

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 on within and cross-linguistic variation, 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*. They turned out to be rotten.
b. I drank *milk*. It 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 ta/tamen chifan le. [Mandarin 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*. hu navax/ # hem 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:

- *FUNCTN: 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 full 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.

Since FDR requires discourse referents to be marked in an overt D projection, nominals in regular argument position will be overtly marked, e.g. St'át'imcets (Matthewson 1998), French: determiner obligatory for singular, plural and mass nouns:

- (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 milk/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). FDR_{sg} explains paradigm in (6).

- FDR_{sg}: 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.

2. Constructions without an article

If nominals appear in an environment in which no discourse referent is introduced, FDR/ FDR_{sg} is vacuously satisfied. No marking is required, and bare nominals are preferred, e.g. in bare predication.

- (7) kúkwipi7 kw s-Rose [St'át'imcets] (8) 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 <i>in hospital</i> . | (Bare location) | [English] |
| | b. | the way to use <i>knife and fork</i> . | (Bare coordination) | |
| | c. | Mary is <i>chair</i> of the department. | (Bare predication) | |
| | d. | She is <i>playing piano</i> for the choir. | (Bare incorporation) | |
| | d. | He went from <i>door to door</i> . | (Bare reduplication) | |
| (10) | a. | Het kind gaat <i>naar school</i>
the child goes to school | (N-based bare PP) | [Dutch] |
| | b. | Een hoed <i>zonder veer</i>
a hat without feather | ('with' bare PP) | |
| | c. | Hij leest drie boeken <i>per week</i> .
he reads three books per week | (P-based bare PP) | |
| | d. | Jan is <i>advokaat</i>
Jan is lawyer | (bare predication) | |
| | e. | Hij speelt <i>piano</i> .
He plays piano | (bare incorporation) | |
| | f. | Hij ging <i>van deur tot deur</i>
He went from door to door | (reduplication) | |
| | g. | <i>Moeder en kind</i> maken het wel
mother and child are doing well | (bare coordination N&N) | |
| | h. | <i>Deze man en vrouw</i> zijn gescheiden
This man and woman are divorced | (bare coordination DN&N) | |
| (11) | a. | <i>sur scène, à bord</i>
on scene, on board | (N-based bare PP) | [French] |
| | b. | Bal <i>avec buffet, sans danger</i>
bal with buffet, without danger | ('with' bare PP) | |
| | c. | <i>En prison, en classe, en/par train</i>
in prison, in class, by train | (P-based bare PP) cf. Postma (2010) | |
| | d. | Jean est <i>avocat</i>
Jean is lawyer | (bare predication) | |
| | e. | De <i>ferme en ferme</i>
from farm to farm | (reduplication) | |
| | f. | <i>Chien et chat</i> avaient l'air sale
dog and cat seemed dirty | (bare coordination N&N) | |

What drives within language variation?

- (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
by train vs. by the train | (choice of preposition) [Dutch] |
| 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 the predicate) |
| b. | A hat without feather vs. a hat without <u>a</u> feather | (free variation?) |
| c. | Busco <u>un</u> piso vs. Busco <u>un</u> piso
look-for.1SG flat vs. look-for.1SG a flat | (free variation?) [Spanish] |

'I am looking for a flat.'

What drives cross-linguistic variation?

- (14) Alternation bare/definite:
- Go to hospital (Br. English) vs. go to the hospital (Am. English)
 - Go to school (En), naar school gaan (Dutch), vs. aller à l'école (Fr)
 - Op kantoor (Dutch) vs. at the office (En), au bureau (Fr)
 - play (the) piano (En)/piano spelen (Dutch) vs. jouer du piano (Fr)
- (15) Alternation bare/indefinite:
- il est avocat (Fr) vs. he is a lawyer (En)
 - Ana tiene coche (Sp) vs. Ana has a car (En)
 - Zonder reden (Dutch) without a reason (En)

Claim (i): in bare/definite alternations (e.g. N-based bare PPs), the definite is a 'weak' definite (Carlson & Süssmann (2005), Carlson (2006), Aguilar Guevera & Zwarts (2010)). Semantics of the bare construction involves kind reference. Lexical constraints: Stvan-classes, stereotypicality, collocation.

