Constructions with and without articles

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Abstract

Even in languages with a well-developed system of articles, such as Germanic and Romance languages, we find constructions in which the noun can appear without an article. This talk gives an overview of such 'weakly referential' bare constructions, and provides a roadmap for within and cross-linguistic variation. Bare nouns are sometimes in complementary distribution with the indefinite article (in predication, incorporation, *with/without* PPs), and sometimes with the definite article (*en train* vs. *par le train*, *play (the) piano*). There is a third class of bare constructions which is neither definite nor indefinite, but plural or quantificational in nature. Here we find bare coordination (*mother and child*), reduplication (English *from door to door = many doors in succession*) and bare PPs like Dutch *per jaar* (= *each year*). The three classes are subject to different constraints within and across languages, due to the interaction of lexicon, syntax and semantics.

1. Bare nominals & argument position

Bare nominals are nominal structures lacking an article or other overt determiner in D. Bare nominals may bear functional structure like plural morphology, case marking, etc. (1a). Totally bare nominals lack any functional structure, and contain just a lexical core (NP) (1b).

(1)   a.   I bought *apples*. <u>They</u> turned out to be rotten.
        b.   I drank *milk*. <u>It</u> was nice and cold.
        c.   *I read book, *I bought apple.

English does not use bare, singular count nominals in regular argument position (1c). In other languages, this may be different, e.g. Mandarin Chinese, Hebrew:

(2)   Zuotian wo yudao le *tongshi*. Wo quing <u>ta/tamen</u>   chifan le.[Mand. Chinese]
     Yesterday I   meet ASP colleague. I   invite {him, her/them} eat ASP
     'Yesterday I met one or more colleagues I invited him/her/them to dinner.'

(3)   ra'iti *kelev*. <u>hu</u> navax/ #<u>hem</u> navxu   [Hebrew]
     I-saw *dog*. he barked/ they barked
     'I saw a dog. It barked/ #They barked.'

Bare nouns are the most unmarked nominal, and are the preferred form given *FUNCTN (de Swart & Zwarts 2010):

- *FUNCN: Avoid functional structure in the nominal domain.

- FPL: sum reference of a discourse referent is marked in the functional structure of the nominal.

Given the low marking of FPL in Mandarin Chinese, nominals are underspecified for atomic/sum reference; interpretation is determined in context.

Why do argument positions need marking?

Semantic motivation: nominals in argument position have discourse referential status (ARG).

- Semantic faithfulness constraint ARG: parse an XP in argument position as having discourse referential status (where X= N, Num or D).

True for English (1a, 1b). Mandarin and Hebrew bare nouns in argument position can be the antecedent of a discourse pronoun (3), (4) (Rullmann & You 2005, Doron 2003).

Given ARG, there is no reason to assume a null D analysis to account for (1a,b), (2) and (3): discourse referential force follows from embedding of bare noun in regular argument position.

Syntactic faithfulness constraint: discourse referentiality requires marking in D (FDR).

- FDR: the presence of a discourse referent in the semantics corresponds with an article or other determiner in D.

ARG + FDR: singular/plural/mass nominals in regular argument position will be overtly marked for discourse reference, e.g. St'át'imcets (Matthewson 1998), French:

(4) a. tecwp-mín-lhkan ti púkw-a   lhkúnsa   [St'át'imcets]
         buy.appl-1SG.SUB DET book-DET today
         'I bought a/the book today.'
     b. Léxlex   I   smelhmúlhats-a
         Intelligent DET.PL woman.PL.DET
         'Women/the women are intelligent.'

(5) a. J'ai   acheté un/   le   livre aujourd'hui.   [French]
         I-have bought indef.SG/def.SG book today
         'I have bought a/the book today.'
     b. J'ai acheté des/les livres aujourd'hui.
         I-have bought indef.PL/def.PL books today
         'I have bought books/the books today.'
     c. J'ai acheté du lait/de la viande aujourd'hui.
         I-have bought indef.MASS.M mild/indef.MASS.F meat today
         'I have bought milk/meat today.

- FDEF: uniqueness/familiarity of the discourse referent in the semantics is marked in the functional structure of the nominal.

Why bare count singulars vs. bare mass and bare plurals: English, Dutch, German?

