A RECIPE FOR NULLNESS

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Introduction

- Observation: Instructional Context (IC: recipes, instruction manuals) prefers null agents and null patients

(1) \( \emptyset_{\text{agent}} \) Take 2 carrots. \( \emptyset_{\text{agent}} \) Cut \( \emptyset_{\text{patient}} \) finely, before \( \emptyset_{\text{agent}} \) adding \( \emptyset_{\text{patient}} \) to potato mixture.

- Much focus on null definite patients in English (otherwise ungrammatical)

- But IC also allows null agents
Introduction

- Working hypothesis (to be revisited): register does not encode particular syntactic properties, but has pragmatic desiderata; languages can satisfy these in different ways
  - Register does not dictate syntax directly
  - There is no universal IC syntax

- Questions:
  - How do different languages meet these desiderata?
  - How is the relation between register and syntax mediated?

- This paper: cross-linguistic data from Malagasy and Niuean (and also English, French, German, Bulgarian and Japanese)
Organization of talk

2.0 Malagasy
3.0 Null agents and patients in other languages
4.0 More on null patients
5.0 Conclusion
2.0 MALAGASY
Malagasy

- Austronesian, spoken in Madagascar
- Voice system that advances one argument to clause-final position
- We will call this position the topic (Pearson 2005)

(2) a. Nividy akoho i Bao.
   PST.AT.buy chicken DET Bao
   ‘Bao bought a chicken.’

   b. Novidin’ i Bao ny akoho.
      PST.TT.buy DET Bao DET chicken
      ‘The chicken was bought by Bao.’

   c. Nvidianan’i Bao akoho i Soa.
      PST.CT.buy DET Bao chicken DET Soa
      ‘Soa was bought a chicken by Bao.’

      [Potsdam and Polinsky 2007:278]
Malagasy

- Other voices: a-passive (“intermediary” voice; Keenan 1976, Paul 2000) – advances the patient of some ditransitive verbs but also the location argument of some verbs (e.g. *asiana* ‘put’)

(3) Asiana voninkazo ny latabatra fiasako.
    APASS.put flower DET table NM.make.1SG
    ‘The flowers are placed on my work table.’
Malagasy recipes

- Like English, Malagasy has null agents and patients in recipes:

  (4) a. Sasana $\phi_{\text{agent}}$ ny vary…
      TT.wash DET rice
      ‘Wash the rice …’

  b. … ary arotsaka $\phi_{\text{agent}}$ ao anaty vilany $\phi_{\text{patient}}$
      and APASS.pour there in pot
      ‘… and pour into pot.’ [Boissard 1983:31]

- Unlike English, Malagasy does not use imperative in recipes: the imperative forms would be sasao ‘be washed!’ and aotsahy ‘be poured!’

- Malagasy does not have a dedicated infinitive

- Instead, most verbs in recipes are in non-Actor Topic forms: ThemeTopic, CircumstantialTopic, a-passive, etc.
Malagasy recipes

- Questions:
  - how are null agents licensed?
  - how are null patients licensed?
Malagasy null agents

- Agent-drop: always possible with non-ActorTopic verbs (much like agents in English passive)

(5) Hosorana øagent lakomadina ny volo.
   FUT.TT.smear pomade DET hair
   ‘The hair will be smeared with pomade.’ [Rajemisa-Raolison 1971:105]

- Recipes use non-AT forms, therefore null agents are always possible
Malagasy null patients

- Recall that most verbs in recipes are in the ThemeTopic form: the patient *(ny vary ‘the rice’ in (4a))* is in the topic position

The null patient in (4b) is also a topic

\[(4)\]

(a) Sasana $\phi_{agent}$ ny vary…
   TT.wash DET rice
   ‘Wash the rice …’

(b) … ary arotsaka $\phi_{agent}$ ao anaty vilany $\phi_{patient}$
   and APASS.pour there in pot
   ‘… and pour into pot.’ [Boissard 1983:31]

- Our claim: patient-drop = topic-drop
Malagasy Topic-drop


(6) Manantena Rbe₁ fa hividy fiara ø₁
AT.hope Rbe COMP FUT.AT.buy car
‘Rabe hopes to buy a car.’

