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The notion of roles and the role use of English nominal as-phrases

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1. The notion of roles

- **Intuition:** "roles/functions/capacities" (see Sowa 1984, Steimann 2000)
  - social constructs connected to particular obligatory and possible actions
  - independent of the individuals that bear them
  - for an individual to bear a role, it must stand in certain relationships to other individuals
- **Standard view on individuals:**
  - individuals are "atomic" ($\rightarrow$ classical conception in logic)
  - all properties are ascribed to the individual "as a whole"
- **Role view on individuals:** use the roles/functions/capacities of a person to "divide" an individual into its different aspects
- The role view enables us to reinterpret seemingly inconsistent ascriptions as consistent ascriptions in different roles.

Central claim: Language provides the means to express the role view. This role-sensitivity manifests itself in **morpho-syntactic and interpretive effects** connected to **a specific class of nominal expressions**.

- **Model the role view** via world- and time-relative role structures $\mathcal{R}_x^{w,t}$ of an individual x

2. Distinguish role nouns vs. class nouns

- **Add to types:** new type r and corresponding domain D_r
- **Class nouns** denote properties of individuals (type $\langle e, st\rangle$): e.g. *man*, *woman*, *dog*, *cat*, *tree*, *animal*, *plant*
- **Role nouns** denote properties of roles (type $\langle r, st\rangle$): e.g. *judge*, *student*, *janitor*, *patient*, *customer*, *pet*
- **Artifact nouns:** dual status – object and role/function; e.g., *peeler*, *paddle*
- **Modification of a role noun:**

(1) a. *judge* $\rightsquigarrow$ *talented judge, young judge* (not roles)
b. *judge* $\rightsquigarrow$ *regional judge, military judge* (roles)

- Role nouns can be used as class nouns ($\Rightarrow$ type shift); they then denote the property of being a bearer of that role.
- A role use of a class noun or a proper name requires coercion.

3. Effect 1: predicative bare singular nouns

- In some languages, **predicative bare singular nouns** occur in nominal copular clauses that express role ascription (e.g., Dutch and German)

(2) a. *Paul is (een) arts./Paul ist (ein) Arzt.* ('Paul is a doctor')
b. *Fifi is *(een) hond./Fifi ist *(ein) Hund.* ('Fifi is a dog.')

- De Swart et al. (2007): bare nouns denote "capacities" (i.e., "professions, religions, nationalities or other roles in society")
- **But:** "capacities" too restricted to capture all potential roles/functions

4. Effect 2: 'as'-phrases in their role use

- **Role as-phrases** are used to ascribe the property denoted by the main predicate to the associated individual in the role given by the *as*-phrase.

(3) **As a judge**, *Paul earns 3,000 euros.*
($\approx$ Paul earns 3,000 euros in his judge-role)

- *As*-phrases with nominal expressions that do not denote roles are grammatical but force a different interpretation.

(4) **As a man / as a talented judge**, *Paul earns 3,000 euros.*
($\not\approx$ Paul earns 3,000 euros in his man-role / talented-judge-role)
($\approx$ Because he is a man / a talented judge, Paul earns 3,000 euros)

5. The role structure $\mathcal{R}_x^{w,t}$

Idea behind the role structure $\mathcal{R}_x^{w,t}$: For each individual x, there is a set of eventualities in which x participates. Associating them with the roles in which x participates creates a structure on this set.

- A role structure $\mathcal{R}_x^{w,t}$ is world-, time-, and individual-dependent. It is a set of pairs containing a role and an eventuality (= a state or event).

(5) $\langle r, e\rangle \in \mathcal{R}_x^{w,t}$ iff x bears the role r at w and t and x's participation in e is/was in his role r.

- **Inferences** from x in a role r (in the role view R) to x *simpliciter* (in the standard view S) are regulated by two eventuality-sensitive rules.
  - For any x, P, **abstract state** s, t, and w: (see Maienborn 2007)

(6) $\forall r[\exists e'[\langle r, e'\rangle \in \mathcal{R}_x^{w,t}] \rightarrow \langle r, s\rangle \in \mathcal{R}_x^{w,t} \;\&\; P_R(x)(s)] \Leftrightarrow P_S(x)(s)$

  - For any x, P, **concrete eventuality** e, t, and w:

(7) $\exists r[\exists e'[\langle r, e'\rangle \in \mathcal{R}_x^{w,t}] \rightarrow \langle r, e\rangle \in \mathcal{R}_x^{w,t} \;\&\; P_R(x)(e)] \Leftrightarrow P_S(x)(e)$

- Cf. term-restriction in Landman 1989, state-structure in Szabo 2003

6. The irreducibility of roles

- Roles cannot be reduced to **temporal stages of individuals**. An individual x bears all its roles simultaneously and has all properties connected to a role r even if x does not act in r.
- Roles cannot be reduced to **the associated obligations and permissions**. An individual x may have properties in a role r independent of these obligations/permissions.
- Roles cannot be reduced to **sequences of eventualities**. Eventualities can be performed in more than one role simultaneously.

