Arguments about Ambiguity:

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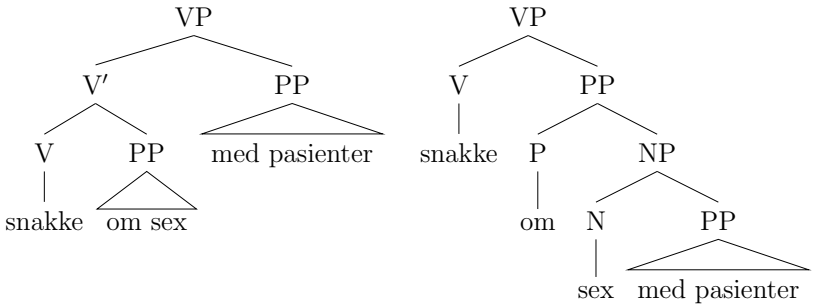
October 2016

1 Introduction: innocuous and nocuous ambiguity

Natural language is replete with ambiguity – core features seem designed to cause it. Like attachment ambiguities:

(1) Norske leger synes det er flaut å ...



Or scope ambiguities:

(2) a. Nurse Meg has promised to marry both John, the doctor, and Lance, the patient. (+QR)

b. Nurse Meg has promised that she will marry both John, the doctor, and Lance, the patient. (−QR)

Or regular polysemy, for instance, argument structure alterations like:

(3) a. Lonely are the brave (Kirk Douglas)

b. In a lonely place (Humphrey Bogart)

Such features are usually considered benign or even beneficial (for monologue anyway – cf. Svenonius (2012) "Språk er ikke skapt for kommunikasjon" vs. Wasow (2015) "Ambiguity avoidance is overrated").

At any rate, there is agreement that structural and regular ambiguities are at some level **real**.

At the **lexical** level, however, ambiguities are generally held to be harmful – more exactly: theorists should do their utmost to avoid ascribing ambiguity to a **word** – in effect, more or less assuming two different words; rather one should strive to attribute the apparent ambiguity to some other distinction – be it in context, structure, or prosody – or to a regular shifting mechanism, or – minimally – to camouflage it under a disjunctive definition.

Because enumerating two or more senses of a word is ...
non-explanatory, inelegant, psychologically unrealistic.

Let us:
review some studies which can throw light on what alternatives there can be to an ambiguity position, how hard it can be to avoid an ambiguity position, and what arguments can be used for defending an ambiguity position.

2 Yet *again*: repetitive, restitutive, counterdirectional

Since Dowty (1976), ongoing debate about English *again*, German *wieder* and – recently – similar words in other languages: one word or two? If two, how much do they have in common? Milestones include

- Dowty (1976): considers three treatments, two of which
  are open to the objection that they require postulating homophonous and semantically similar lexical items of two different syntactic categories, whereas our intuitions lead us to believe that only a single "word" is involved.
- Fabricius-Hansen (1983): one item – scope interaction with event time
- von Stechow (1996): one item – lexical decomposition of verb in syntax
- Fabricius-Hansen (2001): two items – cue from 'counterdirectionality'

The study under study now: Patel-Grosz and Beck (2016), "Different *again*"

Core data: sentence ambiguous between repetitive and restitutive reading:

(4) The snitch had disappeared again. (*The Prisoner of Azkaban*)

2.1 A tale of two analyses: structural versus lexical ambiguity

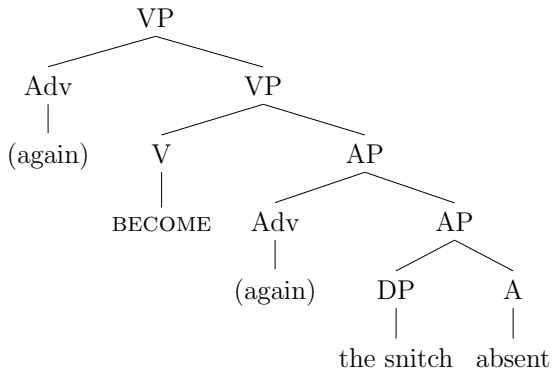
A perfect analysis from a uniformity perspective: von Stechow (1996):

> One of the central semantic ideas underlying the explanations given in this article is to reduce the apparent ambiguity of *again* to one basic reading, namely the repetitive one. [...] What... matters is whether *again* has narrow or wide scope with respect to the relevant 'aspectual' operators, especially to BECOME.

