Session V: The Interpretation of Indefinite NPs

1. Properties of Indefinites (Reinhart & Reuland 1987, Matthewson 1999)

(1) a. *A/some student* entered the classroom.

b. *Two/ many/ a few / more than five* students entered the classroom.

- *Characteristic Properties of Indefinites*:

i. Indefinite NPs are nominal arguments with the main function of introducing new discourse referents into the discourse.

(2) **A student$_1$** entered the classroom. **The student$_1$** opened his book.

ii. In languages with a definite-indefinite split, the referents of indefinite NPs are non-unique and non-familiar, as these semantic properties are coded in the lexical meaning of the definite determiner.

iii. On their basic use, indefinite NPs are non-referring in that they do not refer to a particular (salient) individual in the universe of discourse.

iv. Non-uniqueness and non-familarity are also properties of **negative indefinites**, which do not seem to introduce discourse referents at first sight.

(3) No student(s) entered the classroom.

- *Tests for Indefiniteness* (Matthewson 1999)

i. Occurrence in Existential Sentences

(4) a. There is **a /some /*the / *every man** in the garden.
b. There are **some / many / few /*all (the) men** in the garden.

(5) a. àkwai ***wani mùtûm*** à ciki-n gàrii.   [HAUSA, CHADIC]
exist   some man   at inside-of city
'There is/was a man in town.'

b. àkwai ***ruwaa / àlbasàa***   c. baabù / bâ ***yâaraa***   à gidaa
exist   water   onion.pl   not.exist   children   at home
'There is water / There are onions.'   'There are no children at home.'
(Zimmermann 2008: 418)

ii. Novelty Condition

Indefinite NPs cannot refer back to already introduced discourse-referents ≠ NP$_{def}$

(6) a. *A/some student* entered the classroom. Then, *a/some student* left the classroom.
⇒ different students

b. *A/some student* entered the classroom. Then, ***the student/ he*** left the classroom.
= 'Some student entered the classroom and then he left it again.'
⇒ same student

iii. Non-Uniqueness

The referents of indefinite NPs are non-unique ≠ NP$_{def}$

(7) a. #A sun rises in the East and sets in the West.   (in our world)
     b. The sun rises in the East and sets in the West.

(8) a. A star appeared.
     b. #The star appeared.

iv. *Sluicing*

     Only indefinite NPs can occur in sluicing constructions

(9) John is looking for **a book / *the book / *this book**, but I don't know **which**.

(10) *Novelty and non-uniqueness in Hausa (Chadic)*

     a. ***wasu*** sukà   tàfi arewa, ***wasu*** sukà   daawoo   [Hausa]
        some 3PL.PERF.REL went north   some 3PL.PERF.REL return
        'Some people went north, and some people returned.'
        NOT: "Some people went north and then (they) returned.'   ⇒   NOVELTY

     b. ***wata raana*** ta-naa   fitowa a gabas   ta   fad'i a yâmma
        some sun   3SG.F.PROG rise   in east   again set   in west
        'Another sun rises in the East and sets in the West.'   ⇒   NON-UNIQUENESS

2. Analysis I: Unified Theories of Indefinites

• There are two prominent *unified* theories of indefinites in the literature:

i.   Generalized Quantifier Theory *GQT* (Montague 1973, Barwise & Cooper 1981).
     ⇒ SESSION 3

ii. Dynamic semantic analyses (DRT & File Change Semantics; Kamp 1981, Heim 1982)

• *GQT-analysis* (Montague 1973, Barwise & Cooper 1981, Heim & Kratzer 1998)

On the GQT-analysis, all indefinite NPs denote generalized quantifiers of type <et,t>, i.e. second order predicates of predicates:

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(11) a. [[a/some man]]   = $\lambda P \in D_{<et>}$. there is an $x \in D$, such that x is a man and P(x)

     b. [[no man]]   = $\lambda P \in D_{<et>}$. there is no $x \in D$, such that x is a man and P(x)

     c. [[two men]]   = $\lambda P \in D_{<et>}$. there is a plurality $x \in D$, such that |x| =2 and
                          man(x) and *P(x)*

(12)   [[every man]]   = $\lambda P \in D_{<et>}$. for every $x \in D$, such that x is a man, P(x)

⇒ The GQT-analysis treats indefinite NPs and strong (=genuine) quantifiers on a par, and
   - in some of its incarnations - to the exclusion of definite NPs of type <e> (H&K 1998)

⇒ The GQT-analysis neatly captures the *non-referentiality* of indefinite NPs (≠ NP_{def}), the
   non-uniqueness effects (≠ NP_{def}), and it derives the correct truth conditions for simple
   sentences containing indefinite NPs.

