How to miss your P

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1 Introduction

- P(reposition)-drop in Greek (terminology of Ioannidou and den Dikken 2009):[1]
  Absence of the preposition *se/s* 'at' in certain contexts, as in (1).

  (1)   a.   Pame   (stin) paralia?
                go.1PL at.the beach.ACC
                'Shall we go to the beach?'
       b.   Tha mino   (sto) spiti.
                FUT stay.1SG at.the house.ACC
                'I will stay (at) home.'

- P-drop is contingent upon D-drop: when P is missing, so is D (but not the other way round) (cf. Terzi 2010):

  - Omitting only the preposition leads to ungrammaticality, see (2).

  - Omitting only the determiner leads to a different interpretation, that of an indefinite noun (*to a beach, at a house* in (2)).

  (2)   a.   Pame   se / *tin paralia?
                go.1PL at   the beach.ACC
                'Shall we go to a beach?'
       b.   Tha mino   se / *to spiti.
                FUT stay.1SG at   the house.ACC
                'I will stay at a home.'

- Two existing accounts – Ioannidou and den Dikken (2009); Terzi (2010) – propose syntactic treatments of the phenomenon, which rely on unpronounced/silent P and D heads.

- We propose a semantic analysis, which capitalizes on two properties of the phenomenon:

  1. The observed dependence of P-drop on D-drop

  2. The interpretative resemblance of P-drop to that of incorporated properties:
  (1-a) is a suggestion for beach-going (cf. Valiouli and Psaltou-Joycey 1994).

  Cross-linguistically, incorporated nouns also appear as bare nouns (Farkas and de Swart 2003; Dayal 2011; Espinal and McNally 2011, among others).

⇒ **P-drop is an instance of pseudo-incorporation** (in the sense of Massam 2001; Dayal 2011)

- Structure of the talk:

  - Section 2: The empirical facts

  - Section 3: The proposal

  - Section 4: Conclusion and outlook

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[1]From a cross-linguistic perspective, P-drop is rather exceptional. It has also been reported for some Northern Italian dialects like Veneto (Longobardi 2001) and Bellinzonese and Paduan (Cattaneo 2009).

2 P-drop as pseudo-incorporation

2.1 Lexical restrictions

- Only *se* 'at' can be dropped, no other (locative or directional) Ps (Terzi 2010):

  (3)   a.   Efiga   *(apo to) spiti   / grafio.
             left-1SG from the home.ACC   office.ACC
        b.   Imun   *(kato apo tin) karekla.
             was-1SG under from the chair.ACC
             'I was under the chair.'

- Only certain nouns:

  - Terzi (2010):
    * P-drop is possible with nouns that can be interpreted as locations, e.g. *house, school, beach, university*, as in (4).
    * P-drop is not possible with means of transportation (e.g. *car, plane*), nor with parts of locations (e.g. *garage, balcony, garden*), as shown in (5).

  (4)   a.   Pao   gymnastirio / sxolio   / grafio   / eklisia.
             go-1SG gym.ACC   school.ACC office.ACC church.ACC
             'I go to the gym / to school / to the office / to church.'
        b.   Emina   gymnastirio / sxolio   / grafio   / eklisia   mexri arga.
             stayed-1SG gym.ACC   school.ACC office.ACC church.ACC until   late
             'I stay at the gym / at school / at the office / at church until late.'

  (5)   a.   *Pao/ime   treno   / leoforio / plio   / aeroplano.
             go-1SG/am train.ACC   bus.ACC   ship.ACC   airplane.ACC
        b.   *Imun   balkoni   otan egine   o   sismos.
             was-1SG balcony.ACC when occurred the earthquake
             intended meaning: 'I was at the balcony when the earthquake occurred.'

  → We follow Terzi in assuming that the noun itself has to be able to be interpreted as a location (see below for a slight amendment).

- Only certain verbs:

  - Verbs of directed motion that take PP arguments, e.g. *go, come, arrive, enter, return*, *bring*; see (1-a), (4-a), (6-a,b)

  - Verbs of location that take PP arguments, e.g. *be, stay*; see (1-b), (4-b), (6-c)

  - No PP adjuncts (cf. Ioannidou and den Dikken 2009; Terzi 2010); see (7-a)

  - No manner of motion verbs; see (7-b)[2]

  (6)   a.   Ftano   panepistimio.
             arrive.1SG university.ACC
             'I am arriving at the university.'
        b.   Epistrefume kendro.
             return.1PL   centre.ACC
             'We are coming back downtown.'
        c.   Ime tualeta.
             am   toilet.ACC
             'I am in the loo.'