The adverb *again* operates on properties of events or states indiscriminately, not affecting the descriptive content but introducing the presupposition that an eventuality with the same property has occurred before.

The verb (*disappear*) is decomposed in a radical way (see also Bale 2005):

(5)



Patel-Grosz and Beck (2016) call this the structural ambiguity analysis (aka the scope analysis). On the opposing view, the lexical ambiguity analysis (as represented by Fabricius-Hansen 2001), *again* is itself ambiguous between a repetitive meaning, (6-a), and a counterdirectional meaning, (6-b).

(6) a. presupposing: an event e: P(e) had occurred before

b. presupposing: an event e: P_C(e) had occurred before

P_C is the **reverse** event property from P: if P is the property of the snitch disappearing, P_C is the property of the snitch appearing.

In principle, the two analyses predict two different non-repetitive readings. However, since the two readings largely describe the same situations, it is difficult to tease the two analyses apart empirically – which would seem to make the scope analysis preferable on theoretical grounds.

2.2 Enter counterdirectionality: different again

Now Patel-Grosz and Beck (2016) argue that Kutchi Gujarati *pacho* 'again' needs both analyses: in this language, a designated restitutive reading **and** a designated counterdirectional reading come apart empirically. Their goal:

> to make a cross-linguistic argument that both approaches are needed in natural language semantics, and there is no a priori reason to reject one of them.

The strategy they pursue is to look specifically at non-directional predicates with a result state (which may allow for a restitutive reading but not for a counterdirectional reading) and directional predicates without a result state (which may not allow for a restitutive but for a counterdirectional reading), as well as predicates that lack a result state as well as a direction.

Thus three distinct readings are distinguished: a repetitive, a restitutive, and a counterdirectional reading.[1] A predicate that permits all three readings – given the right word order – is *kagar lakh* 'write a letter'.

(7) a. Valji Maya-ne pach-o kagar lakh-y-o
Valji Maya-DAT again-M.SG letter wrote-PFV-M.SG
'Once more, Valji wrote a letter to Maya.' (repetitive)

b. Valji pach-o Maya-ne kagar lakh-y-o
Valji again-M.SG Maya-DAT letter wrote-PFV-M.SG
'Valji wrote a letter to Maya in return.' (counterdirectional)

c. pach-o Valji Maya-ne kagar lakh-y-o
again-M.SG Valji Maya-DAT letter wrote-PFV-M.SG
'Valji wrote a letter to Maya in return.'/ (counterdirectional)
'Valji wrote another letter for Maya.' (restitutive)

[1] Earlier work – by Fabricius-Hansen and by Beck and Gergel – has established that a distinct counterdirectional use was present in earlier stages of German and English.

A context justifying the second, restitutive reading of (7-c): Maya is Valji's little sister. Yesterday, she used a letter from Aunt Jaya to play post office, sending and receiving it all day long. But then she dropped it into the fire – it was destroyed, and Maya was very distressed.

The story about the word order effects is that the different presuppositions go along with different information structures and therefore – since Kutchi Gujarati is a language where word order closely reflects information structure – with different word orders.

2.3 The analysis: repetitive, restitutive; counterdirectional

From these findings it follows that the two analyses cannot be competitors: the scope analysis will capture only 2/3 of the empirical landscape, namely, the repetitive and the restitutive readings; the lexical ambiguity analysis is necessary to explain the distinct counterdirectional reading.

The authors assume two lexical entries for *pacho*, $\text{pacho}_{\text{rep}}$ and $\text{pacho}_{\text{ctrdir}}$:

(8) a. $[\![\,\text{pacho}_{\text{rep}}\,]\!] = \lambda P \lambda e : \exists e' \,[\,\tau(e') < \tau(e) \wedge P(e')\,]\,.\,P(e)$

b. $[\![\,\text{pacho}_{\text{ctrdir}}\,]\!] = \lambda P \lambda e : \exists e' \,[\,\tau(e') < \tau(e) \wedge P_c(e')\,]\,.\,P(e)$

They sketch these LFs for (7-a), (7-b) and the restitutive reading of (7-c):