Claim (ii): In bare/indefinite alternations (e.g. predication, incorporation, 'with' bare PPs), the indefinite has a property- (or set-) based semantics (for predication see Partee 1984, for object of 'have'/intensional verbs see de Hoop 1992, Zimmermann 1993, de Swart 2001). '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 typically convey plurality or quantification (bare coordination, reduplication, P-based bare PPs). Lexical constraints: none.

3. Bare constructions with plural or quantificational meaning

Example 1: From N to N constructions often involve reduplication, but also occur with different nouns and a dual (16b, c) or plural (16a, d) meaning:

- (16)
- The men wandered from room to room.
 - Eva read it from cover to cover.
 - The whole thing was nonsense from start to finish.
 - Those working practices and skills were handed down from mother to daughter.

Zwarts (2012): *from N to N* PP denotes a set of paths. Operator M defines PP as a VP modifier such that the temporal trace of the event is included in the path denoted by the PP:

$$(17) \quad M = \lambda P \lambda E \lambda e [E(e) \wedge P(\tau(e))]$$

The function F denoted by *from* maps an object x to the set of paths that start at x, and the function T denoted by *to* maps an object y to the set of paths that end at y. The path denoted by the *from N to N* PP is defined as the concatenation of the two paths denoted by *from* and *to*. It takes two different objects and yields the set of paths that connect them:

$$(18) \quad F+T = \lambda x \lambda y \lambda p \exists p_1 \exists p_2 [x \neq y \wedge F(x, p_1) \wedge T(y, p_2) \wedge p = p_1 + p_2]$$

This leads to the dual interpretations in (16b,c). In order to obtain the plural interpretations in (16a), we need a higher-order, set-theoretic version of (18) in (19):

$$(19) \quad F+T = \lambda X \lambda Y \lambda p \exists x \exists y [X(x) \wedge Y(y) \wedge \exists p_1 \exists p_2 [F(x, p_1) \wedge T(y, p_2) \wedge p = p_1 + p_2]]$$

(19) defines a function that takes two sets, picks out individuals from these sets, and maps these individuals to the set of paths P that lead from one to another. If we can find paths p and q in P such that the end point of p is identical to the starting point of q , then the concatenation $p+q$ is possible.

- (20) If P is a non-empty set of paths, then $P(P) =_{\text{def}} *P - P$.
 (If P is a set of paths, then $*P$ is the smallest set of paths such that $P \subseteq *P$, and if $p \in *P$ and $q \in *P$, then $p+q \in *P$; we subtract atomic paths)

This gives us the plural interpretation of *from room to room* (16a) in which we build paths from r_1 to r_2 to r_3 , etc. because the path $r_1 \rightarrow r_2$ is concatenated with $r_2 \rightarrow r_3$. The plural interpretation of *from mother to daughter* (16d) is possible when a daughter becomes a mother, and thereby becomes the starting point of a new path e.g. $\text{Mary} \rightarrow \text{Susan}$ concatenated with $\text{Susan} \rightarrow \text{Anne}$ (relational noun denoting a converse relation).

Example 2: N&N constructions involve the coordination of two bare nouns as in (20) (Heycock & Zamparelli 2003, Le Bruyn & de Swart 2012) as plural formation:

- (21) 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 (2012): N&N construction involves ‘split’ coordination. Special 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 , as in (22):

$$(22) \quad \lambda P \lambda Q \lambda x (x \in (Q \cap P)) \quad \Rightarrow \quad \lambda P \lambda Q ((Q \times E) \cap (E \times P))$$

matching E = universe

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

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

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 (21a) or indefinite (21b) interpretation of the sum:

- (24) a. $(\text{Filthy}_{\text{Dist}}(\iota x \oplus y (\text{CAT} \times \text{DOG}(x, y))))$ [=21a]
 b. $\lambda z \text{Have}(\exists x \oplus y (\text{COMPUTER} \times \text{PRINTER}(x, y)))(z)$ [=21b]

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

$$(25) \quad \lambda P \lambda Q \lambda x (x \in (Q_{\langle e, \langle e, t \rangle \rangle} \cap P_{\langle e, \langle e, t \rangle \rangle})) \Rightarrow \lambda P \lambda Q (Q \cap P^{-1})$$

matchmaking

where $\lambda x \lambda y P^{-1}(y, x) = \lambda x \lambda y P(x, y)$

- (26) $\text{doing_well}_{\text{Dist}}(\iota x \oplus y (\text{MOTHER} \times \text{CHILD}^{-1}(x, y)))$ [=10g]

