

Phenomena of Language and Phenomena of Physics

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In ordinary linguistic activity, such as describing what we see, we hardly notice that a language is being involved. We tend to be under the impression that language is universal, or totally self-referential, and cannot then see or observe it, at least not the way we see or observe physical objects.

Certain deeper questions, however, which arise not only from a linguistic outset but also from a physical end, enforce conceptualization of a full phenomenon of language (i.e. not of fragments of it like an easily seen grammar, etc). What then results is a wholistic, complementaristic conception of language, which encompasses particular species like genetic language, programming languages, formal languages, cerebral languages, and external communication languages.

Starting out from a wholistic end, we have obtained the following views of a linguistic complementarity, namely:

(I) as descriptiveness incompleteness: in no language can its interpretation process be completely described in the language itself,

(II) as a tension between describability and interpretability within a language;

(III) as degrees of partiality of self-reference (introspection) within a language: complete self-reference within a language is impossible;

(IV) as a principle of "non-detachability of language".

Starting out from a physical end, Finkelstein and Rössler have proposed an endo-exo-physical perspective. They consider Bohr's doctrine that there is no quantum universe but a partition separating a quantum part of the universe that is being determined, the endosystem, from the vaster part that is determining it, the exosystem. The idea is then (as I have understood) to extend the endosystem by certain relativistic schemes, thereby approaching a wholistic view (beginning to include phenomena of language?).

We have previously been able to relate the linguistic complementarity with Bohr's primary view of complementarity in quantum mechanics, namely as a tension between definability and observability. Now, the questions of if, and how, the endo-physical scheme can be compared with the views of the linguistic complementarity are considered in terms of a reducibility concept which allows reduction between complementaristically conceived entities.

An associated problem is whether information, in its full-fledged linguistic sense, can be reduced into a physical concept. To that end we suggest how information types are to be related with degrees of partiality of self-reference. We illuminate a recent question concerning algorithmic information theory and Gödel incompleteness.