(9) a. $[_{\text{VP}}\ \text{pacho}_{\text{rep}}\ [_{\text{VP}}$ Valji write (CAUSE) $[_{\text{SC}}$ Maya HAVE a letter $]]]$

b. $[_{\text{VP}}\ \text{pacho}_{\text{ctrdir}}\ [_{\text{VP}}$ Valji write (CAUSE) $[_{\text{SC}}$ Maya HAVE a letter $]]]$

c. $[_{\text{VP}}$ Valji write (CAUSE) $[_{\text{SC}}\ \text{pacho}_{\text{rep}}\ [_{\text{SC}}$ Maya HAVE a letter $]]]$

That is, they derive the restitutive reading from the repetitive reading, using $\text{pacho}_{\text{rep}}$, through lexical decomposition and a narrow scope for $\text{pacho}_{\text{rep}}$ over a stative small clause.

Counterdirectionality has two relevant manifestations: source – goal reversal (e.g., *appear* vs *disappear*) and agent – theme reversal (e.g., *love* vs *be loved*). "It is an open question why these are the relevant instances of reversal that seem to matter for the grammatical encoding of counterdirectionality."

So what does this imply for a language like German or English? Not a lot, it would seem, since here there is no distinct counterdirectional interpretation. The closest PG&B come to a more general conclusion is their argument that cross-linguistically, there is no a priori reason to reject either approach.

2.4 Counterdirectionality as a source of restitutivity

However, it may be possible to strengthen the case for the lexical ambiguity analysis of German *wieder* or English *again*: as far as can be told from the PG&B article, the restitutive reading could just as well be derived from the counterdirectional reading, using $\text{pacho}_{\text{ctrdir}}$, through lexical decomposition and a narrow scope for $\text{pacho}_{\text{ctrdir}}$ over a BECOME small clause or VP:

$[_{\text{VP}}$ Valji write CAUSE $[_{\text{VP}}\ \text{pacho}_{\text{ctrdir}}\ [_{\text{VP}}$ BECOME $[_{\text{SC}}$ Maya HAVE a letter $]]]]$

Accordingly, a sentence like (4) might be analyzed along these lines:

(10) $[_{\text{VP}}\ \text{again}_{\text{ctrdir}}\ [_{\text{VP}}$ BECOME $[_{\text{SC}}$ the snitch BE absent $]]]$

Or, as there is no agentivity or causation here, simply thus:

(11) $[_{\text{VP}}\ \text{again}_{\text{ctrdir}}\ [_{\text{VP}}$ the snitch disappear $]]$

Recall that the idea behind the lexical ambiguity analysis, as advocated by Fabricius-Hansen (2001), is to analyze restitutivity as counterdirectionality. If that is the way to do it in Kutchi Gujarati, where counterdirectionality is inescapable, it may be reasonable to do it that way in Germanic languages. The cross-linguistic variation would not be in ± counterdirectional meaning but in the range of counterdirectionality manifestations – source – goal **and** agent – theme in South Asian languages or only source – goal in Germanic.

Now note that agent – theme counterdirectionality can in fact manifest itself in a Germanic language as well:

(12) Det er naturlig å slå igjen når en blir slått.
it is natural to hit again when one gets hit

(13) Eg elskar, eg elskar deg att! (Halldis Moren Vesaas)
I love I love you again
'I love, I love you back!'

(14) eg kan ikkje nå deg // med ei beine att (Olav H. Hauge)
I can not reach you // with a favor again

(15) Da hadde det vært bedre å bli vunnet av en venn
then had it been better to be won by a friend
som ikke eide penger men som elsket en igjen. (Alf Prøysen)
that not owned money but that loved one again

3 Adjective *alone*: Socio-spatial and Quantificational

The adjective *alone* and its counterparts in other languages are understudied. With one exception (Cisneros et al. 2013), what literature exists is limited to *alone* as a particle (Coppock and Beaver 2013) or adverb (Moltmann 2004). Yet, as shown by Cisneros et al. (2013), in its role as a predicative adjective, *alone*, along with near-equivalents like Russian *odin* or Spanish *solo*, presents interesting challenges to semantic methodology and theory.

In particular, across the languages cited above, there is an ambivalence that shows up in a contrast in readings like the following:

(16) Mary is not alone. Many minority women face discrimination.

(17) Mary is not alone. Her sister is there, along with Mary Magdalene.