• *Problems for the quantifier approach*

   Indefinite NPs differ from genuine quantifiers (*each, every, most*) in important ways

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i.   A large subpart of the class of indefinite NPs is made up by weak quantifiers that differ from genuine quantifiers (*each/every/most NP*); SESSION 3:

(4)   a. There is **a /some /*the / *every man** in the garden.   [+/- *Existential Sentences*]

(13)   *+/- discourse binding*

   A$_i$ / Some$_i$ / *Every$_i$ student came late. **He$_i$** apologized.

ii.   In many cases, indefinite NPs do not seem to come with quantificational force of their own. Rather, their interpretation depends on another quantifying element in the clause (*quantificational variability effects*, QVEs):

(14)   **A Texan** always drinks beer.   ≈   All Texans drink beer.

iii.   Problems with the composition of indefinite object NPs:

   On standard GQ-accounts, the semantic types of transitive verb <e<et>> and indefinite object DP (e.g. *a horse*) <<et,t> are incompatible. ⇒ TYPE CLASH

(15)   VP <???>

                                          ⇑ **???**

         bought   every book
         <e, et>   **<et,t>**

iv.   Unlike proper QPs, indefinite NPs take narrow scope relative to other operators *unless they are interpreted specifically* (Stowell & Beghelli 1997):

(16)   Most boys bought two \ books.
       ≠ There are two books such that most boys bought them.

⇒   Many instances of indefinite NPs do not denote generalized quantifiers of type <et,t>

•   *Dynamic treatments of indefinite NPs* (Kamp 1981, Heim 1982)

   The main semantic function of indefinite NPs is to introduce new discourse referents, in form of a variable, which is semantically *restricted* by the lexical meaning of the NP.

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(17)   [[a man]] = man(x)

⇒   All indefinite NPs can be conceived of as property-denoting (**type <et>**);

⇒   the individual variable introduced by the NP is bound later in the semantic derivation by an independent procedure of EXISTENTIAL CLOSURE (EC), which binds any free variables in the scope of its application; see below and SESSION 7 on the procedure of EC

⇒   Dynamic analyses treat indefinite NPs and definite DPs on a par to the exclusion of genuine generalized quantifiers

(18)   [[the man]] = man(x)

⇒   definite and indefinite expressions do not differ in their truth-conditional content, but only in their felicity conditions that govern their appropriate use:

   FAMILIARITY CONDITION (definites) vs NOVELTY CONDITION (indefinites)   (Heim 1982)

- *Cross-linguistic arguments*

  The analysis of indefinite NPs as not (obligatorily) quantificational expressions receives support from cross-linguistic considerations:

i.   Many languages have bare indefinite NPs that must take obligatory narrow scope relative to other operators (negation, modals, quantifiers) (see below) ≠ proper QPs

ii.   In some languages (e.g., West Greenlandic, van Geenhoven 1998), such NPs are syntactically incorporated into the verb:

(19) Arnajaraq **aalisaga**-si-nngi-l-a-q.   (Van Geenhoven, 1998: 31)
      A.ABS   fish-buy-NEG-IND-[-tr]-3SG

      i. 'It is not the case that Arnajaraq bought (one or more) fish.'
      ii. # 'There is/are (a) fish that Arnajaraq didn't buy.'

