Bare Plurals as Indefinites: Part 2

Recall from last class:

1.   ***a*-NPs are not kind-denoting**

•   Like bare plurals, *a*-DPs can have existential and generic readings. What reading we get depends on the choice of predicate.

1)   A dog entered the room.
2)   A dog barks.

3)   Dogs entered the room.
4)   Dogs bark.

•   But, unlike bare plurals, *a*-DPs do not combine with kind-level predicates.

5)   *A lion is widespread.
6)   * A lion will become extinct soon.
        [only good on the taxonomic interpretation: 'there is a kind of lion that…']

7)   Lions are widespread.
8)   Lions will become extinct soon.

•   So a kind-analysis is not available for *a*-DPs.

2.   **Lewis/Heim**

•   Quantificational variability effects:

9)   A blue-eyed bear is always/usually/often/sometimes/seldom/never intelligent.

10)   All/most/many/few/no blue-eyed bears are intelligent.

        Bare plurals behave the same way:

11)   Blue-eyed bears are always/usually/often/sometimes/seldom/never intelligent.

        What is the contribution of the adverb? (Lewis 1975)

•   Adverbs of quantification take two arguments.

•   Each of these arguments is an open formula: a formula with one or more free variables.

12)   Q-adverb (ϕ, ψ)

•   Adverbs of quantification are unselective binders: they may bind an unlimited number of free variables in their scope.

        Always (ϕ, ψ) is true iff every assignment to the free variables in ϕ that makes ϕ true also makes ψ true

Sometimes (ϕ, ψ) is true iff some assignment to the free variables in ϕ that makes ϕ true also makes ψ true

Never (ϕ, ψ) is true iff no assignment to the free variables in ϕ that makes ϕ true also makes ψ true

• *If*-clauses can restrict the domain of quantification of adverbial quantifiers:

13)   If a man owns a donkey, he always beat it.

14)   Always   [if a man owns a donkey] [he beats it]

15)   Always (man' (x) & donkey' (y) & own' (x,y)) (beat' (x)(y))

16) $\forall y \forall y$ ((man'(x) & donkey'(y) & own' (x,y)) $\rightarrow$ (beat' (x)(y))

• Note: on Heim's system, quantifiers bear selection indices.. A quantifier binds all and only the variables whose indices match one of the quantifier's selection indices.

17)   Always$_{1, 2}$ (man' (x) & donkey' (y) & own' (x,y)) (beat' (x)(y))

<u>What is the contribution of the indefinite?</u>   (Heim 1982)

• Indefinite NPs never carry any quantificational force of their own.

• They contribute a free variable and a restrictive predicate.

• When an indefinite seems to act as a quantifier, it is really something else that contributes the quantificational force (by binding the variable introduced by the indefinite).

- Overt adverb of quantification:

18)   If a man owns a donkey, he always beats it.

19)   Always$_{1, 2}$ (man' (x_1) & donkey' (y_2) & own' (x_1,y_2)) (beat' (x_1)(y_2))

- Determiner quantifiers

20)   Every man who owns a donkey beats it.

21)   Every$_{1, 2}$ (man' (x_1) & donkey' (y_2) & own' (x_1,y_2)) (beat' (x_1)(y_2))

- Existential quantifier introduced by an operation of Existential Closure

Over texts:

22)   A man came in. He smiled.

23) $\exists_1$ (man'(x_1) & smiled' (x_1))

Over nuclear scopes.

24)   If a man is lonely, he often buys a cat

25) Often_1 (man'(x_1) & lonely' (x_1)) $\exists_2$ (cat' (y_2) & buys' (x_1, y_2))

-       Covert necessity operator [more on this later]

        Bare conditionals

26)   If a man owns a donkey, he beats it.

27) $\text{If}_{1,2}$ (man'(x_1) & donkey'(y_2) & own' (x_1,y_2)) (beat' $(x_1)(y_2)$)

        Generic indefinites:

28)   A man who owns a donkey beats it.

