

Privative case: displacement and renewal in the negative domain*

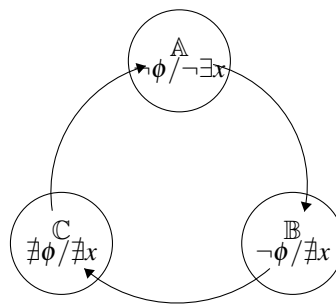
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1. The negative existential cycle

The *negative existential cycle* (NEC) is a grammaticalization pathway whereby a language recruits a “special” negative existential predicate (\nexists) which eventually displaces an erstwhile “standard” (clausal) negative marker (\neg). Shown in (1), this cycle was proposed by Croft (1991) and has recently attracted significant attention in the typological literature (i.e., Veselinova 2013, 2016, Hamari and Veselinova forthcoming a.o). On the basis of comparative data from two distantly-related Australian (Pama-Nyungan, PN) subfamilies—Yolŋu and Arandic—this paper proposes a treatment of the changes in the meaning contribution of negative existentials, constituting the first (formal) semantic analysis of this cycle.

- (1) A heuristic schema of the NEC’s 3 diachronic stages. \neg = *clausal negator*, \nexists = *negative existential*, ϕ , x represent variables over sentences, individuals respectively.



*Thanks to Claire Bowern, Veneeta Dayal, Larry Horn and Ljuba Veselinova for useful feedback on this proposal, as well as to audiences at NELS 50 at MIT and the 2020 meeting of the LSA. All errors and omissions, of course, remain my own.

Some abbreviations used in this paper. CONJ ‘conjunction’, DIST ‘distal’ (demonstrative), INTENS ‘intensifier’, NEG ‘negative marker’, NEX ‘negative existential’, PROX ‘proximative’ (demonstrative), PRIV ‘privative case’, PFV ‘perfective’, RED ‘reduplicant’ I-IV species of Yolŋu TMA inflection, NEC negative existential cycle. **Yolŋu orthographic convention.** Underlining of coronals (e.g., n) denotes retroflexion.

In Section 2, I propose a semantics for the “privative”, a nominal negator widely attested in Australian languages as a negative existential predicate, Sections 3 and 4 investigate apparent cyclic change in the negative domains of the Yolŋu and Arandic language (sub)families; nominal and clausal negation is realized quite differently in these related languages, they consequently represent an appropriate testing ground for the semantic cycle. Finally, Sections 5 and 6 propose a unified, quantificational analysis of nominal and verbal negation that motivates the NEC and situates it in terms of recent advances in grammaticalization theory (especially in terms of an apparent loss of indexical content associated with the cycle.)

2. The privative

The PRIVATIVE (known in some literatures as “caritive” or “abessive” case, e.g. Hamari 2011) is a nominal marker which predicates the absence of the NP to which it attaches in some discourse context. Broad typological surveys have shown that the privative is a category widespread in Australian languages, where it is frequently realised as a nominal suffix. Contrastingly, standard negation in Australian languages is, with few exceptions, marked with a preverbal negative particle Dixon (2002), Phillips (forthcoming). Examples of the negative existential function of the privative are given for Nyangumarta (Marrngu, PN) in (2) below.

- (2) *Function of the privative in Nyangumarta* (Sharp 2004)
- a. mirtawa mayi-**majirri**
woman vegetable-**PRIV**
'The woman is without food.'
 - b. mungka-**majirri**, karru-**majirri**-pa, paru-**majirri**; jungka jakun
tree-**PRIV** stream-**PRIV**-CONJ spinifex-**PRIV** ground only
'There were no trees, creeks, or spinifex; only the ground (in that country).'

In (3), I adopt Francez’s quantificational treatment of existential predication to give a semantics for PRIV (Francez 2007, McNally 2011). Effectively, privative forms are taken to instantiate the function of a negative quantificational determiner; the intersection of the two sets of individuals P, Q represented by its argument is asserted as empty (Barwise and Cooper 1981:169).