⇒   For such languages, we can assume a process by which the verbal predicate is restricted (= modified) by an indefinite NP with simultaneous saturation of the corresponding semantic argument position by existential closure: RESTRICTION + SATURATION

⇒   For (19), van Geenhoven (1998) builds EC into the meaning of the ambiguous predicate *si* 'buy':

(20) a. $[\![si_2]\!]$ $= \lambda P \in D_{<et>}.\lambda x \in D_e.\ \lambda e.\ \exists y\ [\mathbf{P(y)} \wedge x \text{ bought } y \text{ in } e]$

      b. $[\![aalisaga+si_2]\!] = \lambda x \in D_e.\ \lambda e.\ \exists y\ [\mathbf{fish'(y)} \wedge x \text{ bought } y \text{ in } e]$

⇒   Effectively, the combination of verb meaning and the meaning of the incorporate object NP is a simple application of FA, resulting in semantic saturation of the argument position indicated by *y*!

BUT: The applicability of FA is bought at the cost of multiplying the meanings of transitive verbs in the lexicon.

⇒   *Predicative indefinite incorporation* inevitably results in narrow scope for the indefinite

⇒   The same mechanism has been proposed for bare plural NPs in English (or German) (Carlson 1977), which also take narrow scope on their existential reading!

(21) a. I did not catch rabbits.
         NOT: 'There are some rabbits that I did not catch.

      b. $[\![catch_{<e,et>}\ rabbits_{<et>}]\!] =\ \lambda x \in D_e.\ \lambda e.\ \exists y\ [rabbit'(\mathbf{y}) \wedge x \text{ caught } y \text{ in } e]$

Q: Is there cross-linguistic variation concerning which syntactic arguments can restrict the verbal predicate in this way?

      only objects → West Greenlandic, OR objects + subjects → Hausa?

(22) *manòomii* **bà**-i   ZOO **ba**   [Hausa, ZIM 2008]
      farmer   NEG-3sg come NEG
      'No farmer came.'   =   'Farmers did not come.'

Q:	Can we achieve the semantic result in (20b) without postulating lexical ambiguity in the verb? $\Rightarrow$ Yes, we can !

- *Conclusion*

  Of the two unified analyses of indefinite NPs, the dynamic treatments of indefinites as denoting restricted variables fare better in as far as they account for the non-quantificational behaviour of indefinite NPs in many contexts.

BUT: Without additional assumptions, the restricted variable account does not directly account for *specific readings* with indefinites.

3. Analysis II: Non-unified Theories of Indefinites
(Reinhart 1997, Matthewson 1999, Chung & Ladusaw 2004)

3.1 Central Observations for English/ German (and other intonation languages)

i. Indefinite NPs can take on *specific readings*, on which they appear to be individual-denoting.

(23) a. Most people admire SOME female politician, namely Angela Merkel.

b. If SOME woman makes a political statement, everybody listens.

ii. Indefinite NPs can take *exceptional wide scope*, e.g. outside of conditional clauses (Reinhart 1997):

(24) a. If *some relative of mine/ two relatives of mine* dies/die, I will inherit a house.

b. There is/are some/two relative(s) of mine such that I will inherit a house if he/she/they die(s).

c. If every relative of mine dies, I will inherit a house

$\neq$ For every relative of mine, if he dies I will inherit a house.

d. $[[(24a)]] \neq \exists x$ [if x is a relative of mine and x dies] $\rightarrow$ [I inherit a house]

$\Rightarrow$ (24d) cannot be the correct reading for (24a), for it predicts the sentence to be true whenever there is a non-relative that dies…

The Donald Duck-Problem (Reinhart 1997)

$\Rightarrow$ The truth conditions in (24d) are much too weak and make the sentence trivially true as long as there are individuals that are not relatives of mine.