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[2]Since Greek is a verb-framed language, manner of motion verbs can only combine with PP adjuncts; see Section 3.

(7) a. *Sinithos troo   gymnastirio / sxolio   / grafio.
         usually eat.1SG gym.ACC   school.ACC office.ACC
         intended: 'I usually eat at the gym/school/office.'
     b. *Perpatisa / xorepsa / periplanithika gymnastirio / sxolio   / grafio   /
         walked   / danced   meandered   gym.ACC   school.ACC office.ACC
         eklisia.
         church.ACC
         intended: 'I walked/danced/meandered at the gym/school/office/church.'

2.2 Semantic properties of incorporation

P-drop in Greek displays hallmark properties of incorporation (cf. Mithun 1984; Baker 1988; van Geenhoven 1998; Chung and Ladusaw 2003; Dayal 2011, among others):

- The noun obligatorily takes narrow scope with respect to quantificational elements in the clause.

    - (8-a) can only mean that Anna will not go to any beach, where the negation takes scope over beach, and not that there is a specific beach that Anna will not go to.

    - (8-b) allows for different beaches that each one went to, where the universal quantifier takes wide scope again.

(8) a. I Anna de   tha pai   paralia.
         the Anna NEG FUT go.3SG beach.ACC
         'Ana will not go to the beach.'
     b. Exun   oli pai paralia.
         have.3PL all.PL gone beach.ACC
         'They have all gone to the beach.'

- The noun does not introduce a discourse referent:

    - It cannot support pronominal anaphora, as shown in (9):[3]

(9) Pao   paralia.   #Tin episkeptome sixna.
     go.1SG beach.ACC her.CL visit.1SG   often
     'I am going to the beach. #I visit it often.'

- The noun cannot be modified, see (10-a,b) – except by type/kind modification (for some speakers), as in (11).

(10) a. *Pigame   kondini paralia   / kenurjo jimnastirio / omorfi   eklisia   .
          went.1PL nearby beach.ACC new   gym.ACC   beautiful churc.ACC
          intended: 'We went to the nearby beach/new gym/beautiful church.'
      b. *Exun   pai taxidromio   to   opio apexi elaxista apo do.
          have.3PL gone post-office.ACC which is.away least from   here
          intended: 'They have gone to the post office which is very close to here.'

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[3]Ioannidou and den Dikken (2009) report that pronominal anaphora in (9) is fine. The speakers we have consulted do not agree on this judgment, however. We believe that, to the extent that (9) is tolerable, it is due to accommodation (on which see Espinal and McNally 2011). Ioannidou and den Dikken also claim that the noun in P-drop introduces a discourse referent; this may have to do with the fact that the most natural translation into English is with a definite NP. However, this overlooks the fact that the English definite nominals in question are weak definites, which are known to not introduce discourse referents (see, for instance, Carlson et al. 2006; Aguilar Guevara and Zwarts 2011).

(11) Ichame pai arxeolojiko   musio   / kendriko taxidromio.
     had.1PL gone archaeological museum.ACC / central   post-office.ACC
     'We had gone to the archaeological museum/central post office.'

- In P-drop, the verb and the noun together name an institutionalized activity or state, which is typical for incorporation (Mithun 1984; Dayal 2011).

  – The noun has to refer to an institutionalized location, namely to a location that is moved to / spent time at on a regular basis in order to perform some institutionalized activity there (see also Valiouli and Psaltou-Joycey 1994).

  ⇒ This makes sense of the lexical restriction to certain nouns, discussed in Section 2.1.

  In all these respects, these bare nouns differ from definite noun phrases.[4]

2.3   Syntactic properties of pseudo-incorporation

Greek P-drop is more permissive than (overt) syntactic incorporation and displays properties of pseudo-(semantic) incorporation (see Massam 2001 on Niuean, Farkas and de Swart 2003 on Hungarian, Dayal 2011 on Hindi):

- Strict adjacency is not required:

  – The noun can be topic- or focus-preposed; see (12-a).
  – The noun can be separated from the verb by adverbials; see (12-b).
  – A direct object noun phrase can intervene between the verb and the noun; see (12-c).