DN&N constructions: ‘this man and woman’ (Heycock & Zamparelli 2005). Le Bruyn & de Swart (2012): coordination of a DP and an NP (27a). Dependency relation of the NP on the DP (27b)-(d):

- (27) This man and woman are in love/look happy.
- a. $[\text{CoordP } [\text{DP the man}] \text{ and } [\text{NP woman}]]$
 - b. $[[\text{the man}]_{\langle e,t \rangle}] = \iota_{\text{deic}}(\text{MAN}) = m$
 - e. woman of m: $\{x \mid \langle m,x \rangle \in m \times \text{WOMAN}\}$ (dependency on first conjunct)
 - f. $\iota(\{x \mid \langle m,x \rangle \in m \times \text{WOMAN}\}) = m$ (mapping to individuals)
 - g. this man and woman = $m \oplus w$ (sum formation of two individuals)

Example 3: Dutch *per jaar* ‘per year’, German *pro Student* ‘per student’ involves a quantificational meaning: ‘every year’, ‘every student’.

- (28) a. Er worden 25 miljoen chocoladeletters *per jaar* gemaakt. [Dutch]
 There are 25 million chocolate letters per year made
 ‘Every year, 25 million chocolate letters are produced.’
- b. Die Anmeldegebühr von € 120,- ist *pro Student* zu bezahlen. [German]
 The registration fee of € 120 is per student to pay.
 ‘Every student pays a registration fee of € 120.’

Quantificational meaning built into the preposition *per/pro*; leads to sentential scope of the universal quantifier over a sentence involving a cardinal generalized quantifier \mathbf{Q}_{card} :

$$(29) \quad [[\text{per}]] = \lambda P \lambda \mathbf{Q}_{\text{card}} \lambda Q \forall x [P(x) \rightarrow \mathbf{Q}_{\text{card}}(Q)(x)]$$

$$(30) \quad \forall x [\text{Year}(x) \rightarrow \exists Y [\text{Chocolateletter}(Y) \wedge \text{Card}(Y)=25\text{Mi} \wedge \text{produced}(Y,x)]] [=24a]$$

The preposition selects for an expression of type $\langle e,t \rangle$ as its argument (bare noun = common noun).

Conclusions: no alternation of bare construction with definite/indefinite construction in *from N to N* or *N&N*, because plural semantics creates complex denotation out of two bare nouns.

Quantificational *per/pro* is not linked to a definite/indefinite meaning, because it directly operates on the set denoted by the common noun.

No inherent lexical or ontological constraints on noun classes in plural/quantificational bare constructions. Lexical constraints only in so far as necessary to satisfy the requirements on the construction (concatenation of paths in *from N to N*, matchmaking in *N&N*, dependency in *DN&N*).

Cross-linguistic variation: a language does or does not allow the bare+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 necessarily all languages.

Within language variation: some languages have *N&N*, but not *DN&N* constructions (e.g. French).

4. Bare/indefinite alternations

Example 1: predication is associated with ‘capacity nouns’ (professions, nationalities); in English it is further restricted to unique roles (31a vs. b):

- (31) 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 $\langle e, t \rangle$. 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 involving the complement denotation of the capacity (blocking, de Swart & Zwarts 2009):

- (32) a. Henriëtte is manager NO! [Dutch]
 $\mathbf{h} \in \text{CAP}(\text{manager}')$
 b. Henriëtte is een manager YES!
 $\mathbf{h} \in \text{REL}(\text{kind}(\text{manager}'))$

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

- (33) a. $\mathbf{h} \in \text{REL}(\text{kind}(\text{teacher}')) \Leftrightarrow [=29\text{b, English}]$
 b. $\mathbf{h} \in \text{CAP}(\text{teacher}')$ [=29c,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 $\langle e, t \rangle$ 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 2010, Dayal 2011).

- (34) a. Busco *pliso*. [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 (2010): 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):

- (35) **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:

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

Any entailment of existence in the actual world for this implicit participant will depend on the lexical semantics of the particular verb involved: 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 (in the actual world or a different one) mirrors an overt existential quantifier in Van Geenhoven's (1998) semantics, existential closure in Chung & Ladusaw (2004) and the existential force associated with the embedding condition of thematic roles in the model in Farkas & de Swart (2003). Incorporated and non-incorporated nominal mainly differ in discourse-referential force (licensing of discourse anaphora).