Intuition: conceptual salience of atomic individuals (cf. Farkas & de Swart 2010, grounded in psychological literature e.g. Feigenson and Carey 2003, 2005, and diachronic literature on indefinite article e.g. Heine 1997). FDR_{at} explains atomic/non-atomic contrast in (6).

- FDR_{at}: the presence of an atomic discourse referent in the semantics corresponds with an article or other determiner in D.

(6) a. I bought a book/the book today.
     b. I bought books/the books today.
     c. I bought milk/the flour for the cake.

Why bare count singular definites vs. definite/indefinite bare plurals: Hindi, Sinhala?

Intuition: indefinite as presentative marker (salient atomic individuals upon first mention) (grounded in diachronic literature on indefinite article, e.g. Gívon 1991, Heine 1997):

- FDR$_{at,new}$: the presence of an atomic discourse referent in the semantics that is new in the context corresponds with an article or other determiner in D.

(7) a. mæssa miris   karələkə   wæhuw-a   [Sinhala]
        fly.SG chili.pepper pod.like.thing.SG.INDEF.LOC land-PST
        'The fly landed on a chili pepper.'
    c. hatu   mal   narakweela
        mushroom flower.PL rotten
        'The mushrooms are rotten.'
    d. maŋ laŋgə dehi geḍi   tiye-nəwa
        1SG   near lime fruit.PL exist-IMPF
        'I have limes.'

2. Constructions without an article

If nominals appear in a non-argument position in which no discourse referent is introduced, FDR/ FDR$_{at}$ is vacuously satisfied. No marking is required, and bare nominals are preferred, e.g. in bare predication:

(8) a. kúkwpi7 kw s-Rose   [St'át'imcets]   b. Jean est avocat   [French]
        Chief   DET NOM-Rose   Jean is lawyer
        'Rose is a chief'   'Jean is a lawyer.'

'Weak' referentiality:

(9) a. John is *in hospital*.   (Bare location)   [English]
     b. the way to use *knife and fork*.   (Bare coordination)
     c. Mary *is chair* of the department. (Bare predication)
     d. She is *playing piano* for the choir. (Bare incorporation)
     d. He went from *door to door*.   (Bare reduplication)

(10) a. Het kind gaat *naar school*   (N-based bare PP)   [Dutch]
         the child goes to school   Paenen 2009
     b. Een hoed *zonder veer*   ('with' bare PP)
         a   hat   without feather
     c. Hij leest drie boeken *per week*.   (P-based bare PP)
         he reads three books per week
     d. Jan is *advokaat*   (bare predication)
         Jan is lawyer
     e. Hij speelt *piano*.   (bare incorporation)
         He plays piano
     f. Hij ging *van deur tot deur*   (reduplication)
         He went from door to door
     g. *Moeder en kind* maken het wel   (bare coordination N&N)
         mother and child are doing well
     h. *Deze man en vrouw* zijn gescheiden (bare coordination DN&N)
         This man and woman are divorced

(11) a. *sur scène, à bord*   (N-based bare PP)   [French]
         on scene, on board
     b. Bal *avec buffet, sans   danger*   ('with' bare PP)
         bal with buffet, without danger

     c.   *En prison*, *en classe, en/par train*   (P-based bare PP), Postma (2010)
         in prison, in class,   by train
     d.   Jean est *avocat*   (bare predication)
         Jean is   lawyer
     e.   De   *ferme en ferme*   (reduplication)
         from farm   to farm
     f.   *Chien et chat* avaient l'air sale   (bare coordination N&N)
         dog and cat seemed   dirty

Variation in tolerance of bare nominal both within and across constructions and languages.

What drives within language variation? Investigate alternations.

(12)   Alternation bare/definite:
     a.   At school vs. at <u>the</u> office   (choice of noun)
     b.   per trein vs. met <u>de</u> trein   (choice of preposition) [Dutch]
         by train vs. by the train
     c.   playing violin vs. playing <u>the</u> violin   (free variation?)

(13)   Alternation bare/indefinite:
     a.   John is chair of the department vs. John is <u>a</u> lawyer (uniqueness of predicate)
     b.   A boat without anchor vs. a boat without <u>an</u> anchor   (free variation?)
     c.   Busco   piso vs. Busco   un piso   (free variation?) [Spanish]
         look-for.1SG flat   vs. look-for.1SG a flat
         'I am looking for a flat.'