- (3) a. $\mathbf{no} = \lambda P_{\langle e,t \rangle} \lambda Q_{\langle e,t \rangle} . P \cap Q = \emptyset$
b. $[[\mathbf{PRIV}]] = \lambda P_{\langle e,t \rangle} \lambda Q_{\langle e,t \rangle} . \mathbf{no}(P, Q)$

P and Q respectively serve as the “pivot” and “coda” of an existential predication. Crucially the coda phrase (Q) need not have any syntactic representation (in (2a), *mirtawa* ‘woman’ serves this function), but can be derived from context indexically (2b). This latter process (Francez’s “contextual closure” (2007:72)) is spelled out in (4a) below.

- (4) a. $[[\text{mungka-majirri}]^c = \lambda Q_{\langle e,t \rangle} \cdot \text{no}(\lambda x[\text{Tree}(x)], Q)$
mungka-majirri ‘tree-PRIV’ asserts that there exists nothing in the intersection of $\lambda x.\text{Tree}(x)$ and some other property Q .
- b. $[[\text{mungka-majirri}]^c = \text{no}(\lambda x[\text{Tree}(x)], \lambda y[\text{loc}(st_c, y)])]$
 Q is saturated by ‘set of things related[...]to the spatiotemporal parameters’ being predicated of (viz. some ‘country’ in the past per Sharp’s translation in (2b))
 $d_{st_c} = \lambda y_e \cdot \mathcal{R}(\text{‘that country’}, y)$

3. The Yolŋu negative domain

Yolŋu Matha is a Pama-Nyungan language grouping located in Eastern Arnhem Land in Northern Australia. This section draws data primarily from Djambarrpuyŋu (djɹ, a *Dhuwal* variety).

Djambarrpuyŋu has three lexical items associated with negative semantics: *yaka* ‘NEG’, *bäyŋu* ‘NEX’ and *-miriw* ‘PRIV’.¹ While *yaka* and *bäyŋu* are interchangeable in many negative contexts, there is significant evidence that suggests the expansion of *bäyŋu* into the domain of clausal negation (as shown in (5a)). In particular, (5b) shows the unavailability of *bäyŋu* in negative imperative contexts and the unavailability of *yaka* in negative existential contexts.²

- (5) *The relative distribution of yaka and bäyŋu in Djambarrpuyŋu*
- a. (**yaka/bäyŋu**) ŋarra dhu nhäma mukulnha
 (NEG/NEX) 1s FUT see.I FaSi.ACC
 ‘I won’t see my aunty (today).’
- b. (**yaka/*bäyŋu**) waji!
 NEG(/*NEGQ) talk.II
 ‘Don’t talk!’
- c. bili (#yaka/bäyŋu) limurruŋ dhuwal bäwarran
 because #NEG/NEGQ 1d.INCL.DAT PROX animal
 ‘because there’s no meat for us.’

In addition to this internal reconstruction-based evidence, comparative data further supports an analysis of *bäyŋu* as an erstwhile negative quantifier. While no longer productive in Djambarrpuyŋu, other Yolŋu varieties retain *-ŋu* as a productive adnominal suffix. In particular, note the formation of negative quantifiers in Ritharŋu *yakaŋu* and Nhaŋu *rulkaŋu*.

There are two distinct suffixes in Yolŋu languages that appear to realise PRIV semantics: *-miriw* and *-nharra(ŋu)*. On the basis of existing description, only negative existential

¹Except where indicated, Djambarrpuyŋu sentence data originates from author’s fieldwork, collected in Ramingining (Arnhem Land) in April 2019.

²Note that, for (5c), while *yaka* is infelicitous with the negative-quantified reading, the truth-functional negative reading is still available (sc., *yaka limurruŋ dhuwal bäwarran* ‘This meat isn’t ours.’)

readings appear to be available to *-nharra(ŋu)*. These uses are also reported for *-miriw*, as in (6), from Wilkinson (1991:443)

- (6) *bili yätjkurr ŋunha wäŋa warralŋur-nydja gapu-miriw*
 because bad DIST land NAME-FOC water-PRIV
 ‘...because the place is bad. (It’s) without water.’ (≃ ‘there’s no water’)

However, in addition to this canonical negative existential use, *-miriw* also appears attached to nominalised verb forms, where it appears to scope over entire phrases (7).