$\Rightarrow$ Semantically, we want the subject position of the antecedent clause to be filled by an individuals **(type <e>)**

- *The solution*: Ambiguity of indefinite NP: choice functions & generalzed quantifiers

  Reinhart (1997), a.o.: Indefinite NPs in English and German are ambiguous between a classic **quantifier** construal (GQ) and a **choice-function** construal:

(25) a. $[[some_1 man]] = \lambda P \in D_{<et>}$. there is an x, such that x is a man and P(x)

b. $[[some_2 man]] =$ a particular individual x, such that x is a member of the set of men

$\Rightarrow$ **Choice functions** (CFs) are unary functions that take sets as arguments and yield a member of that set as their function value:

A function f is a choice function (CH(f)) if it applies to any non-empty set and yields a member of that set (Reinhart 1997: 372)
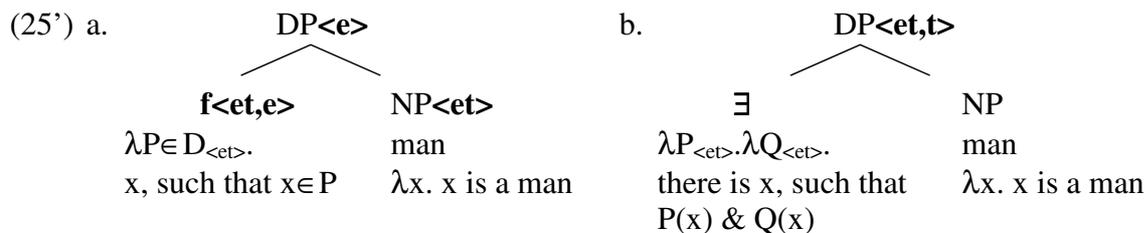
(26) a. TYPE(CF) = <et, e>

(NB: <et,e> is also the type as definite determiners on their standard analysis as individual-denoting)

b. [[CF man]] = [[CF]]([[man]]) =[[CF]](λx. x is a man) = x, x is a man

$\Rightarrow$ In the CF-construals, the meaning of the indefinite itself contains only a CF-variable, which can be existentially bound at various levels (Reinhart 1997):

• Accounting for the ambiguity of (23b) (depending on the placement of accent)

- Syntax of the indefinite NPs in (25ab):

(25') a. DP**<e>**   b.   DP**<et,t>**

  f<et,e>   NP**<et>** $\exists$ NP
λP$\in$D$_{<et>}$.   man λP$_{<et>}$.λQ$_{<et>}$.   man
x, such that x$\in$P λx. x is a man   there is x, such that λx. x is a man
                                    P(x) & Q(x)

(27) a. READING I: Narrow scope of indefinite NP inside the antecedent clause

[$\exists$f CF(f) & [die'(f(man'))]] $\rightarrow$ [I inherit a house]

= If there is a choice-function, such that if the value of this function applied to the meaning of *man* (i.e., the set of contextually given men) dies, I inherit a house.

= 1 iff I inherit a house whenever a relative of mine dies (QUASI-UNIVERSAL READING)

b. READING II: exceptional wide scope of indefinite outside the antecedent clause

$\exists$f CF(f) & [[die'(f(man'))] $\rightarrow$ [I inherit a house]]

= There is a choice-function, such that if the value of this function applied to the meaning of *man* (i.e., the set of contextually given men) dies, I will inherit a house.

= 1 iff I inherit a house if some particular relative of mine dies (SPECIIFC READING)

• *Conclusion*

Indefinite NPs come with two interpretations: a specific Choice-Function interpretation (type <e>, referential) and non-specific interpretation as Generalized Quantifier (type <et,t>, non-referential):

$\Rightarrow$ In English, the different readings are indicated by different accent placement on NP or the indefinite/cardinal modifier, respectively

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3.2 Excursus/Preview: Existential Closure

Q: What does existential closure do? $\Rightarrow$ Existential Quantification at a higher level

Existential Closure (EC) is a default semantic mechanism that saturates any open argument positions / binds any variables that are unsatured/ not bound by the time the verb meaning has combined with its semantic arguments:

(28) a. [[EC]] = $\lambda P \in D_{<e,...,t>}.\ \exists x,...\ [P(x)(...)]$ for P of varying arity $\geq n$

     b. [[EC Mary saw a man]] = $\exists x$ [Mary saw x & x is a man]

- *The locus of existential closure:*

  The informal definition above forces EC to apply at the level of vP or higher.

i.   Heim (1982): EC at sentence-level & text level:

(29) a. $\exists x\ [_{IP} \ldots x \ldots]$

     b. $\exists x\ [_{CP1}$ a man (x) $[_{CP2}$ (he = x) ordered a beer]   (cross-sentential anaphora)

ii.   Diesing (1992), Chung & Ladusaw (2004): EC at the syntactic level where the event is introduced, i.e. the left edge of vP/VP, right below negation.

