Contextual givenness vs. existential quantification*

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There are phenomena in language that share some properties with indefinites. I will establish parallelisms between indefinites and two apparently unrelated phenomena. These parallelisms allow for clarification and motivate a rethinking of the notion of contextual givenness vis à vis existential quantification, as well as the tools used in the literature to capture these phenomena.

		de re names
plain variable	domain restriction	plain indefinites
parametrized variable	domain restriction	*certain* indefinites
	free variable	∃-closed variable

Table 1: Preview of the final picture

*Thanks to Anna Szabolcsi and Mike Solomon for useful discussion.

1. Indefinites

Indefinites can take wide and intermediate scope out of islands, a fact that motivates an analysis of indefinites in terms of choice functions. Reinhart (1997) argues that choice functions can be existentially closed at any point of the structure (1a). Kratzer (1998) claims that wide and intermediate scoping indefinites are free parametrized choice function variables that are contextually given (1b).

(1) Every student read every paper that refutes (a certain) conjecture by Chomsky.
   a. $(\forall x \in \text{students})\exists f(\forall y \in \text{papers that refute } f(\text{conjectures by Chomsky}))\ x \text{ read } y$
   b. $(\forall x \in \text{students})(\forall y \in \text{papers that refute } f(x)(\text{conjectures by Chomsky}))\ x \text{ read } y$

Chierchia (2001) and Schwarz (2001, 2004) argue that both mechanisms are needed and that there is a division of labor between plain and *certain* indefinites (# indicates an unavailable reading):

(2) Not every student read every paper that refutes *a / some conjecture* by Chomsky.
   a. $\neg(\forall x \in \text{students})\exists f(\forall y \in \text{papers that refute } f(\text{conjectures by Chomsky}))\ x \text{ read } y$
   b. $\#\neg(\forall x \in \text{students})(\forall y \in \text{papers that refute } f(x)(\text{conjectures by Chomsky}))\ x \text{ read } y$

(3) Not every student read every paper that refutes *a certain conjecture* by Chomsky.
   a. $\#\neg(\forall x \in \text{students})\exists f(\forall y \in \text{papers that refute } f(\text{conjectures by Chomsky}))\ x \text{ read } y$
   b. $\neg(\forall x \in \text{students})(\forall y \in \text{papers that refute } f(x)(\text{conjectures by Chomsky}))\ x \text{ read } y$

Cormack and Kempson (1991) and Solomon (p.c.) argue that indefinites are *not* determined by speakers' intentions.

There are two women sitting in front of you, Woman 1 is French, Woman 2 is German. The utterance context makes it clear that speaker A has Woman 2 in mind.

(4) a. A certain woman (over there) is French.
b. #That is false. The woman you mean is actually not French, although the other one is.
(speaker intentions do not determine truth conditions)

(5) a. She is French.
b. That is false. The woman you mean is actually not French, although the other one is.
(speaker intentions *do* determine truth conditions)

Indefinites are *always* existentially closed and can occur as either plain or parametrized variables, perhaps depending on the presence of modifiers like *certain* and numerals.

There are phenomena in language that display much of the behavior indefinites do
What do these parallelisms tell us about contextual givenness and existential quantification, as well as the tools the literature uses to capture these properties?

2. Domain restriction

Domain restriction of universal quantifiers has behavior parallel to indefinites' (Stanley and Szabó, 2000; Szabolcsi, 2010).

(6) Every child devoured every apple.
$(\forall x \in \text{children})(\forall y \in \text{apples} \cap R)$ x ate y
a. Every child ate every single apple in the set A of apples.
(available reading, but nonsensical in this context)
b. Every child ate every apple in the subset a of the set A of apples that is somehow assigned to that child.
(preferred reading)

There are two possible ways to account for this co-variation with the mechanisms reviewed above: existential closure and parametrization:

(7) a. $(\forall x \in \text{children})\underline{\exists R}(\forall y \in \text{apples} \cap R)$ x ate y
b. $(\forall x \in \text{children})(\forall y \in \text{apples} \cap \underline{\mathcal{R}(x)})$ x ate y

Existential closure (7a) would predict that *any* subset of the set of apples could be a witness to this quantifier. This doesn't seem to be the case:

Suppose every child had two baskets of apples in front of him/her, one with apples collected and the other with apples bought. Each boy ate every apple he collected and each girl ate every apple she bought.

