

More on stage-level and individual-level predicates

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Lecture 4

Yasutada Sudo

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1 Implicature-based account

Magri 2009 proposes an implicature-based account (see also Magri 2011, 2017).

- No grammatical difference between stage-level and individual-level predicates (just like Jäger 2001).
- Magri’s contextual definition of individual-level vs. stage-level: Individual-level predicates are predicates that happen to be presupposed *in the current context* to hold throughout the subject’s lifetime/existence. Stage-level predicates are ones that do not have such a presupposition.
- An existential bare plural subject of an individual-level predicate obligatorily generates a contradictory implicature.

1.1 Individual-level predicates are habitual

- Individual-level predicates receive habitual (temporally generic) readings.
- Their episodic (temporally existential) readings are grammatically available, but are associated with a contradictory implicature that the individual-level predicate does not hold throughout the subject’s existence.
- Habitual readings are due to the habitual operator, *Hab*, which we can simply see as a universal quantifier over time intervals.¹ *Hab* comes with a non-empty domain *C*, that is required to contain intervals that satisfy the presupposition of the prejacent.

$$(1) \quad \llbracket \text{John is tall} \rrbracket = \lambda t. \lambda w: \text{alive}_{t,w}(j). \text{tall}_{t,w}(j)$$

$$(2) \quad \llbracket \text{Hab}^C \text{ John is tall} \rrbracket = \lambda w: \exists t \in C[\text{alive}_{t,w}(j)]. \forall t \in C[\text{alive}_{t,w}(j) \rightarrow \text{tall}_{t,w}(j)]$$

- The episodic reading is an existential counterpart of this.

$$(3) \quad \llbracket \text{Ep}^C \text{ John is tall} \rrbracket = \lambda w: \exists t \in C[\text{alive}_{t,w}(j)]. \exists t \in C[\text{alive}_{t,w}(j) \wedge \text{tall}_{t,w}(j)]$$

¹Magri 2009 calls it GEN_t and seems to assume a slightly weaker meaning than $\forall$ for it.

- (2) is logically stronger than (3), so whenever (2) is contextually relevant, (3) will have an implicature that (2) is false. Magri 2009 assumes that implicatures based on contextually relevant alternatives are obligatory.
- Assume that it is common knowledge that whenever John, or anyone else for that matter, is tall at one point in their life, they are tall throughout their life.
 - With this common knowledge (3) and (2) are contextually equivalent.
 - Magri 2009 assumes that contextually equivalent sentences are either both contextually relevant or contextually irrelevant.
 - If (3) is asserted, (3) has to be contextually relevant, so (2) has to be contextually relevant too.
 - Consequently, an assertion of (3) will have an implicature that (2) is false. But this contradicts the common knowledge.
 - (If (3) is not contextually irrelevant, you shouldn't assert it)

Consequently, (3) only has a reading that contradicts the common knowledge and is ruled out.

- For Magri 2009 individual-level predicates are simply predicates that are presupposed to hold throughout an individual's lifetime/existence, whenever they hold, and all other predicates are stage-level predicates. It's a matter of presupposition, so the stage-level vs. individual-level distinction is pragmatic in nature, rather than grammatical.
- **Problem:** But this is obviously problematic for individual-level predicates like *young* and *American*. It renders them stage-level. (Note: stage-level predicates like *alive* and *dead* arguably don't have temporal presuppositions)

1.2 Bare plural subjects

- A bare plural denotes a variable, and has no quantificational force.
- A default existential quantifier (which Magri 2009 does not represent syntactically) applies to VP and binds all free variables in it.
- A bare plural may reconstruct into a VP-internal position.
- Magri 2009 abstracts away from the issue of presupposition projection through existential quantifiers. Following him, let us denote the presupposition of the preja-cent by p .

$$(4) \quad \begin{aligned} & \llbracket \text{Hab}^C \text{ are } [\text{VP firemen tall}] \rrbracket \\ & = \lambda w: \exists t \in C[p]. \forall t \in C[p \rightarrow \exists x[\text{firemen}_{t,w}(x) \wedge \text{tall}_{t,w}(x)]] \end{aligned}$$

- An existential bare plural has as alternatives singular definites with additional restrictions. We ignore the existence and uniqueness presuppositions of the definite for simplify's sake.

$$(5) \quad \begin{aligned} & \llbracket \text{Hab}^C \text{ is } [\text{VP } [\text{the } P\text{-fireman}] \text{ tall}] \rrbracket \\ & = \lambda w: \exists t \in C[\text{alive}_{t,w}(\iota x[P(x) \wedge \text{fireman}(x)])]. \\ & \quad \forall t \in C[\text{alive}_{t,w}(\iota x[P(x) \wedge \text{fireman}(x)]) \rightarrow \text{tall}_{t,w}(\iota x[P(x) \wedge \text{fireman}(x)])] \end{aligned}$$