(30) a. ..., weil **Kinder** ja doch $\exists[_{VP}$ im Garten spielen].   (generic reading)

     b. ..., weil ja doch $\exists[_{VP}$ Kinder im Garten spielen].   (existential reading)

- *Diesing's generalization*:

  Only indefinite NPs inside VP (either at surface structure, or reconstructed at LF) can be interpreted with an existential reading, which is due to the application of existential closure at the VP-edge.

While EC is a good candidate for a universal mode of composition, evidence for its application is typically indirect in nature (qua the available semantic interpretations). Nonetheless, there is at least one natural language that shows overt morpho-syntactic evidence for the application of EC: the morpheme *adi* in Bura; see SESSION 7

4. Cross-linguistic Evidence: Morpho-Syntactic Disambiguation

While the ambiguity of indefinite NPs in English and German is only indicated prosodically, it is coded in form of differences in morpho-syntactic shape in many languages of the world (e.g. Hungarian, Maori, Lilloet Salish), including a lot of African languages, e.g. Hausa:

(31) form A: reading I (narrow scope, non-specific)

      form B: reading II (wide scope, specific)

$\Rightarrow$ Farkas (2002) actually postulates the following scale of indefinite expressions in natural languages; however, many languages only instantiate a two-way split, where both A vs B-patterns (Hausa) and A vs C patterns (Lilloet Salish, Maori) are attested.

(32)

A. marked NP₁	<<	**B. bare NP**	>>	**C. marked NP₂**
specific, topic-oriented, wide scope		unspecified, multi-purpose		non-specific, narrow scope

4.1 *Lilloet Salish* (Matthewson 1999): CF vs. GQ

Lilloet Salish has two sets of indefinite expressions, a *ku-* (or *polarity*) form and an elsewhere *non-polarity* form, which exhibit a neat bi-partition when it comes to syntactic distribution and semantic interpretation.

(33) a. ku-form: obligatory NARROW SCOPE, non-specific, restricted to polar contexts (negation, questions, modals), (34ab)

b. non-polarity-form: obligatory WIDE SCOPE, no distributional restrictions

(34) a. negation licenses *ku*:
cw7aoz kw-s   áts'x-en-as   [**ku sqaycw**]
NEG   DET-NOM   see-TR-3ERG   [**DET man**]
'S/he didn't see any men.'

b. *ku* not licensed in positive episodic sentences
 * áts'x-en-as   [**ku sqaycw**]
see-TR-3ERG   [**DET man**]
'S/he saw a man.'

- *Conditionals*

(35) a. non-polarity indefinite: wide scope only

cuz'   tsa7cw kw-s   Mary lh-t'íq-as   [**ti qelhmémen'-a**]
going.to happy   DET-NOM Mary HYP-arrive-3CONJ [**DET old.person(DIMIN)-DET**]
'Mary will be happy if an elder comes.'

b. There is a particular elder, such that Mary is happy if that elder comes (but she does not like the others)

(36) a. polarity indefinite: narrow scope only

cuz' tsa7cw kw-s Mary lh-t'íq-as   [**ku qelhmémen'**]
going.to happy DET-NOM Mary HYP-arrive-3CONJ   [**DET old.person(DIMIN)**]
'Mary will be happy if any elder comes.'

b. Mary will be happy if any elder comes (even if there are no elders in the community)

- *Negation*

(37) a. cw7aoz kw-s   áz'-en-as   [**ti sts'úqwaz'-a**]   kw-s Sophie
NEG   DET-NOM   buy-TR-3ERG   [**DET fish-DET**]   DET-NOM Sophie
'Sophie didn't buy a fish.' (= 'There is a fish which Sophie didn't buy.') ∃ >> NEG

b. cw7aoz kw-s   áz'-en-as   [**ku sts'úqwaz'**] kw-s Sophie
NEG   DET-NOM   buy-TR-3ERG   [**DET fish**]   DET-NOM Sophie
'Sophie didn't buy any fish.'   NEG >> ∃

