Toward Inferentialist Semantics

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Representationalism vs Inferentialism

- language as a transparent medium
- **vs** language as displaying norms

The Five Theses of pragmatism

1. Performativity
2. Endorsement
3. Practical inference
4. Success of the action (a minor point!)
5. Nothing else, that is: “once one has understood acts of *taking true* according to this four- part model, one has understood all there is to understand about truth” (MiE, p. 287)

Against stereotypic pragmatism

cf.*it is good for us to the believe the truth*
when this sentence is interpreted in the *representationalist, descriptivist* way rejected by Pragmatism.
“good” $\neq$ a (descriptive) predicate, *just an* **implicit norm**
(performative)
cf. also

- *Paris is fun*
- *Fun is fun*

“*p* is true” as a prosentence

- “**is true**” is not a predicate... *so what?*
- “that the snow is white is true”, or, better : “that is true”, as an anaphoric proform w.r.t. “the snow is white”, just like “she” in “Mary did not come, she is ill”
- therefore no decomposability of “that is true” : just a *rule*, (like the *daimon* in Ludics)
- in the same way, **refers to** is not a relation

The world as it is

- the world is the set of all *facts* (Wittgenstein)
- a fact is a “true claim” (that is claims built according to the rules for *taking true*)

The conception of concepts as inferentially articulated permits a picture of thought and of the world that thought is about as equally, and in the favored cases identically, conceptually articulated. ***Facts* are just true claims**. *Facts, like other claims, are conceptually articulated by their inferential and incompatibility relations to other claims. It is a feature of the conceptual articulation of claims, and hence of facts, that they are about particular objects. It is these facts and the propertied and related objects they involve that are cited as stimuli by interpreters who are specifying the reliable differential responsive dispositions in which the contents of empirical contents originate. These noninferential dispositions (the locus of our empirical receptivity) accordingly do not constitute the interface between what is conceptually articulated and what is not, but merely one of the necessary conditions for a conceptually articulated grasp of a conceptually articulated world -* **the world consisting of everything that is the case, all the facts, and the objects they are about**. *(MiE, p. 622)*

The role of concepts

- **Kant** : **judgement** as the minimal unit of logic (*responsability*)
- the game of *giving and asking for reasons*

A parrot can produce an utterance perceptually indistinguishable from an assertion of “the swatch is red”. Our nonetheless not taking it to have asserted that sentence, not to have made a move in the game, is our taking it that, unaware as it is of the inferential involvements of the claim that it would be expressing, of what it would be committing itself to were it to make the claim, it has not thereby succeeded in committing itself to anything. Making that assertion is committing oneself to such consequences as that swatch is coloured, that is not green and so on. (AR, p. 191)

Compatibility with “Meaning as proof”

cf. *a man walks*, and even : *a man walks, he wistles* we may give *walks* as :

$$\begin{array}{c} [x \ : \ animate] \\ \vdots \\ (x \ : \ walks) \ : \ prop \end{array}$$

or

$$(x \ walks) \ : \ prop \quad (x \ : \ animate) \qquad (1)$$

Forming “A man walks”

$$\dfrac{man\ :\ set \qquad \dfrac{\begin{array}{c}[x\ :\ animate]\\ \vdots\\ (x\ walks)\ :\ prop\end{array} \qquad [x\ :\ man]}{(x\ walks)\ :\ prop}}{(\Sigma x\ :\ man)(x\ walks)\ :\ prop}\ \Sigma F$$

Continuations...

$$\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{}{(x\ :\ man)}}{\vdots}}{(x\ walks)\ :\ prop} \quad \dfrac{}{x\ :\ man}^{1}}{man\ :\ set \quad (x\ walks)\ :\ prop}\,\Sigma F,1 \quad \dfrac{\dfrac{\dfrac{\dfrac{}{(x\ :\ man)}}{\vdots}}{(x\ whistles)\ :\ prop} \quad \dfrac{}{z\ :\ (\Sigma x\ :\ man)(x\ walks)}^{2}}{p(z)\ :\ man}\,\Sigma E}{(\Sigma x\ :\ man)(x\ walks)\ :\ prop \quad (p(z)\ whistles)\ :\ prop}\,\Pi F,2$$

$$(\Pi z\ :\ (\Sigma x\ :\ man)(x\ walks))(p(z)\ whistles)\ :\ prop$$

Contexts, commitments, entitlements

Example of *to stop*:

$\text{stop} : (A : set) \rightarrow (B : El(A) \rightarrow set) \rightarrow (x : El(A)) \rightarrow B(x) \rightarrow set$

a *progressive* context is then :