(12) a. Paralia   tha pao, sxolio omos   oxi.
          beach.ACC FUT go.1SG school however no
          'To the beach I will go, but to school not.'
      b. Tha pao   ki ego / sigura   / avrio   paralia.
          FUT go.1SG and I   definitely   tomorrow beach.ACC
          'I will go to the beach too/definitely/tomorrow.'
      c. Pigame   ton Kosta   nosokomio.
          took.1PL the Kosta.ACC hospital.ACC
          'We took Kosta to the hospital.'

- The noun is case-marked for accusative (ACC).
  (The same holds for Hungarian pseudo-incorporated nouns; see Farkas and de Swart 2003)

3   The proposal

We propose to analyze P-drop as an instance of pseudo-incorporation.

- The semantics:

(13) a. go = $\lambda x \lambda y \lambda e[\mathbf{go}(e) \wedge \text{THEME}(e) = y \wedge \text{TRACE}(e)(1) \text{ is at } x]$
      b. $go_{inc} = \lambda P \lambda y \lambda e[P\text{-}\mathbf{go}(e) \wedge \text{THEME}(e) = y]$,
          where $\exists e[P\text{-}\mathbf{go}(e)] = 1$ iff $\exists e_0[\mathbf{go}(e_0) \wedge \exists x[P(x) \wedge \text{TRACE}(e_0)(1) \text{ is at } x]]$

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[4]The nouns that can appear in P-drop contexts seem to be a subset of the bare nouns that Greek allows in contexts where other languages employ weak definites (cf. Carlson et al. 2006, and references cited therein) (e.g. the English version of (1-a)), or also bare singular nouns (e.g. *to/at school*). Weak definites are also known to have the prototypicality effect we noted above (see for instance Aguilar Guevara and Zwarts 2011). We leave for the future a fuller exploration of the parallels between P-drop and weak definites.

- A directed motion verb like *go* lexically specifies a motion event (building on Krifka 1998; Zwarts 2005). This is given in (13-a).
  - ∗ A theme (y) undergoes a change of location.
  - ∗ At the final point (i.e. 1 in (13)) of the trace of such a directed motion event, the theme is located at a location to be provided (x).
- Pseudo-incorporation involves the event predicate go_{inc}, which is modified by a property (building on Dayal 2011). This is shown in (13-b).
  - ∗ The bare noun denotes this property.
  - ∗ A presupposition has to be met that there exists an event kind (e_0) built on the lexical entry of non-incorporating *go* (as in (13-a)).

- The syntax:

  - The bare noun in P-drop contexts is an NP, which adjoins to VP at LF, as shown in (14).

  (14)　　$[_{IP}$ I $[_{VP}$ $[_{NP}$ beach] go]]

⇒ This approach to P-drop can account for the fact that only Ps from PP-arguments, and not from PP-adjuncts, can be dropped, given that both are base-generated in different position (see Hoekstra 1999, and many others):

  - PP arguments are base-generated within the VP and can thus incorporate into the verb.
  - PP adjuncts are generated outside the VP.

- An initial worry:

  - Pseudo-incorporation commonly targets direct objects, but in our examples the target seems to be the complement of a preposition.
  - For pseudo-incorporation to be possible, no D or P head can be syntactically realized.

⇒ P-drop does not involve structurally represented (but phonetically unpronounced) P or D heads (contra Ioannidou and den Dikken 2009; Terzi 2010).

3.1　On the absence of D

- As we have already seen, bare nouns in P-drop contexts do not behave like (in)definites:

  - They are discourse opaque and only allow narrow scope (recall (8), (9)).

- Independently of P-drop, Alexopoulou and Folli (2011) have argued extensively against an unpronounced (definite or indefinite) D in Greek:

  - Greek bare nouns in argument position are at most Num(ber)Ps.
  - For them, it is Num and not D that turns predicates into individuals in Greek.

- Following these authors, there is no need to assume that our bare nouns involve a silent D.

- In fact, we believe that our bare nouns are even smaller than theirs and involve NPs (no Num layer on top):

  - Their bare nouns are marked for number, can be modified, and apparently introduce discourse referents.
  - Our bare nouns seem to be number neutral, cannot be modified, and do not introduce discourse referents (recall discussion in Section 2.3).

3.2 On the absence of P

- The structure of locative and directional PPs is commonly assumed to minimally involve respectively a PlaceP (headed by a locative P) and a PathP on top of that (headed by a directional P) (Jackendoff 1983, and many others) (cf. Asbury et al. 2008).

- We believe that both layers are structurally missing in P-drop contexts.