(8) Every child devoured every apple. False
a. ~~$(\forall x \in \text{children})\exists R(\forall y \in \text{apples} \cap R)$ x ate y~~
b. $(\forall x \in \text{children})(\forall y \in \text{apples} \cap \mathcal{R}(x))$ x ate y

Domain restriction: always contextually given, co-varies only via parametrization $\Longrightarrow$ parametrized free variables of domain restriction

Domain restriction of universals can have *intermediate scope* readings, as predicted by co-variation via parametrization:

(9) Every parent complained to every member of the PTA about the lack of interest that every teacher displayed.
$(\forall x \in \text{parents})(\forall y \in \text{PTA})$ x complained to y about the lack of interest that $(\forall z \in \text{teachers} \cap \mathcal{R}(x))$ ...

3. Names read *de re*

A puzzle about *de re* attitude reports in the situation in Figure 1 (Quine, 1956): the two sentences in (10) can both be true without ascribing inconsistent beliefs to Ralph.

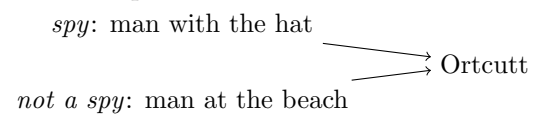

Figure 1: Quine's puzzle

(10) a. Ralph believes that Ortcutt is a spy.
b. Ralph believes that Ortcutt is not a spy.

Kaplan (1968) proposes that the expression 'Ortcutt' in (10) be analyzed as a *variable over definite descriptions* that is existentially closed outside of the attitude report. The formulas below ignore important constraints on what counts as a valid description.

(11) a. ($\exists D$ of Ortcutt) Ralph believes that D is a spy.
b. ($\exists D$ of Ortcutt) Ralph believes that D is not a spy.

More recent work on Quine's puzzle (Bonomi, 1995; van Fraassen, 1979; Aloni, 2001, 2005) has argued that the description variable is contextually given: its possible values depend crucially on pragmatic factors and speaker's intentions.

> *To be challenged shortly:*
> ***De re* names** are contextually given $\Longrightarrow$ free variables (contra Kaplan)

But *de re* read names have readings involving existential quantification under downward entailing environments (cf. Chierchia, 2001, for indefinites):

(12) If Ralph thinks Ortcutt is a spy, he is quite simply mistaken.
a. Ralph thinks D is a spy $\rightarrow$ Ralph is mistaken
b. (($\exists D$ of Ortcutt) Ralph thinks D is a spy) $\rightarrow$ Ralph is mistaken

Moreover, descriptions can co-vary with a universal quantifier. (13) has a true reading in the scenario in Figure 2. (13a) and (13b) are plausible analyses.

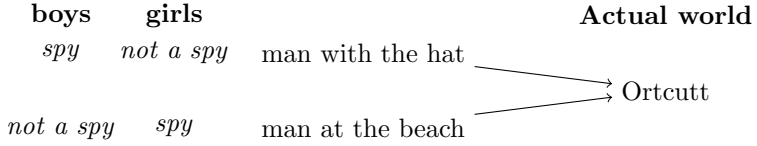

Figure 2: Varying descriptions

(13) How curious, every one of my students thinks Ortcutt is a spy!
a. ($\forall x \in$ students)($\exists D$ of Ortcutt) x thinks D is a spy
(co-variation via existential closure)
b. ($\forall x \in$ students) x thinks $\mathcal{D}(x)$ is a spy
(co-variation via parametrization)

Which one of (13a) and (13b) is the correct semi-formal translation?

Parametrized (i.e., functional) co-variation in indefinites is responsible for the following reading of (14) (Schlenker, 2006).

(14) If every student improves in a certain area, no one will flunk the exam.
$\exists f$. (($\forall x \in$ students) x improves in $f(x)$(area)) $\rightarrow$ no one flunks
there is an assignment of areas to students such that, if every student gets better at the area assigned to him/her, no one will flunk the exam.

But definite description variables do not show these symptoms of functional co-variation.

