Non-specific and Dependent Indefinites

When *-nibud'* meets *po*

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Non-specificity and Dependency

NON-SPECIFIC indefinites are indefinites which do not allow for specific uses [1, 2]. Examples are Russian *-nibud'*, Georgian *me*, Greek *típota*.

(1) Kazhdyy mal'chik chital
every boy read
kakuyu-**nibud'** knigu.
which-nibud book
'Every boy read some book.'

DEPENDENT indefinites are indefinites which depend on another operator [3, 4, 5, 6, 7]. Examples are Russian *po*, Hungarian *egy-egy*, Romanian *câte*.

(2) Kazhdyy mal'chik chital **po** knige.
every boy read po book
'Every boy read some book.'

Both (1) and (2) are false if every boy read the same book.

Distribution

Non-specific and dependent indefinites display both free variation and complementary distributions.

	NS	DEP
Episodic	✗	(✗)
Distributive DP	✓	✓
Modal	✓	✗
Plural DP	(✗)	✓

Some dependent indefinites exhibit auto-licensing in episodic contexts [4].

Non-specific indefinites are not licensed by plural DPs, unless they co-occur with a distributive marker or a dependent indefinite itself.

(3) # Dva/vse mal'chika/i chitali
two/all boy read
kakuyu-**nibud'** knigu.
which-nibud book

(4) Dva/vse mal'chika/i chitali **po**
two/all boy read po
knige.
book

(5) Dva/vse mal'chika/i chitali **po**
two/all boy read po
kakoi-**nibud'** knige.
which-nibud book

Evaluation Plurality vs Dependent Variable

Two main accounts (for dependent indefinites) [4]: **Evaluation Plurality** and **Dependent Variable**.

Evaluation Plurality (EP): indefinites associated with a set of assignments across which their value must vary.

Dependent Variable (DV): indefinites need to covary with respect to the values of another variable

How to formally model EP and DV?

What is the nature of distributivity of DV?

Team Semantics

Formulas interpreted over a set of evaluation points, called teams. Here we take teams to be sets of assignment functions. Natural correspondence with dynamic semantics frameworks (for plurals).

T	v	x
i_1	v_1	d_1
i_2	v_2	d_2
i_3	v_3	d_3
i_4	v_4	d_4

We can model both world-variables v ranging over possible worlds and domain variables x ranging over individuals.

$$\exists_s x\phi(x, v)$$

[9, 10]: different kind of indefinites impose different conditions on the variable they are associated with.

Non-specific Indefinites

Variation condition: the value of the indefinite variable x must vary given a value for v.

T	v	...	x
i_1	v_1	⋮	d_1
i_2	v_1	⋮	d_2

$$var(v, x) \Leftrightarrow \exists i, j \in T : i(v) = j(v) \;\&\; i(x) \neq j(x)$$

Dependent Indefinites

Informational Dependence condition: the value of the indefinite variable x must be informationally dependent on another variable y.

T	v	y	x
i_1	v_1	a_1	d_1
i_2	v_1	a_2	d_2

Team semantics can be used to model formally the independence between variables. $ind_v(\vec{u}, x)$ models the dependence of x on $\vec{u}$.

$$ind_v(\vec{u}, x) \Leftrightarrow \forall w \in T(v) : T_{v=w}(\vec{u}\vec{x}) = T_{v=w}(\vec{u}) \times T_{v=w}(x)$$

We define dependence as the (Boolean) negation of independence. $info\text{-}dep_v(y, x)$ models the dependence of x on y.

$$info\text{-}dep_v(y, x) \Leftrightarrow \exists w \in T(v) : \exists a_1, a_2 \in T(y) : T_{vy=v_1a_1}(x) \neq T_{vy=v_1a_2}(x)$$

$$info\text{-}dep_v(y, x) \not\equiv var(v, x)$$

However, given a branching operator $\mathcal{O}y$, it holds that

$$\mathcal{O}y\exists_s x(\phi(x, v) \wedge info\text{-}dep_v(y, x)) \equiv \mathcal{O}y\exists_s x(\phi(x, v) \wedge var(v, x))$$

Plurality

We assume that the variable of a plural DP ranges over a plural domain (i.e., collective readings default, distributive readings via distributive operator).

T	v	y
i_1	v_1	$b_1 \oplus b_2$
i_2	v_2	$b_2 \oplus b_3$

Two boys walked.
$\exists_s y(2(y) \wedge \texttt{boy}(y, v) \wedge \texttt{walk}(y, v))$

The Russian *po*

Plural DP: the universal quantifier *vse* 'all' is strongly non-distributive. *-nibud'* is not felicitous under *vse*.

Maximality operator $M^v_y(\phi(y))$: the value of y satisfying ϕ is maximal with respect to a plural domain $\wp(D)\backslash\varnothing$.

#All boys read book-nibud'.
$M^v_y(\texttt{boy}(y, v) \wedge \exists_s x(\texttt{book}(x, v) \wedge \texttt{read}(yx, v) \wedge var(v, x)))$

T	v	y
i_1	v_1	$b_1 \oplus b_2 \oplus b_3$

Variation cannot be satisfied in such environment, and *-nibud'* is prediced to be out. But *po* occurs easily:

All boys read po book.
$M^v_y(\texttt{boy}(y, v) \wedge \delta_y(\exists x(\texttt{book}(x, v) \wedge \texttt{read}(yx, v) \wedge info\text{-}dep_v(y, x))))$

Distributivity operator $\delta_y(\phi(y))$: $\phi(y)$ must hold for each atom in y.

T	v	y
i_1	v_1	$b_1 \oplus b_2 \oplus b_3$

$\rightarrow$

T'	v	y	x
i'_1	v_1	b_1	d_1
i''_1	v_1	b_2	d_2
i'''_1	v_1	b_3	d_3

Option I: *po* contributes a distributive operator [6].
Option II: *po* exhibits distributive concord with a distributive operator [5].

Further Predictions

Episodic

Non-specific: variation cannot be supported in episodic context.

Dependent: possible autolicensing of y in $info\text{-}dep_v(y, x)$ with a covert variable y (e.g., event-like).

Modal

Modals are treated as quantifiers over possible worlds.

Non-specific: licensed similarly to the distributive DP case.

Dependent: *extensional dependency condition* in [3] stating that y in $info\text{-}dep_v(y, x)$ cannot be a world variable.

Overt Distributivity and Dependency

Po can co-occur with *-nibud'* rescuing *-nibud'* from infelicity and without affecting the resulting meaning

(6) Vse mal'chiki chitali po
all boy read **po**
kakoi-nibud' knige.
which-**nibud** book.
'All boys read some book.'

⇒ Option I viewing *po* as a distributive operator.

⇒ Unifying *po* as a dependent indefinite and as an adnominal distributive item [11, 12].

At the same time, *po* can co-occur with a dedicated distributive quantifier like *kazhdyj* 'each':

(7) Vse/Dva mal'chiki/a chitali po
all/two boy read **po**
knige **kazhdyj**.
book each.
'All/two boys read some book.'

⇒ Option II viewing *po* as exhibiting distributive concord.

References

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