There seem to be two variants involved, differentiated by several properties:

1. The variant in (16) has a syntactic argument in the form of a PP with *in* and a gerund phrase, as in (18) below, or a *to* infinitive phrase.
2. Only the variant in (17) carries an **animacy** constraint.
3. Only the variant in (17) is **gradable**.

So are these words polysemous, and irregularly so, that is to say, ambiguous? Let us examine the evidence more closely.

3.1 Quantificational *al–*

The variant in (16) seems, in fact, to have two argument slots: one that can be filled by a PP with one or two different prepositions, *among* or *in*, *sredi* or *v* in Russian. The second can be filled by a PP with *v*, *tom* and a *chto* clause in Russian, a PP with *om* and an *att* infinitive phrase in Swedish (*ensam*).

(18) Mary is not alone [among minority women] [in facing discrimination].

Both argument slots can remain empty, as they do in (16); when the second does, it is contextually determined, as a case of ellipsis, or **zero anaphora**. This use seems to require that the sentence is negated.

This variant has no animacy constraint:

(19) This is not to say that integration is alone in inspiring discussion about basic concerns of the education sector.

Nor does it seem to be a gradable adjective:

(20) #Jane is more alone (in her class) than John (in his) in supporting same-sex marriage.

Cisneros et al. (2013) call this variant **Q(uantificational)** *alone* and propose to decompose it into two components:

(i) a functor *al-* and

(ii) a first argument *-one* which can be modified by a type (et) phrase.

Motivation for this decomposition comes from quantifiers like *noone*, cf. (21), and from the etymology of *alone* (< OE *all ana*, 'all one').

(21) No- [-one in my class] [likes me] (*–one* denotes D_e)

The analysis they propose for *al-* is (suppressing the index of evaluation):[2]

(D1) $[\![\, al\text{-} \,]\!] = \lambda P_{et} \lambda Q_{et} \lambda x : P(x) \wedge Q(x) \,.\, \neg \exists y : \neg [y \sqsubseteq x] \wedge P(y) \wedge Q(y)$

So (18) is predicted to entail that other minority women face discrimination.

3.2 S(ocio-)S(patial) *alone*

The variant of *alone* in (17) is semantically more complex. It seems to convey the content that the subject does not have any fellows within a certain space. Since both the notion of the fellow and the notion of the space turn out to play critical roles, Cisneros et al. (2013) call this S(ocio-)S(patial) *alone*.

They observe an **animacy** or even humanimacy constraint, though coercion is possible, as in (22); (23), on the other hand, is a case of personification:

(22) The painting is alone on a wall, ...

(23) This rock was alone for a long, long time; then one day . . . .
The rock was so moved by the beauty . . .

[2] Cisneros et al. (2013) assume a mereological structure of individuals, x and y ranging over atoms or sums, to ensure an adequate treatment of plural subjects.

(24), where *whole*, according to Morzycki (2002) a maximizing modifier, is evidently in *alone*'s scope, indicates that SS *alone* has a location argument, here saturated by the *on* PP. Following von Stechow (2006), Cisneros et al. assume a separate logical type for locations.

(24) I was sure that I was #(alone) on the whole floor; yet there were ...

Often, the location argument is not overtly saturated. Then it may become a deictic or anaphoric proform, ('(in/up/down/...) (t)here'). A deictic case:

(25) 00:06:34 "Leave us."
00:06:37 "Yes, my lord."
00:06:50 "We are alone."

An anaphoric case:

(26) 00:48:15 "Was anyone else on board with you?"
00:48:18 "David, we really must put the poor man to bed."
00:48:21 "No, I was alone."

The location argument can also get an indefinite interpretation, as a suitably restricted existential quantifier over locations that the subject is in.

(27) She sat alone on the bus, as she usually did.

One needs a contextual or pragmatic mechanism of constraining the relevant '**radius**' around $\mathrm{loc}_t(x)$ – nothing very special for *alone*:

(28) Sometimes when there's noone else around I google myself.