- (7) a. *luka-nha-miriw ŋayi ŋunhi dharpa-ny*
 eat-IV-PRIV 3s that tree-PROM
 ‘That tree is not edible.’
- b. *maŋutji ŋorra-nha-miriw ŋunhayi wäŋa*
 eye lie-IV-PRIV DIST place
 ‘It’s impossible to sleep (lit. eye-lie) at that place.’

In these cases, *-miriw* can be thought of as quantifying over the domain of *eventualities*. Adapting the semantics for *-miriw* described in (3) and (4a), this can be thought of as a generalisation in the domain of the quantifier (**no**, such that it relates two sets of events in these cases) as well as an expansion in the possible domains of \mathcal{R} —the contextually-determined relation that relates a location to a set of characteristic individuals. This is spelled out for privative phrase in (7b) in (8) below.

- (8) $[[\textit{maŋutji ŋorranha-miriw}]^i = \text{no}(\lambda e[\textit{lie}(e, \textit{eye})], \lambda e'[\mathcal{R}(\textit{wäŋa}, e')])]$

Effectively, the privative phrase in (7b) is taken to assert that there is no intersection between sleeping (lit. ‘eye-lying’) events and the set of eventualities that can reasonably be taken to occur at the place (*ŋunhayi wäŋa*) which the speaker is referring to ($\lambda e'[\mathcal{R}(\textit{wäŋa}, e')]$). The consequences of this for the NEC are spelled out in section 5.

4. The Arandic negative domain

Arandic is another Pama-Nyungan subgroup, spoken in central Australia. It consists of a number of varieties of Arrernte, in addition to a single outlier, Kaytetye. Arandic languages are notable for marking sentential negation as a suffix, diverging with the preverbal particle strategy employed by most other languages on the continent (see §2). Importantly, inflectional distinctions (TMA) that are obligatorily marked on most Arrernte verbs are *not marked* on negated predicates; shown in (9), past reference for a negated sentence can be optionally marked by introducing a past-inflected auxiliary *neke* ‘PST.PFV’.

- (9) *Anwerne-k-artweye mape-le pmere kurn-ile-tyekenhe ne-ke.*
 1p-DAT-custodian PL-ERG country bad-CAUS-NEG be-PST.PFV

‘Our ancestors didn’t (ever) hurt the country.’ (Wilkins 1989:235)

Both Wilkins (1989) and Henderson (2013) argue that the (verbal) negative suffix *-tyekenhe* is *diachronically complex*. That is, the Arrernte negative suffix can likely be further analysed into a nominalising element *-(n)tye* and a “nominal negator” *-kenhe*. Henderson (2013:416-8) provides a number of arguments in favour of the analysability of *-tyekenhe*; some of these are rehearsed as (10) below.

- (10) Behaviour of the negative suffix *-tyekenhe* in Mpwarrnte (Alice Springs) Arrernte (from Henderson 2013:416-8)
- a. *A class of focus-sensitive particles (i.e., =arlke ‘also’) intervene between the two formatives of the negative suffix*
 Re-atherre untyem-eke-untyeme an-err-eme angk-err-**etye**(arlke)**akenhe**
 3d.NOM facing.away-DAT-RED sit-d-PRES speak-RECIP-NEG(also)
 ‘The two of them are sitting down and not talking to each other.’
 - b. *Nominal negator -kwenye suffixed to negated predicate*
 Angk-**etyeakenhe-kwenye**; irnterre anthurre angk-eke
 speak-NEG-NomNEG intensely INTENS speak-PST
 ‘(She) wasn’t *not* talking; she was talking a lot.’