29) $\text{Gen}_{1,2}$ (man' (x_1) & donkey' (y_2) & own' (x_1,y_2)) (beat' $(x_1)(y_2)$)

        (see Farkas & Sugioka 1983)

3.   Bare Plurals: the Ambiguity Hypothesis

•   The Ambiguity Hypothesis (Wilkinson 1986, 1991, Gestern and Krifka 1987): BPs are ambiguous between

        (a)   Heimian indefinites

        (b)   Kind-denoting

        Heimian indefinites:

        Existential uses: $\exists$-closure.

30)   Dogs were barking

31) $\exists_1$ (dog' (x_1) & barking' (x_1))

        'Inductive' generalization uses: covert adverb of quantification.

32)   Dogs bark.

33) Gen_1 (dog' (x_1)) $\exists$ (bark' (x_1))

        Kind-denoting:

34)   Lions are widespread.

35)   Dinosaurs are extinct.

4.   Too many readings.

- Our theory so far predicts both generic and existential readings for BP subjects of stage-level predicates, contra Carlson. This seems to be a good result (Diesing 1988, 1992).

36)   Firemen are available.

        [leaving the Davidsonian argument out for the time being]

37) $\exists_1$ (firemen' (x_1) & available' (x_1))

38) Gen_1 (firemen' (x_1)) $\exists$ (available' (x_1))

- BUT: it also predicts BP subjects of individual-level predicates to have both generic and existential readings. This is wrong: (40) below is unattested.

39)   Firemen are intelligent.

40) $\exists_1$ (firemen' (x_1) & intelligent' (x_1))   [unattested]

41) Gen_1 (firemen' (x_1)) $\exists$ (intelligent' (x_1))

5.   Diesing 1988, 1992

- Generalization:

        BP subjects of stage-level predicates can have both generic and existential readings.
        BP subjects of individual-level predicates can only have generic readings.

- Mapping Hypothesis:

        "material from VP is mapped into the nuclear scope, material from IP is mapped into a restrictive clause" (Diesing 1992: 15)

- Syntactic differences:

        Subjects of stage-level predicates are generated in Spec, VP. They surface at Spec, IP. At LF, they can remain in Spec, VP or lower to Spec, IP

        Subjects of individual-level predicates are generated in Spec, IP. Thus, they must be in Spec, IP at LF.

        (for arguments for this syntactic difference, see Diesing 1992: 20-29)

- Existential Closure is limited to nuclear scopes (contra Heim 1982)

        Independent arguments against $\exists$-closure over texts (see Kadmon 1987, Heim 1990, Kratzer 1989).

42)   John own sheep. Harry vaccinates them.

        (see Evans 1977, 1980)

- Given all the above:

  Subjects of individual-level predicates will always be mapped to the restrictive clause hence they will get a generic reading.

  Subjects of stage-level predicates will be mapped either to the restrictive clause (generic reading) or the nuclear scope (existential reading).

6.   Kratzer 1989/1995

- Kratzer: the syntactic difference between stage and individual-level predicates is due to a difference in <u>argument structure</u>.

- Recall: s-level predicates have a Davidsonian argument; i-level predicates don't.

- Argument-Linking Principle: "In D-structure, all arguments except the external argument are realized within the maximal projection of the predicate" (Williams 1981).

- The Davidsonian argument always occupies the highest position in the argument hierarchy (when there is a Davidsonian argument, it is the external argument.)

- So:

  Subjects of stage-level predicates will be generated inside VP (or AP). [as in Diesing's proposal]

  hit   <<u>location</u>, agent, theme>
  dance   <<u>location</u>, agent>

  die   <<u>location</u>, theme>
  fall   <<u>location</u>, theme>

  Subjects of individual-level predicates that are unaccusative are generated inside VP [unlike in Diesing's proposal]

  belong   <theme, goal>
  be known to   <theme, experiencer>

  Subjects of individual-level predicates that are not unaccusatives are generated in Spec, IP. [as in Diesing's proposal.]

  know   <<u>experiencer</u>, theme>
  altruistic   <<u>theme</u>>

  [for arguments supporting Kratzer's revision, see Kratzer 1989: 137 and ff.; for Diesing's criticism of the revision, see Diesing 1992]

- Subjects of individual-level predicates that are not unaccusative are mapped to the restrictive clause → no ∃ readings.

43)   Firemen are altruistic.