What drives cross-linguistic variation? Investigate alternations.

(14)   Alternation bare/definite:
     a.   Go to hospital (Br. English) vs. go to <u>the</u> hospital (Am. English)
     b.   Go to school (En), naar school gaan (Dutch), vs. aller à <u>l'</u>école (Fr)
     c.   Op kantoor (Dutch) vs. at <u>the</u> office (En), <u>au</u> bureau (Fr)
     d.   play (<u>the</u>) piano (En)/piano spelen (Dutch) vs. jouer <u>du</u> piano (Fr)

(15)   Alternation bare/indefinite:
     a.   il est avocat (Fr), hij is advokaat (Dutch), vs. he is <u>a</u> lawyer (En)
     b.   Ana tiene coche (Sp) vs. Ana has <u>a</u> car (En), Ana heeft <u>een</u> auto (Dutch)
     c.   Zonder reden (Dutch), sans raison (Fr), without <u>a</u> reason (En)

But: not all bare configurations allow alternations. Bare coordination, PNPN constructions, prepositions like Dutch *per* do not have counterparts with definite or indefinite articles.

(16)   No alternation:
     a.   Mother and child are doing well ≠ The mother and the child are doing well.
         (bare coordination gets stronger meaning: reciprocity)
     b.   He went from door to door ≈ He went to one door after another
     c.   Hij leest drie boeken per week ≈ Every week he reads three books

Claim (i): in bare/definite alternations (N-based bare PPs), the bare noun is similar to a 'weak' definite (Carlson & Süsmann 2005, Carlson 2006, Espinal 2013). Semantics involves uniqueness at an abstract level: kinds (Aguilar Guevara & Zwarts 2010, Aguilar Guevara 2013), telic-locative functions (Corblin 2013) or telic roles in a lexical frame (Zwarts 2013). Lexical constraints associated with stereotypicality, collocation (Stvan 2009).

Claim (ii): in bare/indefinite alternations (predication, incorporation, 'with' bare PPs), the indefinite has a property-based semantics (for predication see Partee 1984, de Swart, Winter and Zwarts 2007), for 'have' verbs see de Hoop 1992, Zimmermann 1993, de Swart 2001, Landman 2004, Espinal and McNally 2011, Le Bruyn 2013). 'Special' semantics implies (narrow scope) existential force. Lexical constraints: construction/language dependent.

Claim (iii): Bare constructions that do not show definite/indefinite alternations have a semantics that involves neither kind reference nor existential force, but convey plurality or quantification (bare coordination, reduplication, P-based bare PPs). Construction specific semantics. Lexical constraints: none.

3. Bare constructions with plural or quantificational meaning

Example 1: N&N constructions involve the coordination of two bare nouns as in (17) (Heycock & Zamparelli 2003, Le Bruyn & de Swart 2013) as plural formation:

(17) a. A black cat and a brown dog were fighting in the street. *Cat and dog* were equally filthy.
   b. Je kunt zelf je tijd indelen, er zijn geen vergaderingen nodig, en je kunt het gewoon thuis doen (mits je beschikt over *computer en printer*).   [Dutch]
   You can organize your own time, no meetings are required, and you can work from home (if you have *computer and printer*).

Le Bruyn & de Swart (2013): N&N construction involves 'split' coordination. Matchmaking semantics of conjunction involves the product of the denotation of the first conjunct Q with the universe, and the product of E with the denotation of the second conjunct P:

(18) $\lambda P \lambda Q \lambda x (x \in (Q \cap P))$ $\Rightarrow$ $\lambda P \lambda Q ((Q \times \underline{E}) \cap (\underline{E} \times P))$
                      matching   E = universe

Mapping of pairs of individuals built by matchmaking relation onto sum individuals (RtoI):

(19) $[[and_{split}]] = \lambda P \lambda Q \lambda z (z \in (RtoI((Q \times E) \cap (E \times P))))$
      where RtoI is the function of Relations to Individuals defined as follows:
      $RtoI(R) = \{x \oplus y : R(x,y)\}$

In the absence of an article on top of the coordinated phrase as a whole, a free type-shift (iota or $\exists$) leads to a definite (20a) or indefinite (20b) interpretation of the sum:

(20)   a. $(Filthy_{Dist}(\iota x \oplus y(CAT \times DOG(x,y))$ [=17a]
        b. $\lambda z Have(\exists x \oplus y(COMPUTER \times PRINTER(x,y))(z)$ [=17b]

Matchmaking conjunction with relational nouns creates a reciprocal reading based on lexical semantics (converse relation, Staroverov 2007):

(21) $\lambda P \lambda Q \lambda x (x \in (Q_{<e,<e,t>>} \cap P_{<e,<e,t>>}))$ $\Rightarrow$ $\lambda P \lambda Q (Q \cap P^{-1})$
                              matchmaking
        where $\lambda x \lambda y P^{-1}(y,x) = \lambda x \lambda y P(x,y)$

(22) $doing\_well_{Dist}(\iota x \oplus y(MOTHER \times CHILD^{-1}(x,y))$ [=10g]

Example 2: N *after* N or *from* N *to* N constructions often involve reduplication, but also occur with different nouns and a dual (23b, c) or plural (23a, d) meaning (Jackendoff 2008):

(23) a. Student after student complained about the exam.
    b. Eva read it from cover to cover.
    c. The whole thing was nonsense from start to finish.
    d. Those working practices and skills were handed down from mother to daughter.

Zwarts (2012): the path denoted by the *from* N *to* N PP is defined as the concatenation of the two paths denoted by *from* and *to*. Under the dual interpretation, it takes two different objects and yields the set of paths that connect them (24a). The plural interpretation requires the higher-order, set-theoretic version in (24b):

(24) a. $F+T = \lambda x \lambda y \lambda p \exists p_1 \exists p_2 [x \neq y \wedge F(x,p_1) \wedge T(y,p_2) \wedge p=p_1+p_2]$
    b. $F+T = \lambda X \lambda Y \lambda p \exists x \exists y [X^*(x) \wedge Y^*(y) \wedge \exists p_1 \exists p_2 [F(x,p_1) \wedge T(y,p_2) \wedge p=p_1+p_2]$

Example 3: *Per* as a quantificational preposition

Constructions with *per* parallel distributive constructions with universal quantifiers (Zimmermann 2002):

(25)   a.   drie bewakers <u>per</u> gevangene   (Dutch)
       b.   three guards <u>for every</u> prisoner   (English)
       c.   drie Bewacher <u>je</u> Gefangenen   (German)

Le Bruyn, de Swart & Zwarts (2012): universal distributive quantification is packaged together with a general locative relation in the lexical semantics of *per*.

(26)   a.   Eén appel per mand is rot.   'One apple per basket is rotten.'
           $\forall x.\textbf{basket}(x) \rightarrow \exists y.\textbf{apple}(y) \wedge \textbf{have}(x,y) \wedge \textbf{rotten}(y)$
       b.   één … per mand   'one … per basket'
           $\lambda P.\lambda Q.\forall x.\textbf{basket}(x) \rightarrow \exists y.P(y) \wedge \textbf{have}(x,y) \wedge Q(y)$
       c.   per mand   'per basket'
           $\lambda D.\lambda P.\lambda Q.\forall x.\textbf{basket}(x) \rightarrow D(P)(\lambda y.\textbf{have}(x,y) \wedge Q(y))$
       d.   per   'per'
           $\lambda N.\lambda D.\lambda P.\lambda Q.\forall x.N(x) \rightarrow D(P)(\lambda y.\textbf{have}(x,y) \wedge Q(y))$

Note: only certain (typically cardinal) determiners can occupy the position of D in (26c).

Conclusions: no alternation of bare construction with definite/indefinite construction in *per* PPs or N&N (or PNPN constructions, cf. Zwarts 2012), because plural/quantificational semantics creates complex denotation out of lexical nouns.

No inherent lexical or ontological constraints on noun classes in plural/quantificational bare constructions, because based on property denotation of lexical N.

Cross-linguistic variation: a language does or does not allow the bare noun+special semantics combination. If the semantics is part of the set of possible semantic operations in natural language, we expect the bare construction to appear in some, but not all languages.

Within language variation: some languages have N&N, but not DN&N constructions (e.g. French). Dutch makes very liberal use of *per*, English *per* and German *pro* are less frequent.