3.2.1 On the absence of PathP

- The verb lexicalizes part of the path structure normally associated with prepositions:

  - Greek is a verb-framed language (in the sense of Talmy 1985) (see, e.g., Horrocks and Stavrou 2003).
  - In such languages, motion verbs conflate motion and Path: the Path meaning is part of the verbal meaning (cf. Gehrke 2008).
  - This is also reflected in the lexical representation of a directed motion verb like *go* in (13-a).

- Path/directed motion verbs, as change of location verbs, fall under Rappaport Hovav and Levin's (2010) result verbs:

  - Result verbs specify a scalar change, i.e. change along one ordered dimension.
  - Path/directed motion verbs: the scale is the path, and the verbs lexically provide the path.
  - Final locations (i.e. goals) are expressed by locative PPs in combination with such verbs.

⇒ This makes sense of the restriction of P-drop to particular verbs:

  - Path / directed motion verbs (e.g. *go, reach, return*) allow P-drop.
  - Manner of motion verbs (e.g. *swim, dance, meander*) do not allow P-drop (recall (7-b)).
    * Manner of motion verbs cannot combine with Path expressions to refer to a directed motion event in verb-framed languages.
    * PPs headed by *se* 'at' in combination with manner of motion verbs can only refer to the location of the entire event (PP adjuncts); they cannot be interpreted as referring to the goal of a directed motion event (PP arguments); (15).

  (15) Perpatisa / xorepsa *(sto/stin) gymnastirio / sxolio   / grafio   / eklisia.
        walked   danced   at.NEU/FEM gym.ACC   school.ACC office.ACC church.ACC
        'I walked/danced at/in the gym/school/office/church.'

⇒ In verb-framed languages, there is no need (or motivation) to treat the overt PP as a PathP.

  - Greek *se* 'at' is unambiguously locative (following Terzi 2010): it heads a PlaceP.
  - No (silent) PathP is projected above *se*, also not when *se* is overt (contra Terzi 2010).

- This is consistent with the observation made by Terzi that, if at all, only those languages allow P-drop that use the same P for directional (TO) and locative meanings (AT):

  - There is no directional *se*: *se* always heads a PlaceP.
  - This is, again, very common for verb-framed languages (e.g. Italian, on which see Folli 2002), but not for satellite-framed languages (e.g. English).

3.2.2 On the absence of PlaceP

We believe P-drop involves radical absence of PlaceP (not a silent version thereof).

- Recall:
    - Only *se* 'at' can be dropped.
    - No other Ps (e.g. with the meaning 'under', 'behind', 'in front of', 'above' etc.) can be dropped.

- Zwarts (2008, 2010):
    - AT conveys the most basic and the most semantically bleached locative meaning.
    - Other locative Ps encode additional lexical meanings, such as containment, support, or projective meanings.

- Where does the meaning of location (AT) come from?

    Option 1: AT is part of the lexical specification of directed motion verbs, recall (13-a).
    - But then we would expect P-drop to be much more widespread cross-linguistically.

    Option 2: AT is contributed by the noun, which is interpreted as a location.
             Thus, *at* can be dropped.
    - Our holy grail question: What makes a good institutionalized location?
      (The answer may not be strictly linguistic.)

⇒ In P-drop, P is truly absent, and the noun alone provides the (stereotypical) location.

4 Conclusion

- So far, pseudo-incorporation has only been discussed for nouns in direct object position.

- Our data show that it is feasible to extend this account also to nouns that otherwise appear in argument PPs.

- Pseudo-incorporation is a means to describe an institutionalized activity/state/motion – akin to weak definites in other languages.

- Open questions:

    - Why is P-drop so rare?
        * Necessary condition: A language has to be verb-framed in order to allow P-drop?
        * Sufficient conditions?
    - The exceptionality of *home* / Greek *spiti* 'house':
        * Other languages allow something like P-drop only with the noun *home* (e.g. German *(da)heim*, Russian *doma, domoj*) (cf. Jackendoff 1993; Collins 2007, on English).
        * Only *spiti* allows modification by possessives (cf. Terzi 2010); (16-a).
        * Only *spiti* defies the restriction against adjuncts; (16-b).

(16)   a.   Ime spiti   mu / tu / tis.
              am home.ACC my   his   her
              'I am at my/his/her/etc. place.'
        b.   Sinithos troo   spiti.
              usually   eat.1SG home.ACC
              'I usually eat (at) home.'

    - Are there other cases of (pseudo-)incorporation in Greek?
    - What is the connection with weak definites in other languages?

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