In (10a), the intervention of *=arlke* demonstrates the morphotactic availability of a closed class of adverbials occurring at the boundary between the nominalising and negative elements of *-tyekenhe*. Simultaneously, (10b) shows how the negated predicate can occur with a nominal suffix (in this case one with privative semantics itself!) Recall that suffixation of verbal (TMA) categories is *not* available to negated predicates. This is taken to evince a that negated “verbs” are actually morphosyntactically nouns in Arandic.³

I take these data to suggest that the Arrernte formative *-(a)kenhe* has developed into a marker of clausal negation out of an erstwhile negative existential function. Similarly to Djarrmbarrpuyngu *-miriw*, *-(a)kenhe* attaches to *nominalised verbs*. Departing from virtually all other Pama-Nyungan languages, Arandic uses this (de)verbal-suffixation strategy as its primary means of standard negation. Additionally, Kaytetye—the sole member of an outgroup in the Arandic family—appears to have retained a single form for both standard and existential negation. This furnishes possible evidence that the Arrernte nominal negator *-kwenye* (10b) has been recruited owing to an apparent functional pressure to distinguish existential from standard negation.

5. Unifying PRIV and NEG

In this section, I propose a unified semantic treatment for both standard and existential negation; this proposal takes both of these types of negation to involve an operation over

³Henderson (2013:418ff) provides additional evidence that supports this analysis, including examples where negated “verbs” receive ergative marking when functioning as secondary predicates in phrases headed by transitive verbs. Examples omitted owing to space constraints.

two sets (i.e., negation as a two-place operator). The semantic component of the changes to existential negators that are described in the NEC are modeled as *gradual relaxation in their quantificational domains*. A generalised lexical entry for negative markers—both “nominal” (existential) and sentential—is given as (11) below.

$$(11) \quad \llbracket \text{NEG} \rrbracket = \lambda P_{\langle \sigma, t \rangle} \lambda Q_{\langle \sigma, t \rangle} . \mathbf{no}(P, Q)$$

On this analysis, the distributional differences between privatives/nominal negators and sentential negators is simply due to differences in the *types* of sets over which they quantify. Canonical uses of the privative (e.g., Nyangumarta *-majirri* in (2) above) quantify over the domain of properties of individuals— $\mathbb{D}_{\langle e, t \rangle}$. Those “expanded” uses of the privative, as affixed to deverbal predicates (e.g., Djambarrpuyngu *-miriw* in (8) above) quantify over properties of events— $\mathbb{D}_{\langle e, t \rangle}$. Finally, sentential negators (including Arrernte *-(e)tyekenhe*) can be thought of as quantifying over *propositions* (sc. sets/properties of possible worlds)— $\mathbb{D}_{\langle s, t \rangle}$.

5.1 Negation as an impossibility operator

An outcome of this quantificational analysis (which unifies existential and sentential negation as 2-place operators) is a treatment of sentential negation as a modal operator (as opposed to a truth functional operator over sentences, as is normally assumed.) The idea that negations can be analysed as modal operators has been proposed in other literatures (e.g., Wansing 2001, Horn and Wansing 2017, Došen 1999 a.o.). This idea is advantageous insofar as it captures observed behavioural similarities between negation and (irrealis) modalities. Assuming a standard Kripke model for current purposes—viz. a set of worlds, an accessibility relation and a verification function, $\mathcal{M} = \langle \mathcal{W}, \mathcal{R}, v \rangle$ —a modal semantics for negation is given in (12) below. Crucially, the binary accessibility relation ($\mathcal{R} \subset \mathcal{W} \times \mathcal{W}$) is modelled as the *compatibility relation* \mathcal{C} which relates a possible state (of a world) to those that comport with the facts in that world.

$$(12) \quad \text{Negation } \sim \text{ as (alethic) impossibility}$$

$$\mathcal{M}, w \models \sim A \iff \forall u. w \mathcal{C} u \rightarrow \mathcal{M}, u \not\models A$$

Relative to some model \mathcal{M} , the negation of A holds in w iff A fails to hold in any world u that is compatible with w .