- Analysis (Matthewson 1999: 109)

i. All non-polarity determiners are obligatorily interpreted as variables which range over choice functions.

ii. The choice-function variables are always existentially closed at the highest level
⇒ obligatory wide scope

(35) c. [[(35a)]] = ∃**f** [CH(f) & [come (f(elder)) → happy (Mary)]]   (WIDE SCOPE)

*[∃f [CH(f) & [come (f(elder))]] → happy (Mary)   (NARROW SCOPE)

iii. The polarity determiner is not interpreted as a variable ranging over choice functions, but as a generalized quantifier (<et,t>)

⇒ different semantic status of the two series of indefinite NPs: **CF vs GQ**

- *Conclusions*

i. The assumption of lexical ambiguity in the verb (van Geenhoven 1998) has nothing to say on the presence of two kinds of indefinite NPs in Lilloet Salish (nor in Maori and Hausa below).

ii. Likewise, the unified accounts of indefinite NPs, either as generalized quantifiers (plus quantifier-raising) or else as restricted variables, has nothing to say on the presence of two kinds of indefinite NPs in these languages

⇒ Different types of indefinite NPs are interpreted by way of different compositional procedures: CF-mechanism vs ???

4.2 *Maori* (Chung & Ladusaw 2004): CF vs. RESTRICT (= predicate modification)

- *Observations*:

Maori (Austronesian) also has two kinds of indefinite NPs: *he*-NPs and *tetahi*-NPs:

i. syntactic restriction: *he*-NPs cannot be selected by prepositions and are hence restricted to subject argument position; **tetahi**-NPs can occur in all argument and adjunct positions.

ii. Both NP-types must introduce a new discourse referent (⇒ novelty condition)

(36) a. Ka   moe **etehi**,   ka ara   ko   **etehi**   ki ta ratou mahi.
        T   sleep a.pl   T awake Ident   a.pl   to their work
        'While some slept, others stayed awake to keep up the work.'

b. Ta   raua mahi he whakaputa ake I tena wahi o te pa,   ka rere,
        their.du work Pred a appear   up at that place of the fort   T rush

a,   ka whakaputa ake   **he wahi** ano.
        and   T appear   up   a   place again

'They appeared at that part of the fort, then rushed to another part of the fort.'

iii. Both indefinite NPs can take narrow scope (≠ Lilloet Salish)

(37) a. Ka   tata   **he tangata** ka neke haere aua   rakau ki tawhiti.
        T   approach   a person   T move go   the.aforem.pl tree to distance
        'If anyone approached, those trees receded to a distance.'

    b. Kite   mahi te tangata   i   **tetahi hara**,   ka hopu-kina e te ture.
       If   do   the person DO   a crime   T arrest-Pass by the law
       'A man who commits a crime will be arrested by the law.' = ANY CRIME

NB: Definite marking on the subject in conditional clause !?!

iv.   *tetahi*-NPs can take wide scope in addition, whereas *he*-NPs cannot

(36) a. Kāore   **tētahi**   **tangata** i vaiata   mai.   [MAORI, Chung & Ladusaw 2004]
         T.not   a   person T sing   to.here
         'A (particular) person did not sing.'   ∃ >> NEG

      b. Kāore   **he tangata**   I   waiata   mai.
         T.not   a person   T sing   to.here
         'No one at all sang.' (but: *'A (particular) person did not sing.'   NEG >> ∃

⟹   While, *he*-NPs must take narrow scope relative to negation and modal operators, *tetahi*-NPs can take either wide or narrow scope relative to other operators. ≠ Lilloet Salish

⟹   no strict bi-partition between form and scope construal

	Lilloet Salish		**Maori**	
	polarity form	non-polarity	he-NP	tetahi-NP
narrow scope	✓	*	✓	✓
wide scope	*	✓	*	✓