- Potsdam and Polinsky (2007):
  - empty category is pro
  - pro is licensed by Top° in Spec, TopP
  - pro is identified via coindexation with the current discourse topic

[Potsdam and Polinsky 2007:277]
Malagasy Topic-drop

- The antecedent of the null topic can be in the preceding clause (peratra ity ‘this ring’ in (7))

(7) Dia omeko peratra ity ianao, ka tehirizo tsara ø tsy ho very ø.
then TT.give.1SG ring DEM 2SG COMP TT.keep.IMP good NEG FUT lost
‘I am giving you this ring, so keep (it) safe so as not to lose (it).’ (FM)

- The antecedent can be in the discourse (a carpet (8a), a person in (8b))

(8) a. Mba nodinihiny ø kely indray, ka gaga izy
EMPH PST.TT.observe.3 little again, COMP surprised 3
‘She examined (it = a carpet) again a little and was surprised.’ (V)

b. Handeha ianareo vahoaka, mitondra lefona, dia vonoy ø eo!
FUT.AT.go 2PL people AT.carry.IMP spear COMP TT.kill.IMP there
‘Go, my people, take spears and kill (him) there.’ (I)
Malagasy Topic-drop

- Similarly in recipes, the antecedent can be overt (a topic in the sentence (9a)) or the current discourse topic (object of manipulation (9b))

(9) a. Tetehina mandinika ny hena dia sasana ø
    TT.chop small DET meat COMP TT.wash
    ‘Chop the meat and then wash.’ [Boissard 1983:33]

b. Asiana sira ø dia ahena ny herin’ ny afo.
   APASS.put salt COMP APASS.lessen DET strength DET fire
   ‘Add salt then lower the intensity of the fire.’ [Boissard 1983:35]
Malagasy Topic-drop

- The antecedent can’t be a non-topic (e.g. possessor):

(10) Esorina ny tahon’anana ary arotsaka ao anaty vilany ø.
    TT:remove DET stem’vegetable and APASS.pour LOC in pot
    ‘Remove the stems of the leafy vegetables and put in pot.’
    = put the stems in the pot (strange interpretation)
    ≠ put the vegetables in the pot
Malagasy Topic-drop

- The discourse topic is always available, even if an overt topic is present

(11) *Ahena ny herin’ ny afo dia asiana sira ø APASS.lessen DET strength DET fire COMP APASS.put salt*

‘Lower the intensity of the fire and then add salt.’
Malagasy recipes

- Summary: Malagasy recipes have null agents and null patients
  - null agents are due to non-active voice morphology (non-active agents are always optional)
  - null patients are due to topic-drop (independently available)
3.0 NULL AGENTS AND PATIENTS IN OTHER LANGUAGES
Null agents in other languages: imperatives

- English: null agents can be attributed to the imperative.

(12) Sift the flour.

- Because of this, null agents have not received much attention
- In fact, Cotter (1997) considers the imperative to be the recipe’s ‘most distinguishing feature’ (Fischer 2019, also Fisher 1983)
- The imperative use in English recipes goes back to at least Middle English (Arendholz et al. 2013)
Null agents in other languages: imperatives

- Niuean: also uses the imperative

(13) Helehele ke kai mafanafana poke hahau.
   slice SBJV eat warm or cold
   ‘Slice and serve warm or cold.’ *(Traditional Niuean Recipes: 8)*

- We know it’s the imperative because of the use of the imperative form of negation

(14) a. Ua halu e talo
   NEG.IMP peel ABS taro
   ‘Don’t peel the taro.’

  b. Ne nākai fano hehe a ia
     PST NEG go away ABS 3SG
     ‘She did not go away.’
Null agents in other languages: other strategies

- Non-active voice: Malagasy and Tagalog

(15) Lutuin ang sampalok sa tubig hanggang lumambot.

GT-cook tamarind.fruit in water until soft

‘Cook the tamarind fruit in water until soft.’ [Milambiling 2011]

- French and German use the infinitive

(16) Y verser la bière au gingembre. Couvrir et cuire à température élevée environ 2 heures 30 minutes.

(17) Pfifferlinge putzen chanterelles clean.INF

‘Clean the chanterelles.’ [Bubel and Spitz 2013:168]
Null agents in other languages: other strategies

- Japanese uses the conclusive form (not the imperative) (Hinds 1967, Shimojo 2019)

(18) Toriniku-wa mawarini 
  tsuiteiru abura-o teeneeni torinozoku
  ‘Remove excess fat from the chicken thoroughly.’
  [Shimojo 2019:515]

- Japanese is a radical pro-drop language - the null agent via pro-drop

- Bulgarian uses middles (among other strategies) (Vesela Simeonova, p.c.)