- For each P , (5) is stronger than (4), so (4) will have an implicature that (5) is false, whenever (5) is relevant.
- If there are enough P s—and we assume there are—and if all of these alternatives are negated, the reading amounts to: For each $t \in C$ where p is true, there is a tall firemen at t , but none of them is tall throughout C . Assuming that at least some of them have to be alive throughout C (via presupposition projection), this contradicts the common knowledge.
- **Problem:** (4) and (5) are not contextually equivalent, so we cannot guarantee that (5) is contextually relevant, whenever (4) is.² So we should expect the existential reading to be available in contexts where (5) is not relevant. Although existential readings are sometimes available with bare plural subjects of individual-level predicates, doesn't seem to be a good prediction.
- **Problem?:** Another potential issue is that Magri 2009 assumes that similar scalar inferences arise in the domain of presuppositions. Since the singular definite alternatives are all presuppositionally stronger, having uniqueness presuppositions, they should give rise to the presupposition that for each P , there is no unique P -individual. This is not attested. Generally, it's not clear how Magri 2009 wants to project presuppositions through EXH.
 - This potential issue could be circumvented by using domain alternatives, instead of definite singular alternatives, as Nathan suggested in class.
 - The idea is to postulate a domain of quantification for the existential closure (which can be given independent motivation), and build alternatives with smaller domains. Those alternatives with singleton domains will play the same role as the definite singular alternatives Magri 2009 uses, minus uniqueness presuppositions.
- We should also consider (6), which for Magri 2009 is grammatical.

$$(6) \quad \llbracket \text{Ep}^C \text{ are } [\text{VP firemen tall}] \rrbracket \\ = \lambda w: \exists t \in C[p]. \exists t \in C[p \wedge \exists x[\text{firemen}_{t,w}(x) \wedge \text{tall}_{t,w}(x)]]$$

- This has as alternatives, (4), (5) and (7).

$$(7) \quad \llbracket \text{Ep}^C \text{ is } [\text{VP [the } P\text{-fireman] tall}] \rrbracket \\ = \lambda w: \exists t \in C[\text{alive}_{t,w}(\iota x[P(x) \wedge \text{fireman}(x)])]. \\ \exists t \in C[\text{alive}_{t,w}(\iota x[P(x) \wedge \text{fireman}(x)]) \wedge \text{tall}_{t,w}(\iota x[P(x) \wedge \text{fireman}(x)])]$$

- (4) and (5) are innocently excludable (Fox 2007), and when they are all negated, the reading amounts to: at some time in C , there are tall firemen, but none of them are tall throughout C , and at some time in C there are no tall firemen.
- **Same problems as above:** Again, Magri 2009 has no way of ensuring that (4) and (5) are contextually relevant, whenever (6) is, so the contradictory implicature will be only present in contexts where the alternatives cannot be ignored. Also, the presuppositions of the alternatives are stronger.

²We can consider the grand disjunction of the set of all alternatives, but that amounts to the wide scope existential reading over the habitual operator. That is not contextually equivalent.

- With stage-level predicates, the reasoning goes in the same way, but the derived reading does not contradict the common knowledge.

- (8) with the implicature will mean: At every $t \in C$ where p is true, there are drunk firemen, but none of them are drunk throughout C . This does not contradict common knowledge.

$$(8) \quad \llbracket \text{Hab}^C \text{ are } [\text{VP firemen drunk}] \rrbracket \\ = \lambda w: \exists t \in C[p]. \forall t \in C[p \rightarrow \exists x[\text{firemen}_{t,w}(x) \wedge \text{drunk}_{t,w}(x)]]$$

- Similarly, (9) with the implicature will mean: At some time in C , there are drunk firemen, but none of them are drunk throughout C , and at some time in C there are no drunk firemen.

$$(9) \quad \llbracket \text{Ep}^C \text{ are } [\text{VP firemen drunk}] \rrbracket \\ = \lambda w: \exists t \in C[p]. \exists t \in C[p \wedge \exists x[\text{firemen}_{t,w}(x) \wedge \text{drunk}_{t,w}(x)]]$$

- **Problem** (Nathan, p.c.): Under the generic reading, the sentence (10) with a stage-level predicate should implicate that none of the firemen are available throughout C , but there doesn't seem to be such an implicature.

$$(10) \quad (\text{Generally}) \text{ Firemen are available.}$$

This problem is perhaps more acutely illustrated by (11), which does not seem to have an implicature that each monkey living on this tree will get down and stop living on the tree at some point before it dies.

$$(11) \quad \text{Monkeys live on this tree.}$$

- Generic readings do not have excludable alternatives. It's not entirely clear what syntax Magri 2009 assumes about generic bare plurals, but let's assume that they don't stay within VP (not crucial) and presuppositions project universally through them.