4. Bare/indefinite alternations

Example 1: predication is associated with 'capacity nouns' (professions, nationalities); in English it is further restricted to unique roles (26a vs. b):

(26)   a.   Mary is chair of the department.
       b.   Henry is *(a) teacher.
       c.   Hans is leraar.   [Dutch]
               Hans is teacher
       d.   Marie est juge.   [French]
               Marie is   judge

De Swart, Winter & Zwarts (2007): predication of the form 'x is P', where P is an NP, NumP or DP involves a membership relation between the denotation of *x* and a set of entities obtained by mapping the denotation of P onto a set of entities of type <e,t>. Capacity nouns denote capacities – entities of type e, distinct from kinds. Capacities can be mapped to sets of ordinary entities using the CAP operator. Kinds are mapped to sets of entities using the realization operator REL. CAP can only apply at NP-level. NumP and DP always involve REL. Partee (1987): type-shift BE for indefinites.

Semantic differences correlate with choice between bare and marked predication. REL is interpreted as the complement denotation of the capacity (blocking, de Swart & Zwarts 2009):

(27)   a.   Henriëtte is manager   NO!   [Dutch]
               h ∈ CAP(**manager'**)
       b.   Henriëtte is een manager   YES!
               h ∈ REL(*kind*(**manager'**))

No grammatical variation, no semantic differences between bare and marked predication:

(28)   a.   **h** ∈ REL(*kind*(**teacher'**))   ⇔   [=26b, English]
       b.   **h** ∈ CAP(**teacher'**)   [=26c,d Dutch, French]

No variation, no blocking. CAP and REL lead to equivalent interpretations, because REL includes capacity interpretation. The association of predication with indefinites (type-shift BE leads to type <e,t> denotation) explains the bare/indefinite alternation.

Example 2: incorporation is associated with property denotations of bare noun as modifiers of the verb, rather than arguments (Van Geenhoven 1998, Farkas & de Swart 2003, Chung & Ladusaw 2004, Dobrovie-Sorin et al. 2006, Espinal & McNally 2011, Dayal 2011).

(29)   a.   Busco   *piso*.   [Spanish]
               look.for-1SG flat
               'I'm looking for a flat.' (i.e. I am flat-hunting.)
       b.   Mari *belyeget*   gujt.   [Hungarian]
               Mari stamp-ACC collect
               'Mari stamp-collects.' or: 'Mari is collecting stamps.'
       c.   anu puure din *cuuhaa* pakaRtii   rahii   [Hindi]
               Anu whole day mouse catch-IMP PROG
               'Anu kept catching mice (different ones) the whole day.'

Espinal & McNally (2011): lexical rule suppresses theme of 'have' verb. The input to this rule specifies that the situation depends in some way on the existence of a *have*-relation involving

the eventual subject referent and some other individual in some (not necessarily actual) world *w* (possibly subject to contextual restrictions *C*):

(30)   **Input:** $\lambda y \lambda e[\mathbf{V}(e) \wedge \theta(e)=y \wedge \exists w[C(w)][\exists e'[\mathbf{depend}(e,e',w) \wedge \mathbf{have}(e') \wedge$
             $\mathbf{havee}(e')=y]]]$
         Output: $\lambda e[\mathbf{V}(e) \wedge \exists w[C(w)][\exists e'[\mathbf{depend}(e,e',w) \wedge \mathbf{have}(e') \wedge \mathbf{havee}(e')=\theta(e)]]]]$

'Have' verb and the bare noun combine via special composition rule:

(31)   If $[[V]] = \lambda e[\mathbf{V}(e)]$ and θ is an implicit role function defined for V, and if $[[N]] = \mathbf{N}$, a property, then $[[[_v V \, N]]] = \lambda e[\mathbf{V}(e) \wedge N(\theta(e))]$.

Any entailment of existence in the actual world for this implicit participant depends on the lexical semantics of the verb: if the *have*-relation that the situation described by the resulting predicate depends on is one that must hold in the actual world, its satisfaction conditions will guarantee that the **havee** exists in the actual world; if not, it won't.

The existential entailment mirrors an existential quantifier in Van Geenhoven (1998), existential closure in Chung & Ladusaw (2004) and the existential force associated with the embedding condition of thematic roles in Farkas & de Swart (2003).