$\Rightarrow$ **independent ontological objects**

7. Analysis of role 'as'-phrases using $\mathcal{R}_x^{w,t}$

- **Syntax:** The *as*-phrase adjoins directly below its associated constituent. Sentence-initial *as*-phrases are topicalized.

(8) *Paul as a judge is corrupt.*

(9) $[_{TP}$ [PRES] $[_{AspP}$ [PF] $[_{vP}$ Paul $[_{v'}$ $[_{asP}$ as a judge $][_{v'}$ is corrupt $]]]]]$

- **Semantic properties** of '*x as R (is) P*'
  - **(Not-)at-issueness** (e.g., Potts 2011)**:** x's bearing the R-role is presupposed (see Jäger 2003); restriction to x's participation in his R-role is at-issue
  - **Ex-/Intensionality:** the matrix predicate P is extensional; the position filled by R is intensional ($\rightarrow$ substitution for co-extensionals)
- **Role 'as' forces the role view.** It relates the role-property R, the predicate P, and the individual x using $\mathcal{R}^{w,t}$ to give a set of eventualities.

(10) $[\![as]\!]^{w_0,t_0,\mathcal{R}^{w_0,t_0}} =$ (defined iff $\exists r\exists s'[R(r)(w_0)$ & $\langle r, s'\rangle \in \mathcal{R}_x^{w_0,t_0}]$)
$\lambda R_{\langle r,st\rangle}.\lambda P_{\langle e,vt\rangle}.\lambda x_e.\lambda e_v.\forall r[R(r)(w_0)$ & $\langle r, e\rangle \in \mathcal{R}_x^{w_0,t_0} \rightarrow P(x)(e)]$

(11) $[\![Paul\ as\ a\ judge\ is\ corrupt]\!]^{w_0,t_0,\mathcal{R}^{w_0,t_0}} =$
$\exists t[t \circ t_0$ & $\exists s[\tau(s) \subseteq t$ & s in w_0
$\forall r[\text{judge'}(r)(w_0)$ & $\langle r, s\rangle \in \mathcal{R}_{\text{Paul}}^{w_0,t_0} \rightarrow \text{corrupt'}(\text{Paul})(s)]$
(defined iff $\exists r\exists s'[\text{judge'}(r)(w_0)$ & $\langle r, s'\rangle \in \mathcal{R}_{\text{Paul}}^{w_0,t_0}]$)

8. Accounting for the "rescue property"

- **The rescue property:** role *as*-phrases can make otherwise contradictory sentences non-contradictory (see e.g., Landman 1989, Jäger 2003, Szabo 2003, Asher 2011; see Box 1).

(12) a. #*Paul is corrupt, but he is not corrupt.*
b. *As a judge, Paul is corrupt, but as a janitor, he is not corrupt.*

- **Captured by the analysis:** *Paul is corrupt* is not inferable from *Paul as a judge is corrupt*
  - **In standard view:**

(13) $[\![Paul\ is\ corrupt]\!]^{w_0,t_0} = \exists t[t \circ t_0$ & $\exists s[\tau(s) \subseteq t$ & $\text{corrupt'}(\text{Paul})(s)]$

  - **In role view:** (see rule (6))

(14) $[\![Paul\ is\ corrupt]\!]^{w_0,t_0,\mathcal{R}^{w_0,t_0}} =$
$\exists t[t \circ t_0$ & $\exists s[\tau(s) \subseteq t$ &
$\forall r[\exists e'[\langle r, e'\rangle \in \mathcal{R}_{\text{Paul}}^{w_0,t_0}] \rightarrow \langle r, s\rangle \in \mathcal{R}_{\text{Paul}}^{w_0,t_0}$ & $\text{corrupt'}(\text{Paul})(s)]]$

References

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