$$(12) \quad \llbracket \text{Hab}^C \text{ Gen firemen are } [\text{VP tall}] \rrbracket \\ = \lambda w: \exists t \in C[\exists x[\text{firemen}_{t,w}(x)] \wedge \forall x[\text{firemen}_{t,w}(x) \rightarrow \text{alive}_{t,w}(x)]] \\ \forall t \in C[[\exists x[\text{firemen}_{t,w}(x)] \wedge \forall x[\text{firemen}_{t,w}(x) \rightarrow \text{alive}_{t,w}(x)]] \\ \rightarrow \forall x[\text{firemen}_{t,w}(x) \rightarrow \text{tall}_{t,w}(x)]]$$

Similarly for stage-level predicates.

1.3 Summary

Individual-level predicates are always habitual/temporally generic.

- (13) John is tall.
- Hab^C John is tall (Habitual)
 - Ep^C John is tall (Episodic)

- The episodic reading (13b) has a mandatory implicature that the habitual reading (13a) is false, which contradicts the common knowledge that one's height

does not change.

- This implicature is mandatory, because (13a) and (13b) are contextually equivalent, and whenever one is contextually relevant, the other one as well.
- **Problem:** Magri's 2009 notion of individual-level predicates in terms of common knowledge does not coincide with the standard notion in cases like *young* and *American*.

Bare plurals receive generic readings with individual-level predicates.

$$(14) \quad \llbracket \text{Hab}^C \text{ are } [\text{vp firemen tall}] \rrbracket \\ = \lambda w: \exists t \in C[p]. \forall t \in C[p \rightarrow \exists x[\text{firemen}_{t,w}(x) \wedge \text{tall}_{t,w}(x)]]$$

- Following Diesing 1992, Magri 2009 assumes that only VP-internal bare plurals receive existential readings.
- (14) has as alternatives sentences about each fireman being (habitually) tall.
- Each of these alternatives gives rise to an implicature about a fireman f that f is not habitually tall, which contradicts common knowledge.
- Generic reading is stronger, and does not have an implicature.

Problem: The alternatives are not contextually equivalent, so the implicature should not be mandatory.

Problem: Wrongly predicts that existential bare plurals with stage-level predicates should also have the same implicature.

$$(15) \quad \text{Monkeys live on this tree.}$$

2 More issues and other discussion points

2.1 Wide scope indefinites

Non-bare existential quantifiers are compatible with individual-level predicates.

$$(16) \quad \text{Some firemen are tall.}$$

- Magri 2009 analyzes this with wide-scope existential over the habituality operator.

$$(17) \quad \text{Some firemen Hab}^C \text{ are tall}$$

To give this a denotation, we need to say something about temporal *de re*, but that's not so important, so let's ignore it.

- The alternatives involving *the P fireman* are each stronger than (17), but if they are all negated, that'll logically contradict (17). Since they are not innocently excludable, there is no implicature here. ((17) might have an implicature in competition with *all*)

- **Problem?:** It seems possible for *some* to take scope under the habituality/temporal genericity operator, with an individual-level predicate.

(18) Some applicants are smart (and others are dumb).

Magri 2009 expects this to be excluded for the same reason as the existential reading of (19).

(19) Applicants are smart.

2.2 Exceptional existential bare plurals with individual-level predicates

Magri 2009 analyzes the exceptional cases as involving wide scope indefinites.

2.2.1 Glasbey-type examples

- (20) a. Students own sports cars.
b. Students own sports cars in this department. (Glasbey 1997: p. 169)

- (21) a. Drinkers were under-age.
b. I was shocked to discover in the Red Lion last night that drinkers were under-age. (Glasbey 1997: p. 170)

- (22) a. Ministers are gay.
b. In this church, ministers are gay. (Ibid.)

- Magri 2009 argues that in the Glasbey-type examples, bare plurals are not kind denoting, and such non-kind denoting bare plurals can take wide scope.

- (23) a. John didn't see machines.
b. John didn't see parts of that machine. (Magri 2009: p. 284)

2.2.2 Only and focus

- (24) a. In this village, women have blue eyes.
b. In this village, only WOMEN have blue eyes. (É. Kiss 1998: p. 148)

- Similarly, Magri 2009 claims that bare plurals modified by *only* can take wide scope.

- (25) a. The official said that we shouldn't read books.
b. The official only said that we shouldn't read [books]_F. (Magri 2009: p. 285)

- **Problem?:** If É. Kiss 1998 is right, free focus also makes existential readings more accessible.

- (26) a. Girls know mathematics.
b. GIRLS know mathematics.