Truth-conditionally, the semantics of incorporation + lexical entailment $\exists$ is equivalent to the semantics of full indefinites ~ bare/indefinite alternation. Difference: bare noun is modifier, lacks argument status, 'weakly referential': incorporated and non-incorporated nominals differ in discourse-referential force (licensing of discourse anaphora).

Example 3: *with/without* **PPs** get existential interpretation similar to that of 'have' verbs.

(32) a. een hoed *zonder veer*   ('with' bare PP) [Dutch]
         a   hat   without feather
     b. A country without libraries is like a boat *without anchor*.   [English]
     c. Je ne voyage pas *sans   livre*, ni   en paix, ni en guerre.   [French]
         I NEG travel NEG without book, neither in peace, nor in war
         'I don't travel without a book, neither in times of peace, nor in time of war.'

The bare construction is optional, we find full indefinite DP counterparts:

(33) a. Een bungalow is een *huis   zonder   een bovenetage*.   [Dutch]
         A   bungalow is a   house without a   second floor
     b. Bareboat sailing, by definition, means to charter *a boat without a captain*
     c. On ne   peut pas vivre sans   un livre dans la   poche.   [French]
         One NEG can   NEG live   without a   book in   the pocket
         'One cannot livre without a book in one's pocket.'

When a *with/without* PP modifies a noun or a verb, we establish a relation between the referent of the PP complement, and the noun or an argument of the verb.

Analysis: either extend Espinal & McNally's (2011) incorporation analysis of Spanish/ Catalan 'have' verbs to prepositions (cf. Alexandropoulou, Schulpen & de Swart 2013). Or: extend Le Bruyn's (2013) analysis of relational 'have'. W*ith/without* preposition introduces a lexico-pragmatically controlled two-place relation with an existentially closed internal argument:

(34) a. Een hoed met veer
         A   hat   with feather
     b. [[veer]] = λx.Feather(x)   (regular denotation of N)
     c. [[with]] = λPλQλy∃x[Q(y) & P(x) & transitivize(y)(x)]
     d. [[with feather]] = λQλy∃x[Q(y) & Feather(x) & Present-with(y)(x)]
     e. [[hoed met veer]] = λy∃x[Hat(y) & Feather(x) & Present-with(y)(x)]

(35) a. Een hoed met een veer
         A   hat   with a feather
     b. [[een veer]] = λQ∃x[Feather(x) & Q(x)]   (GQ denotation of indefinite)
     c. [[een veer]] = λx.Feather(x)   (property denotation after type-shift BE)
     d. [[met een veer]] = λPλy∃x[P(y) & Feather(x) & Present-with(y)(x)]
     e. [[hoed met een veer]] = λy∃x[Hat(y) & Feather(x) & Present-with(y)(x)]

Conclusion: no truth-conditional difference between bare nominals and indefinites in *with/without* PP. Article may appear for grammatical reasons (quasi-argument position?). Existential semantics ~ bare/indefinite alternation.

No lexical constraints, so no capacity/kind meaning alternations, no blocking. Meaning enrichment to possessive or part-of relation, from contextual interpretation of transitivization.

Cross-linguistic variation: a language does or does not allow the bare+special semantics combination. Widespread use of bare *with/without* PPs in Dutch and French, but no incorporation with 'have' verbs in these languages.

5. Bare/definite alternations

We find bare/definite alternation in P-based PPs (*per trein/met de* trein), N-based bare PPs:

(36)   a.   in hospital (Br. En)/in the hospital (Am. En)
       b.   en prison (Fr)/in prison (En)/in de gevangenis (Dutch)
       c.   op kantoor (Dutch)/at the office (En)
       d.   at school (En)/op school (Dutch)/à l'école (French)

Shared properties of bare nominals and weak definites:

(37) a. Each mobster went to church/the pub.   (narrow scope only)
     b. #Let's go to church/the pub and set it on fire.   (reduced discourse transparency)
     c. #Bob is in church/the pub to do some cleaning.   (stereotypicality)
     d. Eve went to church/the pub, and so did Bob   (lack of uniqueness)

Stvan (1998, 2007, 2009): bare nouns in locative/directional PPs bear on institution, region or artefact with a stereotypical function (associated activities). Strict lexical restrictions, even disallowing (near) synonyms (Carlson & Sussman 2005): *to penitentiary (cf. *to prison*), *at ocean (cf. *at sea*), *in couch (cf. *in bed*). Lexical restrictions on noun lead to our characterization of these locative/directional PPs as N-based bare PPs.