In § 4, we saw how, as in other Arandic varieties, Mpwarnte Arrernte realises propositional negation by means of a formative *-(e)tyekenhe* which is affixed to verb stems. This is shown again in (13) below:

$$(13) \quad \text{Kweye, the ng-enhe aw-etyekenhe}$$

oops 1s.ERG 2s.ACC hear-NEG
‘Sorry, I didn’t hear you’ (Henderson 2013:412)

-(*e*)*tyekenhe* is taken to scope over the entire clause. On the analysis defended here, then, this is taken to assert that the intersection of the proposition ‘I HEAR you’ (viz. $\lambda w.I \text{ HEAR } you \text{ in } w$) and the set of worlds compatible with the reference world w^* (viz. $\lambda w.w \in \mathcal{C} w^*$) is empty.

5.2 Domain expansion

‘Negation relates an expression e to another expression with a meaning that is somehow opposed to the meaning of e ’ Horn and Wansing 2017

The denotation for NEG given in (11) above provides a semantics for both existential and “standard” negators; the central concern of the NEC. A consequence of this is that the usage changes in relevant lexical material is modelled as changes to restrictions on the domains of operators with negative semantics. The table in (14) below spells out how this formalism can deal with each of these three stages in the meaning of a negative element, showing how we can understand this change as a species of *generalisation*. Note that, adopting terminology commonly used to describe existential predication (e.g., Francez 2007, McNally 2016):

- The set P represents the pivot: that obligatorily encoded element ‘whose existence or location is under discussion’ (McNally 2016:212)
- The set Q represents the contextual domain d_α . This can be optionally modified restricted by a *coda* phrase (see Francez 2007, 2009:30ff).^{4, 5}

(14) Domain expansion from existential (PRIV) to standard negation (NEG)
Negative elements are analysed as quantifiers asserting that the intersection between two sets P, Q is empty.

| NEG | λP – pivot $\langle \sigma, t \rangle$ | λQ – contextual domain $\langle \sigma, t \rangle$ |
|--|--|---|
| PRIV | $\lambda x.P(x)$ set of entities $\langle e, t \rangle$ | $\lambda y.\mathbf{loc}(st_c, y)$ entities in some location |
| PRIV _{\mathcal{E}} | $\lambda e.P(e)$ set of events $\langle \mathcal{E}, t \rangle$ | $\lambda e'.\mathbf{loc}_{\mathcal{E}}(st_c, e')$ events instantiated at some location |
| NEG | $\lambda w.p(w)$ set of worlds $\langle s, t \rangle$ | $\lambda w'.\mathcal{C}(w^*, w')$ worlds compatible with eval. world |

⁴Francez argues that coda phrases in fact behave as a species of frame adverbial, determining the quantificational scope of the predication.

⁵Note however that in the case of privative constructions of the type *subject + pivot-PRIV*, the subject NP is taken to serve as coda (and the privative phrase as an (non)existential predicate.) The current paper abstracts away from the syntactic differences between this type of construction and the English-like existential predications that form the primary source of data in Francez and McNally’s work. I contend that these syntactic differences are harmless to the semantic analysis described here.

As shown in (14), a generalised quantifier-type of analysis (11) can handle both existential and sentential negation. As discussed above, these uses differ in terms of the domains over which they quantify. The next section discusses the implications of this change for theories of grammaticalization and semantic change.

6. Grammaticalization and indexicality

The “types” of negation summarised in (14) above can be thought of as corresponding to various stages of the NEC: a reserved PRIV marker that realises nominal (“existential”) negation as distinct from sentential negators might be construed as instantiating stage \mathbb{B} of the Cycle (this is the strict distinction between the nominal suffix *-majirri* ‘PRIV’ and the preverbal sentential negator (*munu*) in Nyangumarta.) Conversely, a language in which a privative marker has *displaced* a sentential negator and is responsible for both nominal and sentential negation instantiates stage \mathbb{C} . This is, by hypothesis, the case for proto-Arandic and potentially the current case in Kaytetye.⁶

One outcome of this research is the observation that privatives which tolerate “eventive” arguments (PRIV_ε in (14) above) represent a likely bridge between NEC stages \mathbb{B} and \mathbb{C} . Morphosyntactically, PRIV, a noun marker, comes to modify event descriptions with nominal morphosyntax. Eventually, as in Arrernte, this strategy can become the main way of realizing sentential negation: the erstwhile privative scoping over entire propositions.