(19) a. Lukat se naryazva na sitno.
    onion.DEF REFL cut.PRES.3SG at small
    ‘Dice the onion.’

b. Zadushava se za 5 min.
    sauté.PRES.3SG REFL for 5 min
    ‘Sauté for 5 minutes.’
Interim summary

- *What the register dictates*: Agent is addressee, Agent is null.
- Syntax operates on this directive (via imperative, infinitive, voice, middle, radical pro-drop...)

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Null patients in other languages

- All languages examined allow null patients in IC
- The puzzle of English: null definite patients seem impossible outside of IC
- (20)a. Add carrots and season. Boil for about 3 minutes.
  b. *I will add carrots and season. Then I’ll boil for about 3 minutes.
- All analyses consider that the null element must be bound by a null antecedent (topic)
  - Why is null topicalization only possible in IC? (see section 4)
Null patients in other languages: Topic-drop

- We saw this for Malagasy
- Also true in Tagalog

(21) Alisin at ligisin.
   GT.will.take.out and GT-squeeze
   ‘Take out and squeeze.’ [Milambiling 2011]
Null patients in other languages: pro-drop

- Japanese has pro-drop (null anaphora) - independently available

(22)a. Toriniku-wa mawarini tsuiteiru abura-o teeneeni torinozoku chicken-TOP around attached fat-ACC thoroughly remove.CON
‘Remove excess fat from the chicken thoroughly.’

b. batto-ni ire shio koshoo kaku shooshoo-o furu tray-DAT put salt pepper each little-ACC sprinkle.CON
‘Put (the chicken) in a tray and sprinkle salt and pepper a little each (on them).’

[Shimojo 2019:515]
Null patients in other languages: null inanimate pronoun

- In some languages, such as Niuean, the pronominal paradigm does not include a pronounced form for third person inanimate pronouns, thus such pronouns are always obligatorily null (Seiter 1980, Massam 2020)

(23) a. Moua tuai e au.
    find PERF ERG 1SG
    ‘I’ve found it.’

    b. Helehele ke kai mafanafana poke hahau
    slice SBJV eat warm or cold
    ‘Slice to eat warm or cold.’

- NB: even animates may undergo pro drop (as in Japanese)
- We return to this question below
Interim summary

- *What the register dictates:* Patient is object of manipulation, Patient is (preferably) null.
- Syntax operates on this directive (via radical pro-drop, pronominal paradigm, topic-drop, or topic-bound pronouns...)

Summary: to be revised

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4.0 MORE ON NULL PATIENTS
Null patients and topic drop

- For null agents, it is clear that languages use different syntactic resources
- For null patients, it also appears to be true
- Working hypothesis (repeated): register does not encode particular syntactic properties, but has pragmatic desiderata; languages can satisfy these in different ways
- However: null topicalization has been argued to license IC patients in English and Malagasy
  - Could null topicalization also be at play in pro-drop languages (e.g. Niuean, Japanese)?
Null patients and topic drop

- In a recipe, there is a clear topic – the object of manipulation (Massam et al. 2017)
- Radical pro drop of patients (objects) related to topicalization (Huang 1991)

(24) TOP; [Zhangsan shuo [Lisi bu renshi ti]].
    Zhangsan say Lisi not know
    ‘Zhangsan said that Lisi does not know him/her/them/you...’ [Huang 1991:57]

- “The difference between Chinese and, say, English with respect to the existence of null objects therefore lies, not in whether or not the languages allow an object pro, but in whether or not they permit null topics” (Huang 1991:57)
## Null patients and topic drop

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Null patients and topic drop

- Null topicalization ≠ overt topicalization
- English does not generally allow null topicalization

(25) a. where is your ring?
    b. *my ring I have sold.