Uniqueness of bare nominal and weak definite preserved at more abstract level. Analyses in terms of kind reference (Aguilar & Zwarts 2010, Aguilar 2013), telic functions (Corblin 2013) or telic roles in a lexical frame (Zwarts 2013).

Proposal: Stvan nouns have two types of denotations. Notation: *Hospital* (concrete instance) (38a) vs. *Hospital*$_{inst}$ (abstract, institutional denotation) (39a). Basic locative/directional

prepositions have two types of denotations, one picking up on the concrete object (38c, d), the other one picking up on the abstract, institutional denotation at the property level (39b,c).

(38) a. $[[\text{hospital}_1]] = \lambda x.\text{Hospital}(x)$ (set of realizations of the kind in a world)

    b. $[[\text{the hospital}_1]] = \iota x.\text{Hospital}(x)$ (pragmatic use of definite as contextually unique)

    c. $[[\text{in}_1]] = \lambda z \lambda w\ [\text{IN}(z)(w)]$ (IN a relation between concrete figure-ground)

    d. $[[\text{in}_1\ \text{the hospital}_1]] = \lambda w \iota x\ [\text{Hospital}(x)\ \&\ \text{IN}(x)(w)]$

(39) a. $[[\text{hospital}_2]] = \lambda x.\text{Hospital}_{inst}(x)$ (medical institution, singleton set!)

    b. $[[\text{in}_2]] =$
      $\lambda Q \lambda P \lambda y \exists x[Q(x)\ \&\ \exists z(\text{transitivize}(\lambda n.\text{Real}(x_{inst})(n)))(y)(z)\ \&\ \text{IN}(z)(y)\ \&\ P(y)]$

    c. $[[\text{in}_2\ \text{hospital}_2]] = \lambda P \lambda y \exists x\ [\text{Hospital}_{inst}(x)\ \&\ \exists z([\text{Real}(x_{inst})(z)\ \&$
                $\text{Medical-aid-location-for}(y)(z)\ \&\ \text{IN}(z)(y)\ \&\ P(y)]$

    d. $[[\text{the hospital}_2]] = \iota x.\text{Hospital}_{inst}(x)$ (semantic use of definite as in 'the sun')
                $= \lambda x.\text{Hospital}_{inst}(x)$ (after application of BE: singleton set)

    e. $[[\text{in}_2\ \text{the hospital}_2] = [[\text{in}_2\ \text{hospital}_2]]$

The semantics of *in₂* has a built in realization relation of an abstract object, and establishes a figure-ground relation IN with the concrete instance (39b). The semantics of *in₂* furthermore introduces a two-place relation with the concrete instance coming out of the lexical noun, by applying transitivization. This relation accounts for the pragmatic enrichment associated with N-based bare PPs (going to hospital for medical care in 39c). *In₂* can apply to a weak definite *the hospital₂*, after application of the type-shift BE to the definite (39d), which returns the singleton set with the abstract institutional interpretation, leading to the equivalence in (39e).

Article may appear for grammatical reasons (quasi-argument position?), but is semantically redundant. Uniqueness of abstract object in semantics ~ bare/definite alternation.

In₁ does not apply to *hospital₂*, because it operates on concrete objects. *In₂* does not apply to *hospital₁*, because it requires a noun that has an institutional meaning.

Summary of bare constructions and within/cross-linguistic variation

within/cross-linguistic variation	construction	Semantics	Constraints
no alternation	N&N/DN&N, *from* N *to* N; P-based PPs like *per week*	plurality, quantification	syntax-semantics interface in grammar; no lexical constraints
bare/definite alternation	N-based PPs, P-based PPs like *per trein*, VN combinations like *play (the) piano*	unique kind/role denotation, meaning enrichment	small lexical class of defective Ns; collocational effects; syntax-semantics interface in grammar
bare/indefinite alternation	predication, incorporation, *with/without* PPs	property/set-based, no semantic uniqueness	syntax-semantics interface in grammar; lexical constraints construction/ language dependent

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