- *Analysis*: SPECIFY (CF) VS. RESTRICT (= PREDICATE MODIFICATION)

i.   Chung & Ladusaw (2004): The different morpho-syntactic realization of indefinite NPs in Maori indicates that they are interpreted by way of different composition procedures.

ii.   *tetahi*-NP: SPECIFY = type shift of NP-argument from <et> to <e> by application of a choice-function variable f plus existential closure over f

⟹   ***Unlike in Lilloet Salish, EC over f can apply at different levels in the representation, i.e. above or below other operators in the clause*** → wide or narrow scope

⟹   If the f-variable is existentially bound with highest scope, the indefinite NP receives a specific wide-scope interpretation.

(37) [[(36a)$_{wide\ scope}$]] = ∃f [CH(f) & ¬∃e [sing(e, f([[person]])]

⟹   If the f-variable is existentially bound at a lower level, in particular below modal or other operator elements, narrow scope obtains (plus QVE-effects)

iii. *he*-NPs: RESTRICTION = modification of one of the verb's semantic argument positions by means of the NP-meaning without argument saturation

⟹   the unsaturated argument position is existentially closed by way of EXISTENTIAL CLOSURE (EC) in a later step of the derivation, cf. (36bd).

(36) b. Kāore   **he tangata**   I   waiata   mai.
         T.not   a person   T sing   to.here
         'No-one sang.'

    c. [[**he tangata** I waiata]] = $[\lambda x \in D_e. \lambda e.$ x sang in e] $+_{REST}$ $[\lambda y.$ person(y)]

$$= \lambda x \in_e. \lambda e. \textbf{person}(x) \wedge \text{x sang in e} \quad (\text{RESTRICTION})$$

$$\Downarrow \text{ + EC at the event level: vP}$$

$$\lambda e. \exists x [\textbf{person}(x) \wedge \text{x sang in e }]$$

$$\Downarrow \text{ + existential event closure below negation}$$

    d. [[Kāore **he tangata** I waiata]]= $\neg \exists e \ \exists x [\textbf{person}(x) \wedge \text{x sang in e }]$

$\Rightarrow$ Interpreting indefinite NPs by a combination of RESTRICT (at the NP-level) and EC (at a higher syntactic level) is essentially the approach of dynamic semantic frameworks, such as *file change semantics* (Heim 1982, see also Diesing) and *DRT* (Kamp 1981, Kamp & Reyle 1993).

•   *Conclusions*

i.   Like Lilloet Salish, Maori has two types of indefinite NPs

ii.   different semantic status of the two series of indefinite NPs: **CF vs restricted variable/ property-denoting expression**

iii.   Like in Lilloet Salish, one of the indefinite NP-types is restricted to take narrow scope (restricted variable/property)

iv.   Unlike in Lilloet Salish, the other NP-type can take either wide or narrow scope (CF): Flexibility in EC over the choice-function variable !

4.3   Hausa

To conclude, we will see that Hausa indefinite NPs exhibit a pattern very similar to Maori, but it displays a more transparent syntax-semantic mapping:

i.   Hausa has two ways of expressing indefiniteness: bare NPs vs. *wani*-NPs

(38) Audu   yaa   ginà ***gidaa/ wani gidaa***
       Audu   3SG.PERF   build house   WANI house
       'Audu built *a house / a certain house*'

ii.   Both NP-types satisfy standard tests on markers of indefiniteness: (i.) They occur in existential sentences (39a); (ii) They introduce new discourse referents (39b); (iii) Neither entails nor presupposes uniqueness (39c).