(30)–(32) show that it would be too simple to define SS *alone* semantically as in (29) (a mereological structure where x and y are atomic or sum individuals is assumed because two or more persons can be alone together):

(29) $[\![\, alone \,]\!] = \lambda l \lambda x \lambda t : \mathrm{loc}_t(x) \sqsubset l \,.\, \neg\exists y \colon \neg[y \sqsubseteq x] \wedge \mathrm{loc}_t(y) \sqsubset l$

(30) I was all alone in the room when she died. (www.healthboards.com/boards/death-dying/940350-mom-passed-away-today.html)

(31) I am sitting alone in the Kilpisjärvi post bus heading towards Tromsø.

(32) My mother is all alone in Chicago, all because I was drafted.

Often, some or many fellow individuals do not count.

To reflect this, Cisneros et al. (2013) assume a relation S, the **social filter**, that serves to filter out socially irrelevant entities:

(33) $[\![\, alone \,]\!] = \lambda l \lambda x \lambda t : \mathrm{loc}_t(x) \sqsubset l \,.\, \neg\exists y \colon \neg[y \sqsubseteq x] \wedge \mathrm{S}_t(x)(y) \wedge \mathrm{loc}_t(y) \sqsubset l$

While this may be sufficient to take care of (30)–(32), it is still too simple: SS *alone* seems to be gradable:

(34) The extent that your partner is alone in the marriage
is the extent that your marriage is failing.

(35) You don't get much more alone than sitting in the dark in your empty house. (Carson McCullers: *The Heart is a Lonely Hunter*)

But it does not seem to be a relative adjective. To the extent that a sentence like (36) makes sense, we seem to coerce *alone* into meaning 'feel alone'.

(36) I lived with my older aunt, but I was very alone.

Rather, *alone* is a gradable absolute, upper-closed scale adjective like *empty*, with a maximum at 0.[3] The positive formative relevant here is thus

(37) $[\![\, \mathrm{pos} \,]\!] = \lambda m_{e(id)} \lambda x \lambda t : m(x)(t) \in D_d \,.\, m(x)(t) \doteq 0$

where the definedness condition projects any such condition coming from m (D_d is the domain of degrees), and $\doteq$ tolerates some deviation from $=$.

As the source of degrees of aloneness, Cisneros et al. identify a social closeness measure and encode it in a function yielding values between 0 and 1. A low but positive value can make the difference between (pos) *alone* and *all alone*:

(38) "I'd say we're not quite alone anymore," she said with a nod, her eyes darting around to see where the spirit might be should it appear.

There is another being in the location, but since this is a ghost, it has only a minute 'belonging factor' relative to us.

(39) Wenn euer Lied das Schweigen bricht, bin ich nicht ganz allein.
when your song the silence breaks am I not quite alone
(Karl Gottlieb Lappe: *Der Einsame* 'the solitary one')

[3] See Kennedy and McNally (2005) on "relative-like, imprecise interpretations".

In this Schubert Lied, the addressees are hearth crickets, barely fellow beings, or fellow beings only to a low degree.

Cisneros et al. (2013) introduce a function d measuring the social closeness of the sum of possible fellow individuals in the search space to the subject, taking the adjective stem *alone* to denote a partial function from a location l to a measure function. The measure is:

- undefined if x is not in l at t
- 0 if there are no other socially relevant beings in l at t
- the negative degree of social closeness between x and the maximum member of the set of other socially relevant beings in l at t

The definition is:

(D2) $$[\![\, alone \,]\!] = \lambda l \lambda x \lambda t : \mathrm{loc}_t(x) \sqsubset l \,.\, \begin{cases} 0 & \text{if } Y = \emptyset, \\ -\mathrm{d}_t(x)(\oplus Y) & \text{otherwise} \end{cases}$$
$$\text{for } Y = \{\, y \mid y \text{ is atomic} \wedge \neg[\, y \sqsubseteq x \,] \wedge \mathrm{S}_t(x)(y) \wedge \mathrm{loc}_t(y) \sqsubset l \,\}$$

Applied to this stem, the positive will output the property of having a value equal or close to 0 for the measure function, the degree adverb *completely* will output the property of having 0 as value for that function, and a comparative will only be true if at least one of the two measures is nonzero.

The animacy constraint follows from S and d only being defined for animates.

A unified analysis would be preferable to two definitions like (D1) and (D2). Q *alone* would need to subsume SS *alone*, rather than the other way around. But it is difficult to see how the animacy constraint and gradability could be predicted. So there is a tension between uniformity and descriptive precision. Other points: cross-linguistic stability, a difference in word formation.

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