$A : set$

$B : El(A) \rightarrow set$

$x : El(A)$

$B(x)$

(commitments)

(cf. TTR)

x *stops* B-ing : $prop \quad (A : set)(B : El(A) \rightarrow set)(x : El(A))\ B(x)\ true$

x *starts* B-ing : $prop \quad (A : set)(B : El(A) \rightarrow set)(x : El(A))$

Consequences

$$\text{stop} \quad : \quad (A \ : \ set) \rightarrow (B \ : \ El(A) \rightarrow time \rightarrow set) \rightarrow (x \ : \ El(A)) \rightarrow ((\Pi t < now) B(x,t)) \rightarrow set$$

or

$$\frac{A \ : \ set \qquad \begin{array}{c}(x \ : \ A)\ (t \ : \ time) \\ B(x,t) \ : \ set\end{array} \qquad (\Pi t < now) B(x,t) \ : \ true}{stop(x, B(x, now)) \ : \ set}$$

Consequences may then be introduced as parts of the meaning, like mere a posteriori rules like:

$$\frac{stop(x, B(x, now)) \ : \ set}{(\Pi t > now) \neg B(x,t) \ : \ set}$$

Drawback

- assigning a *proof* to each sentence
- how to make differ *knowing* and *believing*?
  cf. A. Ranta: *Knowledge thus cannot be anything more than what is acquired by making a judgement*

Propositional content

One can pick out what is *propositionally* contentful as whatever can serve both as a premise and as a conclusion in an inference - what can be offered as, and itself stand in need of, *reasons*. Understanding or grasping such a propositional content is a kind of know-how. (*AR*, p. 165)

But this is not enough....

Representational content

Discursive practice, the giving and asking for reasons, however involves both inter*content* and inter*personal* relations. The claim is that the representational aspect of the propositional contents that play the inferential role of premise and conclusion should be understood in terms of the social or dialogical dimension of communicating reasons, of assessing the significance of reasons offered by others. (*AR*, p. 166)

The conceptual contents employed in monological reasoning, in which all the premises and conclusions are potential commitments of **one individual**, *are parasitic on and intelligible only in terms of the conceptual contents conferred by dialogical reasoning in which the issue of what follows from what essentially involves assessments from the different social perspectives of interlocutors with different background commitments. (MiE, p. 497)*

Attributing and undertaking

Difference of social perspectives $\longrightarrow$ **attributing** a normative status to another *vs* **undertaking** it oneself

Example

It is in these terms that the distinction between *de re* and *de dicto* ascribing of propositional attitudes can be made, for instance.

de re / de dicto

Example

The defense attorney believes a pathological liar is a trustworthy witness

The *de re* reading:

The defense attorney claims **of** a pathological liar that he is a trustworthy witness

attributed by the ascriber :	*that the witness is trustworthy*
undertaken by the ascriber :	*that the witness is a pathological liar*

Suppose B acknowledges commitment to $\phi(t)$, then A can make it explicit by:

B claims that $\phi(t)$

If in addition, A acknowledges commitment to the identity $t = t'$, then *whether or not A takes it that B would acknowledge that commitment*, A can also characterize the content of the commitment ascribed to B by saying:

B claims of t' *that* $\phi(it)$

attributed by the ascriber:	$\phi(t)$
undertaken by the ascriber :	$t = t'$

A converse situation?

attributed by the ascriber :	$t = t'$
undertaken by the ascriber :	$\phi(t)$

The patriotic freedom fighters liberated the village.
to which an opponent responds:
Those ”patriotic freedom fighters” massacred the entire population

Two oppositions

To summarize, the proof-theoretic conception of semantics, alone, misses something of the play of giving and asking for reasons, which characterizes the use of language as way toward rationality (linguistic rationalism). **It cannot take into account the interplay of commitments and entitlements**. Entitlement can be tested only by demands coming from an interlocutor. There are in fact two foundamental oppositions:

- commitment *vs* entitlement
- undertaken commitment *vs* attributed commitment

commitment *vs* entitlement

- a *commitment* is made by A among a set of possibilities offered by B, as *entitlements* to take it
- in return, A associates with her *commitment* a set (directory) of *entitlements* concerning the way B is authorized to react facing the commitment by A and so on...