In recent work, Deo (2018) suggests that grammaticalisation trajectories in general are characterisable by the loss of (*discretionary*) *indexical content* (e.g., Perry 2012:68ff). That is, reanalysed forms tend to lose their dependence on context for retrieving discourse reference.⁷ Deo appeals to this notion in describing a number of cross-linguistically reported grammaticalisation pathways, including: where (distal) demonstratives gradually lose their indexical force to become markers of definiteness, specificity and eventually noun class markers (see also Greenberg 1978, de Mulder and Carlier 2011, Stevens 2007:61). In a different domain, the progressive to imperfective aspect shift can also be fruitfully understood as the relaxation of a requirement, peculiar to the progressive aspect, for a specific, discourse-salient reference interval that relies on pragmatics (\approx discretionary content provided by some construal of ‘speaker demonstration’) for evaluation. The newly emergent ‘imperfective’ lacks this indexical/context-dependent content (see Deo 2015).

Crucial to the current proposal, at the core of Francez’s (2007:2) analysis of existential propositions is their “radical context dependence.” That is, the interpretation of an existential predication involves explicit appeal to a contextual domain/parameter (formally represented above as d_α). In an existential proposition like *There’s no water* (*bäyju gapu*

⁶Croft (1991:19) points out that stage \mathbb{C} is “relatively unstable” given potential ambiguity between existential and propositional negations (cf constraints on non-existential readings of Djambarrupyu *bäyju* in ambiguous contexts, mentioned in note 2.) This potential ambiguity is the source of functional pressure to distinguish these two possible readings by the “recruitment” of a new existential marker (\mathbb{A}).

⁷Perry’s (2012:68ff) 2×2 typology of indexicals contrast those that: (A) depend on notions of (i) “wide” vs. (ii) “narrow” context to designate and (B) on the basis of context, either designate (i) “automatically” or otherwise (ii) require appeal to “speaker intentions”. Those indexical items that require appeal to speaker intention are ‘discretionary’ indexicals (compare Kaplan’s ‘true demonstratives’, see Braun 2017 for a general discussion of this literature.)

or *gapu-miriw* in Djambarrpuyŋu) d_α is a discretionary indexical, which *may but need not* be identified with that set of things that is somehow related to [e.g. , **located at**] the spatiotemporal parameters of the utterance context $\langle \ell_u, t_u \rangle = st_u$ (Francez 2007:72)—that is, $\lambda y.\mathbf{loc}(st_u, y)$. The identity of the set is therefore dependent on the contextual retrieval of some relation \mathcal{R} (e.g., **loc**) that picks out a set of entities that relate to some pragmatically determined set of parameters.

The meaning change described by the NEC seems, then, to carry a concomitant loss in *discretionary indexicality*. On the quantificational (modal) analysis of negation described in the previous section, the meaning contribution of a sentential negator is that its prejacent — $p \in \wp(\mathcal{W})$ — *does not intersect* with the set of worlds which are *compatible* with the actual world $\lambda w'.\mathcal{C}(w^*, w')$. That is, the establishment of reference is automatically set and speaker meaning (the hallmark of discretionary indexicality) isn't factored in.

Here I have argued that:

- 1 Sentential negation can be assigned a single lexical entry, accounting for apparent polysemy emerging as nominal negators encroach into the domain of sentential negation.
- 2 This change can be characterised as a generalisation in the quantificational domain over which negative quantifiers range and that, consequently,
- 3 We can fruitfully conceive of sentential negators as two-place operators.

Finally, I have suggested that:

- 4 This treatment unites the NEC with independent observations about the trajectories of semantic change: namely that they are associated with a *loss of discretionary indexicality* (a decreased reliance on the pragmatics for reference establishment.)

