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Konstantin Pavlov-Pinus, Institute of philosophy, Moscow, pavlov-koal@ya.ru

What will be this talk about? *(a broad context)*

- **What forces us to make Theories? What sort of intentions drives this?**

- **A1)** We seek for <u>better understanding</u> (or deeper comprehension)

- **A2)** <u>In-the-world-orientation</u>

- **A3)** We tend to <u>order things effectively</u>, therefore we need <u>good descriptions and definitions</u>

- **A4)** We look for methods <u>to predict things</u>

- **T1)** The necessity to share ideas. Our goals, our methods, our results <u>must be reproducible</u> (by us and by others). Our messages to the Scientific Society must be open to unlimited criticism (within certain rules of making critics).

- **What are the traditional ways of questioning about consciousness?**

Analytical philosophy tends primarily <u>to "explain"</u> consciousness

Phenomenology tends <u>to explicate and to describe</u> human experience

Hermeneutical methods are oriented to reveal certain aspects of human <u>understanding</u> in terms of <u>interpretation</u> processes.

Why do we need a broader context?

- We would like to estimate the horizon of (theoretically significant) questions that we can address consciousness "in principle"

- And to compare it with what has been done by tradition so far

- Is there any unasked questions left?

A question first! And then "the answer"

- All theories start from preliminary questioning!

1) Any theory is just a certain (a possible) answer to the initial question.

2) Not every interrogative sentence is a theoretically significant question!

3) New theories are sources for new questions. (Open ended horizon).

- Philosophical vs. scientific theories. In a first place, philosophy of consciousness analyzes the horizon of questions relevant to the subject. And in a second place it aims at analysis of already existing answers.

- Philosophy ≠ metaphysical speculations (particularly because the logic of questioning ≠ 'abstract constructionism').

- The key question: what do we REALLY want to know about the consciousness?

Fundamental theory of consciousness?

- FTC – how will it look like? (A few predictions about it's crucial features)

  FTC = philosophical theorizing + scientific research

- 1) FTC is a network of theories   (Ex: Category theory in math).

- 2) FTC has to take seriously the epistemic resources of theorizing agent. Theorizing agent is a crucial 'component' of the project, he/she/it is **not** an outside-of-the-theory-instance, TA is an active constituent of the theory. Particularly because **theorizing agent is a consciousness being**.

- 3) FTC heavily depends on hermeneutical theory of definition.

- 4) FTC is a theory of irreducibility of any one (significant) aspect of consciousness to the rest of its aspects

A network of Theories

- *Th = Th(Lang, Probl, Crit, Meth, EpiR)* where

Language (discourse)

Problem and/or Goal (increase in comprehension? objectivity? …)

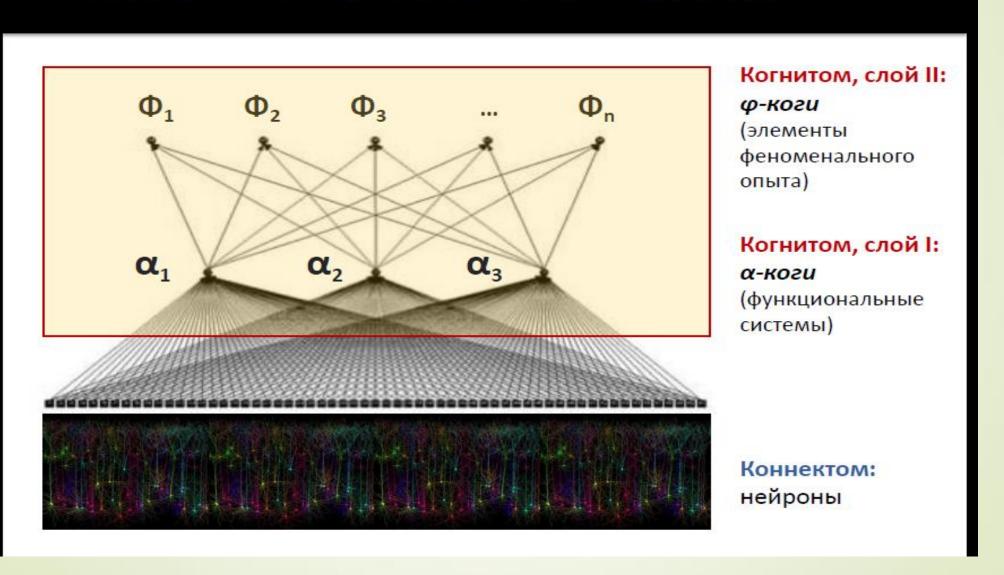Criteria (predictability? Description completeness? …)

Spectrum of Methods (constructability…)

Epistemic Resources of Theorizing Agent

- An example: Category Theory in math It is not just "a theory", it is both 'a theory' and a network of theories.
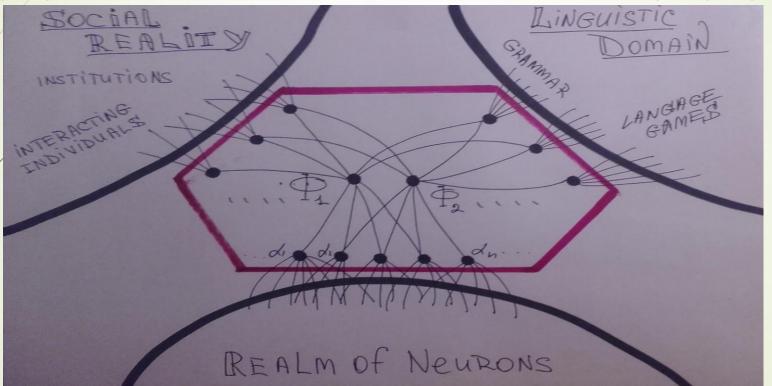
A broader picture

- Social reality ≠ Sum of individual behaviors (SR consists of itself).
- Language ≠ Mirror reflection of social reality or individual reality (Language constitutes itself).

