible. This is understandable if only *min* has enough control to completely rule something out:

(30) הַרְבָּה֙ אַרְבֶּ֣ה אֶת־זַרְעֲךָ֔ וְלֹ֥א יִסָּפֵ֖ר מֵרֹֽב׃ (Genesis 16:10 ESV)

harbâ ʾarbę ʾeṭ zarʿē-ḵ w^{e}=lōʾ yissāpēr mē=rōḇ
multiply.INF-ABS I will multiply OBJ seed-yours and=not it will be countable from=multitude

'I will surely multiply your offspring so that they cannot be numbered for multitude.'

And in Isaiah 28:7, *b*^{e} and *min* are used, together with *yayin* 'wine' / *šēḵār* 'strong drink' and various verbs, to build a climax:

(31) a. *ŠGH b*^{e} *yayin* 'go astray in wine';

b. *TʿH b*^{e} *šēḵār* 'stagger in strong drink';

c. *ŠGH b*^{e} *šēḵār* 'go astray in strong drink';

d. *BLʿ min yayin* 'be numbed from wine';

e. *TʿH min šēḵār* 'stagger from strong drink'.

3.3 Comparison with French

At first, these results seem to conflict with what we said for French. In Hebrew the more distal preposition marks higher dominance / control, while in French the more distal preposition marked less influence:

(32) Biblical Hebrew:

Causation:	Dominance / full control	→ Less control	→ Patient
	min 'from'	b^e 'in, by, against'	
Space:	Ablative	Locative/Proximative	

(33) French:

Causation:	No influence	→ Influence	→ Patient
	de 'from'	*par* 'through'	
Space:	Ablative	Perlative	

Still, both languages can be understood using Croft's (2012) Space ⇒ Causation metaphor. It is logical if the Ablative marks more control, because the entity at the start of the causal chain is not controlled itself (Biblical Hebrew). But it is also logical if the Ablative marks less influence, because the entity is not necessarily in direct contact with the Patient (French).

We can explain these seemingly contradictory results with different perspectives on the causal chain:

- French has a PATIENT-ORIENTED PERSPECTIVE: in this language, *de* and *par* developed causal semantics through recycling the distance they express to the Patient. It is not crucial that *de* marks the absolute beginning of the causal chain, but the relative proximity to the Patient is important.
- Biblical Hebrew has a ORIGIN-ORIENTED PERSPECTIVE: b^e and *min* developed causal semantics based on the distance to the beginning of the causal chain, rather than the Patient. It is crucial that *min* points to the absolute beginning of the causal chain for it to express dominance or full control.

4 Conclusion

4.1 Formalizing Agent prepositions

Common formal theories of Agent prepositions take the Agent preposition as a purely functional element (e.g. Angelopoulos et al. 2020). They have trouble accounting for languages with multiple Agent prepositions, where the spatial meaning of these prepositions has not been lost entirely (cf. Croft 2012).

Force dynamics (Copley and Harley 2020) provides a formalism that remains closer to intuitive thinking about causation. The distinctions it makes between entity, force, and situation are useful to formalize differences between Agent prepositions. We have proposed a way to implement Agent prepositions à la Angelopoulos et al. (2020) in the framework of Copley and Harley (2020).

4.2 Making the Space ⇒ Causation metaphor more fine-grained

Croft only distinguishes Antecedent and Subsequent Obliques, and actively warns against going any further:

> Although one cannot predict which participant roles a specific Oblique case marking will subsume—case markers are usually quite polysemous—one can predict that a specific Oblique case marking will subsume only antecedent roles or only subsequent roles. That is, one can generally categorize Oblique morphosyntactic markers as either Antecedent or Subsequent, as in (2)–(3). (Croft 2012, 223, emphasis added)

There is indeed no universal mapping between spatial categories and causal concepts. However, we *can* make the metaphor more fine-grained when looking at a concrete language: relative position in space mirrors relative position in the causal chain. Thus we can describe the system of French as "proximity to Patient is influence", and the system of Biblical Hebrew as "proximity to Origin is control".

We can do the same for English:

(2) a. Cause: *The rabbit died from/of thirst.* (Croft 2012, 223)
b. Agent: *The cat food was eaten by raccoons.*
c. Means: *I went downtown by bus.*
d. Instrument: *Sue broke the coconut with a hammer.*
e. Comitative: *I went to the park with Carol.*

(3) a. Result: *They smashed the statue to pieces.* (Croft 2012, 223)
b. Result: *The boy carved the stick into a knife.*
c. Beneficiary: *Sue broke the coconut for Greg.*

(34)

Cause	→ Agent	→ Comitative/Instrument	→ Patient	→ Result	→ Beneficiary
of, from	*by*	*by, with*		*to, into*	*for*
Ablative	Proximative	Closer proximative		Allative	Closer allative

(For 'closer proximative', consider the difference between *the house by/with the lake*. For 'closer allative', consider that (*be*)*for*(*e*) is the endpoint of the direction expressed by *to*.)

4.3 Perspectives on the causal chain

Furthermore, we suggested that languages may have different perspectives on the causal chain. We identified the Patient-oriented perspective of French and the Origin-oriented perspective of Biblical Hebrew. This makes Croft's (2012) theory more predictive while remaining falsifiable.

Natural follow-up questions are:

1. Are there other perspectives besides Origin-oriented and Patient-oriented?
2. Is the perspective a language-wide parameter or can different prepositions in the same language take a different perspective?
3. What determines the perspective of a language (or of a preposition)?

Notes

[1]http://www.kueschall.ch/fr/Archiv_978.aspx, retrieved November 13, 2010 by http://web.archive.org.

[2]https://www.saintmartinlevieil.fr/, retrieved September 16, 2022.

[3]http://lesdeuxvoyageurs.com/Inde/Ladakh2005/Accueil_Ladakh/Accueil_Ladakh2005.html, retrieved December 8, 2021.

[4]http://www.haitiministries.com/www/nouvelles/, retrieved December 8, 2021.

[5]http://www.netrando.com/fr/direct/PHALDAB012.htm, captured by Linguee.com, retrieved December 8, 2021.

[6]http://fr.fifa.com/tournaments/archive/tournament=102/edition=6946/news/newsid=88409.html, captured by Linguee.com, retrieved December 8, 2021.

[7]https://twitter.com/chouettephoto/status/1344600099113074691, retrieved March 18, 2022.

[8]http://www.arabhumanrights.org/publications/countries/lebanon/crc/lebanon3-05f.pdf, captured by Linguee.com, retrieved March 18, 2022.

References

Angelopoulos, Nikos, Chris Collins and Arhonto Terzi. 2020. 'Greek and English passives, and the role of *by*-phrases'. *Glossa: a journal of general linguistics* 5 (1): 1–29. https://doi.org/10.5334/gjgl.1185.

Copley, Bridget, and Heidi Harley. 2015. 'A Force-Theoretic Framework for Event Structure'. *Linguistics and Philosophy* 38 (2): 103–158.

Copley, Bridget, and Heidi Harley. 2020. *What Would It Take to Tame the Verbal Hydra?*

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

Dowty, David. 1991. 'Thematic Proto-Roles and Argument Selection'. *Language* 67 (3): 547–619.

Gaatone, David. 1998. *Le Passif En Français.* Champs Linguistiques. Paris: Duculot.

Morrill, Glyn V. 1994. *Type logical grammar: Categorial logic of signs.* Dordrecht: Springer.

Straub, Sylvia A. 1974. 'The Passive Prepositions *De* and *Par*'. *The French Review* 47 (3): 583–593.

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