(39) a. Àkwai ***mùtûm /wani mùtûm***   à cikin   gàrii
         there.is man.sg WANI man.sg   at inside   town
         'There is a man / some man in town.'

      b. Wannàn tààtsuunìyaa-r yaarinyàà / *wata* yaarinyàà cee.   Suunà-n-tà   Hàwwa
         this   story-of   girl   WANI girl   COP   name-of-her   Hawwa
         'This is a story about a / some girl. Her name is Hawwa.

      c. Muusaa   yaa   ga ***yaarinyàà / wata   yaarinyàà.***
         Musa   3SG.PERF   see   girl   WANI   girl
         'Musa saw a girl / some girl'; NOT: 'Musa say the (contextually) unique girl.'

iii.   Bare NPs must take semantic scope under negation and modal operators (40a, 41a), whereas *wani*-NPs can take scope above or below other operator elements in the clause (40b, 41b) (Zimmermann 2008):

(40)   a.   ***Mutàanee*** **bà**   sù tàfi kàasuwaa **ba**   NEG >> ∃ only
           people   NEG 3pl go   market   NEG
           'No people/ nobody went to the market.' NOT: 'Some people didn't go to the market.'

       b.   Muusaa **bà**-i   kiraa ***wani àbookii*** lìyaafaa   **ba**
           Musa   NEG-3sg.SUBJ invite some friend   ceremony   NEG

           i. 'Musa did not invite any friends.'   NEG >> ∃
           ii. 'There is some friend that Musa didn't invite.'   ∃ >> NEG

(41)   a.   Audù yanàà   sô   yà   aùri   ***yaarinyàà*** 'yar Dàuraa.
           Audu 3sg.m-prog   want 3sg.m marry girl   daughter-of D.
           'Audu wants to marry a Daura girl.'   NARROW SCOPE ONLY

       b.   Audù yanàà   sô   yà   aùri   ***wata yaarinyàà*** 'yar Dàuraa.
           Audu 3sg.m-prog   want 3sg.m marry WANI girl   daughter-of D.

           i. 'There is some girl from Daura that Audu wants to marry.' WIDE SCOPE
           ii. 'Audu wants to marry a Daura girl.'   NARROW SCOPE

- *Analysis*: A more transparent variant of Chung & Ladusaw's system

i.   As in English and German, bare NPs are of semantic type <et>: property-denoting

       Their meaning directly composes with the verb meaning by means of the compositional procedure RESTRICT, a more general instantiation of PREDICATE MODIFICATION; see SESSION 2 & 3: narrow scope

ii.   The meaning of *wani*-NPs contains a choice-function variable that can be existentially bound at various places in the semantic representation: wide or narrow scope.

iii.   Since topics and specific indefinites take wide scope, only *wani*-NPs can serve to express these functions.

iv.   The choice function variable turns the property-denoting bare NP of **type <et>** into an individual-denoting expressions CF(P) of **type <e>**; e.g. in (40b)

       $[\![$kiraa **wani aboki** $]\!]$ = $[\lambda y \lambda x.$ x invited y]   ($\mathbf{f}(\lambda z.$ z is a friend))

                              = $\lambda x.$ x invited $\underline{\mathbf{f}(\lambda z.\ z\ is\ a\ friend)}$

                                        = v, v∈ {z: z is a friend}

5.   Conclusions

i.   There are two different semantic construals of indefinite NPs in natural language:

-      type <e>-interpretation after choice function application (specificity, wide scope): indefinites as arguments of verbs

-      property-denoting interpretation of type <et>; combination with verb by means of RESTRICT; existential closure over the unsaturated argument variable at a later stage

ii.   The two meanings are coded in a single lexical entry in some languages (German, English), leading to an ambiguity that is resolved by prosodic means (accent placement)

iii. Other languages encode the semantic difference more transparently in form of two morpho-syntactically different indefinite NPs

iv. Some tentative universals…

Every natural language has indefinite NPs that differ from proper quantifying expressions.

- These indefinite NPs introduce new discourse referents; allow for cross-sentential anaphora; can be quantified over by other operators, e.g. in donkey sentences.

- If a language has bare and marked indefinite NPs, these functions are preferably expressed by bare NPs.

- If a language has bare and marked indefinites, specific (wide scope) readings must be expressed by using the marked indefinite NP.

6. **Research Assignment**

i. Identify the indefinite expressions in your language by employing the diagnostics from section 1 (novelty, non-uniqeness, existential sentences etc.)

ii. If your language has more than one way of expressing indefinites, try to establish the respective scope relationships of these expressions relative to negation and modal operators.