References

- Barwise, Jon, and Robin Cooper. 1981. Generalized quantifiers and natural language. *Linguistics and Philosophy* 4:159–219.
- Braun, David. 2017. Indexicals. Stanford Encyclopedia of Philosophy, <https://plato.stanford.edu/archives/sum2017/entries/indexicals>.
- Croft, William. 1991. The Evolution of Negation. *Journal of Linguistics* 27:1–27.
- Deo, Ashwini. 2015. The semantic and pragmatic underpinnings of grammaticalization paths: The progressive to imperfective shift. *Semantics and Pragmatics* 8:1–52.
- Deo, Ashwini. 2018. Fine-tuning the progression of grammaticalization paths. In *Meaning in Flux workshop, 12-14 October, 2018*. Yale University, New Haven, CT.
- Dixon, Robert M W. 2002. *Australian languages: Their nature and development*. New York: Cambridge University Press.
- Došen, Kosta. 1999. Negation in the Light of Modal Logic. In *What is negation?*, ed. by Dov M Gabbay and Heinrich Wansing, chapter 4, 77–86. Dordrecht: Springer.
- Francez, Itamar. 2007. Existential Propositions. Doctoral dissertation, Stanford University, CA.

- Francez, Itamar. 2009. Existentials, predication, and modification. *Linguistics & Philosophy* 32:1–50.
- Greenberg, Joseph H. 1978. How does a language acquire gender markers? In *Universals of human language*, ed. by Joseph H Greenberg, volume 3: Word Structure. Stanford, CA: Stanford University Press.
- Hamari, Arja. 2011. The abessive in the permic languages. *Suomalais-Ugrilaisen Seuran Aikakauskirja (Journal of the Finno-Ugric Society)* 93:37–84.
- Hamari, Arja, and Ljuba N Veselinova, ed. by. forthcoming. *The Negative Existential Cycle from a historical-comparative perspective*. Berlin: Language Sciences Press.
- Henderson, John. 2013. *Topics in Eastern and Central Arrernte grammar*. Outstanding grammars from Australia. Munich: LINCOM.
- Horn, Laurence R., and Heinrich Wansing. 2017. Negation. The Stanford Encyclopedia of Philosophy, <https://plato.stanford.edu/archives/spr2017/entries/negation/>.
- McNally, Louise. 2011. Existential sentences. In *Semantics*, ed. by von Heusinger, Claudia Maienborn, and Paul Portner, chapter 69. Berlin: De Gruyter.
- McNally, Louise. 2016. Existential Sentences Crosslinguistically: Variations in Form and Meaning. *Annual Review of Linguistics* 211–231.
- de Mulder, Walter, and Anne Carlier. 2011. The grammaticalization of definite articles. In *The Oxford handbook of grammaticalization*, ed. by Bernd Heine and Heiko Narrog. Oxford: Oxford University Press.
- Perry, John. 2012. *Reference and reflexivity*. Stanford, CA: Centre for the Study of Language and Information, 2nd edition.
- Phillips, Josh. forthcoming. Negation. In *The Oxford Handbook of Australian Languages*, ed. by Claire Bower. Oxford: Oxford University Press.
- Sharp, Janet. 2004. *Nyangumarta: a language of the Pilbara region of Western Australia*. Canberra: Pacific Linguistics.
- Stevens, Jon. 2007. The Old English Demonstrative: A Synchronic and Diachronic Investigation. Doctoral dissertation, Ohio State University, Columbus.
- Veselinova, Ljuba N. 2013. Negative existentials: A cross-linguistic study. *Rivista di Linguistica* 25:107–45.
- Veselinova, Ljuba N. 2016. The Negative Existential Cycle viewed through the lens of comparative data. In *Cyclical change continued*, ed. by Elly van Gelderen, Linguisk Aktuell. Amsterdam: John Benjamins.
- Wansing, Heinrich. 2001. Negation. In *The Blackwell guide to philosophical logic*, ed. by Lou Goble, chapter 18, 415–36. Malden, MA: Blackwell.
- Wilkins, David P. 1989. Mparntwe Arrernte (Aranda): Studies in the Structure and Semantics of Grammar. Doctoral dissertation, Australian National University, Canberra.
- Wilkinson, Melanie P. 1991. Djambarrpuyŋu: a Yolŋu variety of Northern Australia. Doctoral dissertation, University of Sydney, NSW.