Example

(1) π : *this plate is red*

The counter-proof π' is a sequence of tests on:

1. what we are talking about $\rightarrow$ *is this a plate?*
2. what we are saying about $\rightarrow$ *is it red?*

- the first part contributes to the building of a *singular object* (this plate in opposition to other objects)
- the second part contributes to the assertion properly speaking, that is the conditions of assertability, what entitles me and the commitments I take by asserting (1)

Proofs and counter-proofs

To pass π', π must consist in:

- taking a *substitutional* commitment
- taking an assertability commitment, specified by the kind of attribute (here the colour)

The game is between a locutor and a *scorekeeper*

The game, first step

$$\frac{\xi_1 \vdash, ..., \xi_j \vdash, ..., \xi_m \vdash}{\vdash \xi} I_i = \{1, ..., m\} \quad \frac{\vdash \xi_{I_1}, ..., \vdash \xi_{I_i}, ..., \vdash \xi_{I_p}}{\xi \vdash} \mathcal{N} = \{I_1, ..., I_i, ...I_p\}$$

The game, second step

$$\dfrac{\xi_1 \vdash, \ldots, \dfrac{\vdash \xi_{jJ_1}, \ldots, \vdash \xi_{jJ}, \ldots, \vdash \xi_{jJ_n}}{\xi_j \vdash} \{J_1, \ldots, J, \ldots, J_n\}, \ldots, \xi_m \vdash}{\vdash \xi} I_i = \{1, \ldots, m\}$$

$$\dfrac{\vdash \xi_{I_1}, \ldots, \dfrac{\xi_{j0} \vdash, \ldots, \xi_{jk} \vdash}{\vdash \xi_{I_i}} J = \{0, 1, \ldots, k\}, \ldots, \vdash \xi_{I_p}}{\xi \vdash} \mathcal{N} = \{I_1, \ldots, I_i, \ldots I_p\}$$

The game, followed

$$\dfrac{\xi_1 \vdash, \ldots, \quad \dfrac{\vdash \xi_{jJ_1}, \ldots, \quad \dfrac{\xi_{jc0} \vdash \ldots}{\vdash \xi_{jJ}}\{0\} \quad, \ldots, \vdash \xi_{jJ_n}}{\xi_j \vdash}\{J_1, \ldots, J, \ldots, J_n\} \quad, \ldots, \xi_m \vdash}{\vdash \xi} I_i = \{1, \ldots, m\}$$

$$\dfrac{\vdash \xi_{I_1}, \ldots, \quad \dfrac{\xi_{j0} \vdash, \ldots, \quad \dfrac{\dfrac{}{\vdash \xi_{jc0}}\dagger}{\xi_{jc} \vdash}\{\{0\}\} \quad, \ldots, \xi_{jk} \vdash}{\vdash \xi_{I_i}} J = \{0, 1, \ldots, c, \ldots, k\} \quad, \ldots, \vdash \xi_{I_p}}{\xi \vdash} \mathcal{N} = \{I_1, \ldots,$$

de re judgements

Peter claims of X_1 *that* $\phi(it_1)$

$$\dfrac{\dfrac{\textbf{Pierre dit de } X_1 \textbf{ que } \phi_1(it_1) \vdash}{\vdash \textbf{Pierre dit de } X_1 \textbf{ que } \phi_1(it_1), \ldots, \textbf{Pierre dit de } X_1 \textbf{ que } \phi_m(it_1)}\ \mathcal{N} = \{\phi_1, \ldots, \phi_m\} \qquad \textbf{Pierre dit de } X_1 \textbf{ que } \vdash \quad , \ldots, \textbf{Pierre dit de } X_n \textbf{ que } \vdash}{\vdash \xi}\ \{X_1, \ldots$$

- pure designs
- constant designs (addresses occupied by constant elements)
- mixed designs

The semantics of *to know*

(1) *Peter knows that p*

(2) *Peter believes that p*

The design for *to know*:

1. it has a constant part **Peter knowing that**, (with perhaps a variable part like **Peter knowing of [...] that**)
2. the argument expressing a commitment attributed to Peter consists in the conclusion of a sub-design of which we know it is a *proof*

Design for *to know*

in order (2) be satisfied, there must exist $\mathcal{D}_\alpha$, approuved by the audience, which can be transferred to the sub-design.

$$\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\dfrac{\downarrow [[\mathcal{D}_\alpha, \mathcal{F}ax_{\alpha,\phi(t_1)}]]}{\textbf{Pierre sait de } X_1 \textbf{ que } \phi_1(it_1) \vdash}}{\vdash \textbf{Pierre sait de } X_1 \textbf{ que } \phi_1(it_1)}}{\textbf{Pierre sait de } X_1 \textbf{ que } \vdash} \mathcal{N} = \{\phi_1, ..., \phi_m\}}{\vdash \xi} \quad , ..., \textbf{Pierre sait de } X_n \textbf{ que } \vdash \{X_1, ..$$

condition: $\mathcal{D}_\alpha$ is a proof of $\vdash \phi(X)$.