- English uses imperatives in recipes, but topicalization is ungrammatical out of imperatives

(26)*The mixture, cook t, for twenty minutes.  [Weir 2017: (17)]
Null patients and topic drop

- Japanese recipes have overt topics: used to introduce new ingredients in parallel cohesion
- Japanese recipes have null objects: used in series cohesion → like other null objects in Japanese

(27) a. toriniku-wa mawarini tsuiteiru abura-o teeneeni torinozoku
    chicken-TOP around attached fat-ACC thoroughly remove
    ‘Remove excess fat from the chicken thoroughly.’

b. tatehanbun-ni kiri sorezore-o gotoobun-ni hoochoo-o
    vertical.half-DAT cut each-ACC five.equal-DAT knife-ACC
    nekasete sogirinisu
    slant make.cut.at.an.angle
    ‘Cut (the chicken) in half vertically, and by slanting the knife, cut each at a 45 degree angle into five equal pieces.’ [Shimojo 2019:515]

- Overt topicalization ≠ null topicalization
Null patients and topic drop

- Assuming null patients in IC are bound by null topics, let's look at null patients more closely
  - What is their distribution?
  - What are the constraints?
Constraints on null topics

- Different constraints in different languages
- Japanese: null objects are used in cases of *series cohesion* (Shimojo 2019)
  
  (28)a. The redhead had got up and now he sat down beside him on the bench and wiggled his fingers. Come on, hand Ø over.  
  b. [Parent pointing at veggies in front of child] Eat!

- English also has constructionally based null objects (e.g. *tough* constructions)

(29) Recipes are hard to understand.
Constraints on null topics

Niuean: only possible across specific domains

(30) Certain complementizers (causal, consequence)
   a. Ne mate a Tepunua he keli he faoa
      PST die ABS T. when/because kill ERG people
      ‘Tepunua died when/because people killed (him).’ (NAH)

         b. Ne hohoko a lautolu mo e nākai moua he kau mai i Tuapa.
            PST arrive ABS they and C NEG catch ERG crew from LOC Tuapa
            ‘They arrived and the crew from Tuapa did not catch (them).’ (NAH)

(31) C-comp constructions (Hooper 1984, Waite 1989)

    Ati hifo kua oti tuai e fanau he kai he ika.
    then go.down PERF all PERF ABS children when eat ERG fish
    ‘When (she) went down all the children had been eaten up by the fish.’ [Loeb.197]
    (i.e. the children were completed with respect to the fish eating (them))
Interim summary

- Patient drop arises due to null topicalization (Huang 1991; Erteschik-Shir, Ibnbari and Taube 2013)
  - Languages differ in terms of constraints on licensing
- IC licenses null patients via null topicalization cross-linguistically
Remaining questions

- Nature of the null element
  - variable (Huang 1991)
  - pro (Potsdam & Polinsky 2007)
5.0 CONCLUSION
Conclusion

■ Most research on IC focuses on one language and one issue – e.g. how to get null definite objects in English

■ By taking a cross-linguistic perspective, we see that instances of IC all share common properties: null agents and null patients
Conclusion

- We can understand this functionally:
  - The null agent corresponds to the reader, the person following the recipe – no need to make overt
  - The null patient is the material itself, the object of manipulation – highly salient and can be null
- But that functional account doesn’t explain how any given language will make these null arguments possible.
## Conclusion

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Remaining questions

- Is the IC register directly providing the null topic?
  - What does it mean for a register/construction to license a particular syntactic configuration directly? (cf. Bender 1999)

- Is the salience of the topic so strong that it fits into every language’s allowable space for null topics?
  - If yes, then we don't need a direct link between IC register and syntax
Thank you!

- Kazuya Bamba, Vololona Rasolofoson, Yves Roberge, Vesela Simeonova, James Voogt
Sources

Niuean


*Traditional Niuean Recipes,* compiled by Team EduKai, through The University of Canterbury, and the Pacific Islands Trade and Invest group through the 21 Day Pacific Challenge.

Malagasy


FM: *Farihy manga*

V: *Voavonjy*
References


Appendix: Aside about Malagasy

- The null object is analyzed as a variable by Huang – subject to Condition C

(1) TOP, [Zhangsan shuo [Lisi bu renshi ti]].
   Zhangsan say Lisi not know
   ‘Zhangsan said that Lisi does not know him/her/them/you...’ [Huang 1991:57]
   empty category ≠ Zhangsan, Lisi

- But in Malagasy, the null topic can be coreferential with a c-commanding overt topic (recall that the null topic is in the subject/topic position)

(2) Manantena Rabei fa hividy fiara φi
   AT.hope Rabe COMP FUT.AT.buy car
   ‘Rabe hopes to buy a car.’ [Potsdam and Polinsky 2007:277]

- The overt topic Rabe is in an A-bar position → no Condition C effects