Truth-conditionally, the semantics of incorporation + lexical entailment \exists is equivalent to the semantics of full indefinites. Difference: bare noun is modifier, 'weakly referential', lacks argument status. Truth-conditional equivalence motivates bare/indefinite alternation.

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

- (37) a. een hoed *zonder veer* ('with' bare PP) [Dutch]
 a hat without feather
 b. A country without libraries is like a boat *without anchor*.
 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 DP counterparts with definite and indefinite articles:

- (38) a. Een bungalow is een *huis zonder een bovenetage*.
 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.
 One NEG can NEG live without a book in the pocket
 'One cannot live without a book in one's pocket.'

Extension of Espinal & McNally's analysis: lexical rule for *with/without* PPs suppresses theme argument of the Accompany relation denoted by *with*, and turns it into a modifier of the preposition:

- (39) **Input:** $With \lambda y \lambda P \lambda x [P(x) \wedge \exists e [Accompany(e) \wedge Ext(e) = x \wedge Int(e) = y]]$
Output: $With \lambda P \lambda x [P(x) \wedge \exists e [Accompany(e) \wedge Ext(e) = x \wedge \exists w [C(w)] [\exists e' Depend(e, e', w) \wedge Have(e') \wedge Havee(e') = Int(e)]]]$

With rule in (36) for the composition of P and N, we obtain the semantic representation of *with/without* PPs with/without an article:

- (40) a. $\exists x [Boat(x) \wedge \neg \exists y \exists e [Captain(y) \wedge Accompany(e) \wedge Ext(e) = x \wedge Theme(e) = (y)]]$ [=31b]
 b. $\exists x [Boat(x) \wedge \neg \exists e [Accompany(e) \wedge Ext(e) = x \wedge Anchor(Int(e))]]$ [=30b]

No truth-conditional difference between (40a) and (40b), because existential quantification/entailment is interpreted below negation. This explains the bare/indefinite alternation.

No lexical constraints, so no CAP/REL type meaning alternations, no blocking, and no meaning differences between bare/indefinite except 'weak' referentiality, sometimes meaning enrichment.

Collocational effects: incorporation may be restricted to particular verbs or verb classes (e.g. 'have' verbs in Spanish/Catalan/Romanian). In PPs: *with/without*.

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. In Dutch and French the bare *with/without* PP is optionally strengthened to a possessive interpretation, in English this seems to be obligatory (37b).

5. Bare/definite alternations

We find bare/definite alternation in N-based bare PPs:

- (41)
- 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)

These PPs are organized around particular nouns, while the preposition can usually be varied, e.g. *in/out of/to/from prison, in/after/to/into church*. Because the bareness seems to come from the noun, we use the term N-based bare PPs.

Stvan (1998,2007,2009): social/geographical spaces. They express a location or direction, often with respect to an 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*).

Bare/definite alternation also in certain P-based bare PPs:

- (42) *Media on*
- a. on tape
 - b. op (de) band [Dutch]
|---on---|
- (43) *Transportation by*
- a. by boat
 - b. per boot/met de boot [Dutch]
 - c. en train/par le train [French]

Le Bruyn, de Swart & Zwarts (in progress): the definites in the definite counterparts belong to the class of 'weak' definites. Carlson & Sussman (2005) use ellipsis to show that weak definites do not satisfy the usual familiarity and uniqueness requirements for definites:

- (44)
- a. Bob went to the hospital and so did Eve. (could be different hospitals)
 - b. Eve went to the hotel and so did Bob. (can only be the same)

Semantics of weak definites (Aguilar & Zwarts 2011):

- (45) $\exists e [\text{Go-to}(e) \wedge \text{Agent}(e)=\text{Eve} \wedge \text{Real}(\text{Location}(e), H) \wedge U(e,H)]$ [=37a]

Weak definite refers to unique kind (definite article!). There is a set of stereotypical events associated with the kind that overlaps with the event of the main verb.