•   All other subjects can be mapped either to the restrictive clause or to the nuclear scope: they can get both existential and generic readings.

44)   PONDS belong to this lot

45)   She thinks that COUNTEREXAMPLES are known to us.

        (i-level, unaccusative, $\exists$ reading possible) (Kratzer 1995: 143)

•   A note on generic objects:

46)   This proof contains mistakes   (based on Kratzer's example (57))
        only $\exists$ interpretation

47)   Cellists hate boring bass lines
48)   Contrabassonists love chocolate chip cookies.
                                        (Diesing 1992: 29)

        Kratzer: some objects in English can be scrambled out of the VP at LF and can thus be mapped to the restrictive clause (the indefinite objects that can get generic readings in English are those that can be scrambled overtly in German) [note: Kratzer has singular indefinite examples. I don't know if the correlation also holds for bare plurals.]

7.   Where we are

•   QVEs with BPs are accounted for:

49)   Blued eyed-bears are always/usually/often/sometimes/seldom/never intelligent.

        [see Wilkinson 1991 for a criticiem of Carlson's account of sentences like (43)]

•   Behavior of BPs in there-sentences.

50)   There are boys/a boy on the fence.

51)   *There is John on the fence.

•   Generic readings of BPs with stage-level predicates.

•   Typhoon sentences:

52)   Typhoons arise in this part of the South Pacific.

        (a)   Typhoons in general arise in this part of the South Pacific.
                Gen_x (typhoon' (x)) $\exists_1$ (this-part-of-the-Pacific' (1) & arise-in(x, 1))

        (b)   Typically, in this part of the Pacific there arise typhoons.
                Gen_1 (this-part-of-the-Pacific' (1)) $\exists_x$(typhoon' (x) & arise-in(x, 1))

[Question: how does the Davidsonian argument end up in the nuclear scope in (a), given Kratzer's assumptions?]

53)   Unfriendly tribesmen dwell just over those hills.
54)   A computer computes the daily weather forecast
55)   A cat runs across my lawn every day.

(Carlson 1989)

What would it take to account for these sentences in Carlson's framework? Irene's remark.

•   Schubert and Pelletier 1987: The G' operator only generalizes on the subject position (it's a VP operator), but we have "binding" effects for other positions.

56)   Dogs like people for what they are.
57)   Paranoids never like people for more than a week.
58)   Psychiatrists explain people to themselves.

(53) has a reading that can be paraphrase as 'dogs like mankind for what it is'. This can be generated on Carlson's system if we take the object of **like** to admit both objects and kinds.

59)   T (**like**) = $\lambda x_i \lambda y_o$ (like'(y)(x))

But it also has another reading that we can paraphrase as 'Dogs like individual people for what they are'

To derive this reading, we would need an operator G_2 that elevates **like** from object-level to kind-level with respect to its first argument position. [Is this really a big problem? Irene's remark]

In the current system:

60) $Gen_{1,2}$ (dogs (x_1) & people (x_2)) $\exists$ (like-for-what-they-are$(x_1)(x_2)$)

[On Kratzer's account, the object would have been scrambled out of VP at LF]

Differences between BPs and singular indefinites.

•   The system we have in place now treats the non-kind referring use of BPs on a par with singular indefinites.

•   But: there are differences between the two types of DPs.

1.   Interpretation.

61)   a.   Madrigals are polyphonic
        b.   Madrigals are popular

62)   a.   A madrigal is polyphonic
        b.   # A madrigal is popular   (Lawler 1973)

- Original intuition: Generically interpreted singular indefinitesubjects can felicitously combine only with 'inherent' or 'essential' properties. IS sentences express 'analytic' statements. BP sentences express 'weaker' kinds of generalizations with a descriptive or 'inductive' flavor

- Greenberg 2002 refines the original intuition and proposes an account of the interpretational differences between singular generic indefinites and generic BPs. We'll come back to this.

2.   Carlson's scope facts.

63)   Dogs are everywhere.
64)   A dog is everywhere.

- We need a theory that accounts for the similarities between BPs and singular indefinites while giving us the contrasts in (87) and (90). We'll come back to this when we talk about Chierchia (1998) and Krifka (2004).