> Ortcutt is a Martian and has no gender. A large audience of earthlings is gathered in a theater to be introduced to "it." Ortcutt, who has been hiding backstage, walks onto the stage convincingly disguised as an attractive man. "He" leaves the stage, and later comes back, now convincingly disguised as an attractive woman. No one in the audience realizes that the two people that walked onto the stage are one and the same.

(15) If everyone thinks that Ortcutt is attractive, then everyone in the audience is gay. FALSE
cannot mean:
$\exists \mathcal{D}$. ($\forall x$ x thinks $\mathcal{D}(x)$ is attractive) $\rightarrow$ everyone is gay
there is an assignment $\mathcal{D}$ of vivid descriptions of Ortcutt to each member of the audience such that, if every person thinks that Ortcutt, under the guise assigned to that person by $\mathcal{D}$, is attractive, then everyone in the audience is gay.

> **Names read *de re*** do not co-vary via parametrization; this would predict the availability of a functional co-variation reading that would make (15) true

4. Summary & conclusions

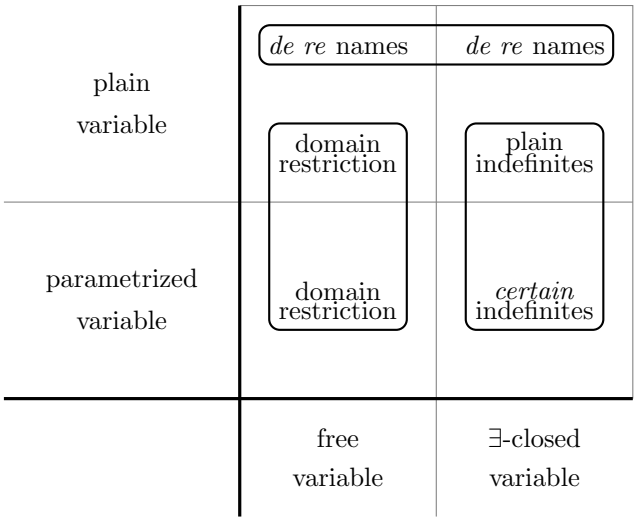

Table 2: Formal tools and linguistic phenomena (to be revised)

Domain restriction and indefinites differ as to whether they involve free or existentially closed variables, but they share the property of being able to have a plain variable or a parametrized one. In indefinites, there can be a visible effect of this parametrization — the modifier *certain*.

Names read *de re* are the odd member of Table 2: they seem to be contextually given in some situations but have clear existential quantification in others.

I propose that names read *de re* are always existentially closed, but can in many cases give the illusion of widest scope and contextual givenness via domain restriction of the existential quantifier into a singleton set (cf. Schwarzschild, 2002, for indefinites).

Why is it so easy to restrict the domain of quantification of existentials that bind definite description variables? We know independently that there are various pragmatic constraints that determine what a valid description can be (see especially Aloni 2001, 2005). It is reasonable to assume that context can have a more dramatic restricting influence over names read *de re* than over other existentially closed variables, contrasting with those involved in indefinites.

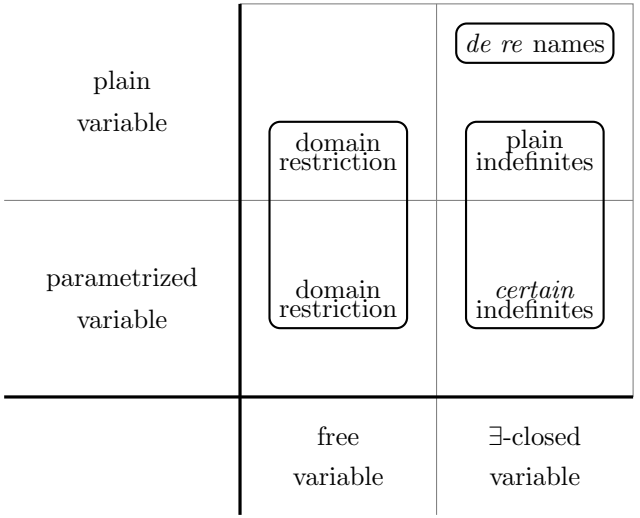

Table 3: Formal tools and linguistic phenomena (final)

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