Other properties of weak definites (cf. bare nominals):

- (46)
- a. Each mobster went to the pub. (narrow scope only)
 - b. #Let's go to the pub and smash it up. (reduced discourse transparency)
 - c. #Bob is in the pub to do some plumbing. (stereotypicality)
- (47)
- a. Each nun went to church (narrow scope only)
 - b. #Let's to to church and set it on fire (reduced discourse transparency)
 - c. #Eve is in church to do some cleaning (stereotypicality)
 - d. Eve went to church, and so did Bob (lack of uniqueness)

Le Bruyn, de Swart & Zwarts (in progress): conceptual/ cultural/ lexical factors determine whether a noun can project a weak definite (i.e. be a ‘weak noun’, N⁺). Subclass of nouns occur without an article (‘bare weak nouns’) (subject to cross-linguistic variation – largely idiomatic):

	<i>Regular nouns</i>	<i>Weak nouns</i>	
		<i>Not bare</i>	<i>Bare</i>
<i>English</i>	hotel, restaurant, chair, desk	table, pub, hospital, university, office, street, store, town	bed, church, prison, town, hospital, university, school
<i>Dutch</i>	hotel, restaurant, stoel, bureau	café, ziekenhuis, universiteit, winkel, stad, kerk, gevangenis	tafel, bed, kantoor, straat, huis, school

Table 1: ‘weak’ nouns in English and Dutch

Baldwin et al. (2006), Stvan (2009), Himmelmann (1998): *defectivity* of the noun.

- (48) a. I left college/court/hospital/jail/port/school/town/university.
 b. Court/hospital/jail/school/university is boring.

Defectivity hypothesis: defective nouns can project a DP without an overt article, e.g. [DP prison⁺], and they are of type *e* (kind reference). Defectiveness as an idiomatic lexical property of nouns.

- (49) a. ⟨[N church], CHURCH⟩ vs. ⟨[DP church], D(CHURCH⁺)⟩
 b. ⟨[N pub], PUB⟩ vs. ⟨[N pub], PUB⁺⟩
 c. ⟨[N hotel], HOTEL⟩

Certain prepositions (P⁺) and verbs (V⁺) can select a kind and entail existential quantification over realizations of that kind.

- (50) Dad is in the pub.
 a. Regular reading: IN(D(PUB))(DAD)
 b. Weak reading: IN⁺(D(PUB⁺))(DAD)
 $\Rightarrow \exists x [R(D(PUB⁺))(x) \wedge IN(x)(DAD)]$

Bare weak nouns are kind referring, just like weak definites (cf. 44). This explains the lexical restrictions on N-based bare PPs/certain P-based bare PPs, and their enriched (stereotypical) meaning. Existential quantification is a lexical entailment arising in the context of the right (+) prepositions and verbs; explains weak referentiality.

Bare nominals (of the N-based type) are in complementary distribution with weak definites. In other words, they are weak definites with a defective article system.

The approach doesn’t generalize across languages: the only defective noun in Dutch is *school* (‘school’). In Dutch, defectivity only shows up in PP environments (collocational). Defectiveness as an idiomatic structural property of PPs (in Dutch).

- (51) a. ⟨[N school], SCHOOL⟩ vs. ⟨[DP school], D(SCHOOL⁺)⟩
 b. ⟨[N pub], PUB⟩ vs. ⟨[N pub], PUB⁺⟩ vs. ⟨[DP the pub], D(PUB⁺)⟩
 c. ⟨[N hotel], HOTEL⟩
 d. ⟨[N bed], BED⟩ vs. ⟨[PP in bed], IN⁺(D(BED⁺))⟩ [Dutch]
 (or maybe, ⟨[PP X bed], X⁺(D(BED⁺))⟩, for every appropriate preposition ⟨[P X], X⁺⟩)

Within and cross-linguistic variation in P-based PPs referring to kinds:

- (52) *Media* on
 a. on tape vs. op (de) band (Dutch)
 b. on^{media} (D (TAPE⁺))
- (53) *Transportation* by/per/en
 a. by boat vs. per boot/met de boot (Dutch)
 b. by^{transport} (D (BOAT⁺))

Summary of bare constructions and within/cross-linguistic variation

within/cross-linguistic variation	construction	Semantics	constraints
no alternation	N&N/DN&N, <i>from</i> N to N; P-based PPs like <i>per week</i>	plurality, quantification	syntax-semantics interface in grammar; no lexical constraints
bare/def alternation	N-based PPs, P-based PPs like <i>per trein</i> , VN combinations like <i>play (the) piano</i>	kind reference, meaning enrichment	small lexical class of defective Ns; collocational effects
bare/indef alternation	predication, incorporation, <i>with/without</i> PPs	property/set-based	syntax-semantics interface in grammar; lexical constraints construction/ language dependent

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