It's unclear if É. Kiss's observation is correct, but since free focus does not seem to give rise to wide scope possibilities, as in (27), if she is right, it is a potential problem.

- (27) a. I invited all ADULTS; but I didn't invite CHILDREN. (They are all pre-school kids; older children were all invited.)
 b. I read some PSYCHOLOGY books, but I didn't read [LINGUISTICS books]. (They are about semantics. I read all the other linguistics books)

2.3 Scoping under universals

Magri 2009 claims that his theory accounts for Fox's 1995 observation.

- (28) a. Jewish women are related to Chomsky.
 b. Jewish women are related to every Jewish man. (Fox 1995: p. 329)

- The existential reading of (28a) is rendered # by the implicature that no Jewish woman is related to Chomsky throughout her lifetime.
- (28b) is analyzed as:

$$(29) \quad \left[\begin{array}{l} \text{every Jewish man} \\ \lambda y \text{ Hab}^C \text{ are } [\text{VP Jewish women related to } t_y] \end{array} \right] \\
= \lambda w: \forall y [\text{j.man}(y) \rightarrow \exists t \in C[p]]. \\
\forall y [\text{j.man}(y) \rightarrow \forall t \in C[p \rightarrow \exists x [\text{j.women}_{t,w}(x) \wedge \text{related}_{t,w}(x, y)]]]$$

- The alternatives will be formed by a singular definite description in place of the bare plural, each of which will be stronger than (29). Negating all these, we get the implicature that none of the Jewish women are related to every Jewish man. This does not contradict common knowledge.
- **Problem:** There doesn't seem to be such an implicature.

- (30) a. MIT professors know about biology.
 b. MIT professors know about every field of science. (Fox 1995: p. 328)

- (31) a. MIT students know Chinese.
 b. MIT students know almost every foreign language. (Ibid.)

- (32) Present-day East Asians are related to every Mongolian khan.

- (33) UCL students love every Alien movie.

If the implicature here is weak and optional, then the existential readings of the non-quantified sentences are not consistently excluded (which Magri 2009 doesn't manage to achieve anyway, as pointed out above).

2.4 Quantifiers without implicatures

Magri 2009: §4.6 extends his account to universal quantifiers.

- (34) #John is always tall. (Magri 2009: p. 292)

- His idea is that (34) triggers an implicature with respect to a homogeneous alternative, which he assumes has a homogeneity presupposition that John is either never tall or always tall.

(35) John Hab^C is tall.

Consequently, (34) presupposes that John is sometimes but not always tall, which contradicts common knowledge.

- **Problem:** But he'd generate a similar inference for (36a), based on the habitual/temporally generic reading of (36b).

- (36) a. John is always available.
b. John is available.

The implicated presupposition should contradict what (36a) asserts.

- One way to solve this issue is by analyzing the implicated presupposition as an *anti-presupposition*, which will demand that in the current conversational context it be not commonly known that homogeneity holds.
- It's currently debated whether homogeneity is really a presupposition or not (Gajewski 2005, Križ 2015, 2019, Bar-Lev 2021, Križ & Spector 2021, Guerrini & Wehbe 2024).

2.5 Individual-level ≠ permanent

Many individual-level predicates do not hold throughout one's lifetime, e.g., *young*, *strong*, *smart*, and *American*.

- (37) a. *There are postdocs young.
b. *There are postdocs American.

One way out for Magri 2009 is to assume that such predicates are obligatorily habitual/temporally generic for an independent reason. But encoding this lexically would amount to grammaticalizing the stage-level vs. individual-level distinction, and rid the theory of flexibility necessary to account for exceptional cases.

2.6 Conjunction

Relatedly, Magri 2009 predicts that conjoined predicates containing a stage-level predicate should be stage-level (see Magri 2016 for a broader problem that conjunction poses for his Blindness Hypothesis).

- (38) a. Firemen are altruistic.
b. Firemen are available.

For the conjunction of these two predicates, nothing seems to exclude the following parses.

- (39) a. Firemen are Ep^C [altruistic and available]
b. Firemen are [Hab^C altruistic and Ep^C available]

2.7 There-sentences

Magri 2009 says nothing about *there*-sentences.

It seems reasonable to assume that definite singulars are not legitimate alternatives in *there*-sentences.

- (40) a. There are firemen available.
 b. *There are firemen tall. (cf. There are tall firemen)
- (41) a. *There is the *P* fireman available.
 b. *There is the *P* fireman tall.

But we could make use of domain alternatives instead, as suggested above. Then we can say that (41b) has an implicature that contradicts common knowledge.

Problems: This analysis has the same problems as before:

- (40a) does not seem to have an implicature that no fireman is always available.
- Because the alternatives are contextually stronger, nothing prevents them to be contextually irrelevant. So the analysis does not consistently rule out (40b).

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