How Conscious could be defined then if it is constituted by all this machinery? Is there any 'consciousness' on this picture, or traces of consciousness, at least?

Hermeneutical Definition (of Consciousness)

- Typical (explicit) definition: $Def(A) = F(D1, D2, D3, ...)$

Example: a point is an entity with no parts: $Def(point) = F(entity, part, negation)$

- Recursive (implicit) definition: $Def(A) = G(A, D1, D2, ...)$

Example 1: a vector is an element of 'space of vectors' (vector space).

Example 2: Explicit and implicit functions: $y = f(x, z)$

$$F(a) = G(a, b, c, F(a)....)$$

- Complete recursive definition (we have a zero-step explicit definition)

- Incomplete recursive definition (we do not have any 'explicitly describable' starting point)

NB: we are limited to a binary relation such as '=' here. But in general it's not the case:

- Ramified incomplete recursive definition = (formalization of) hermeneutical definition

Why 'ramified'?

- Consciousness is something (=X) that **can be coded** in <u>neurophysiological terms</u>, processed on the neuro-level and the results of this processing could be decoded back onto the level of <u>self-understanding consciousness</u>. Consciousness recognizes 'itself' in these results: **Def1(Con)=F1(Neur, Con)**

- <u>Consciousness is something (=X)</u> that **can be coded** in terms of <u>social interactions</u>, processed on the level of social interactions and the results could be decoded back onto the level of self-understanding consciousness. This is how *conscious* social interactions work: **Def2(Con)=F2(Net-of-Con)**

- Consciousness is something (=X) that **can be coded** in <u>linguistic terms</u>, processed on this level and the results of the processing could be decoded back on the level of self-understanding consciousness: **Def3(Con)=F3(Ling, Con)**

- <u>Consciousness is something (=X)</u> that **can be coded** in terms of the <u>content of its own flux</u>, processed on this level and the results of this would again be recognizable by self-understanding consciousness as <u>its own</u> 'content': **Def4(Con)=F4(Content, Memory,…)**

Types of theories (of consciousness)

- Classical theories

- 1) They are based on existing, explicit definitions.

- 2) Oriented onto 'explanation' of A in terms of D1, D2, … (or onto such ideas as 'justification', 'proof' …)

- Third person viewpoint

- NB:

- Explanation – as a very specific epistemic concept - is strongly related to "objectivism" and Cartesian viewpoint

- Hermeneutical theories

- 1) Not just 'based' on implicit (hermeneutical) definitions, but also aimed at revealing their deeper structure and even creation of new definitions

- 2) Not limited to 'explanation'… Use hermeneutical methods: recursive "circling", self-descripting procedures and mutual descriptions in social interactions

- 3) First person acts are the building blocks of FTC – their performative nature is the source of FTC-architecture changes, counterexamples, informational novelty, etc.

It's an internal paradox: FTC should be able to interpret its own counterexamples (just because consciousness is a source of all possible counterexamples).

More on types of theories…

- If we take a closer look at different theories **Th(L,Pr,Crit,Meth,Epir)** we will see there certain conflicts between different goals

- Between <u>explanatory</u> (or, say, descriptive) <u>powers</u> and <u>predictive powers</u>

- Between <u>objectivity</u> and <u>human comprehension abilities</u> (say, because a step by step verification is impossible; Ex. 4 colours)

- Th(a1,a2,a3,…) = (b1b2b3b4..) It is impossible to say what description of the world is more "ontologically sound".

- a's – math problem, b's - neuro

- a's – neuro, b's – social realities

- All this brings us back to the central question: what do we REALLY would like to know about consciousness?

- FTC is a network of Theories

Epistemic agent's resources

- Economy (F. Hayek) and sociology
- Cosmology (L. Smolin)
- Math
- Phenomenology (from E. Husserl to M. Heidegger)
- Figures of self-understanding relevant to FTC.
- Example: a consciousness of a researcher (say. Prof D. Denett) who believes that his consciousness can be completely explained in terms of something else than his consciousness itself.

Is it just one possible mode of self-understanding of a particular researcher or it is a universal feature of any individual consciousness?

Epistemic agent (case of Cosmology)

- **[L. Smolin, 1997, p. 269]** The concept of an observer outside of the world is based on an elementary contradiction, for then there is a second world, larger than the first, that encompasses both what we called the universe and its fictional observer. In a truly fundamental theory that aspired to describe the whole universe, it should not be possible to make such logical error.

- To avoid this, I believe that we should ask more of a cosmological quantum theory than that it simply allow the possibility of an interpretation in terms of observers inside the world. We should require that the theory **logically forbid the possibility** of an interpretation of cosmological theory in terms of an observer outside of the world.

- This means that a quantum theory of cosmology **cannot be achieved by simply extending the formalism of quantum mechanics** to the universe. Whatever other interpretation we give to it, that formalism will always allow an interpretation in terms of an observer outside of the system, *because that is what it was invented to do*. To make a quantum theory of cosmology, **we must invent** a mathematical formalism that would make no sense were it applied to any subsystem of the universe.

Case of Economy (F. Hayek's example)

Economical relations are characterized by mutual lack of transparency of the perspectives that agents of economic activities have. This means that a creation of economic theories developed from the perspective of the outside-of-the-economy (potentially omniscient) observer would not differ from the attempt to build up a winning strategy in a card game from the point of view of a being, able to peek into the cards distributed to all players.

Apparently, such a position contradicts the very idea of "a game", in particular the "economy game", which is based on the principle of competitiveness, underdeterminedness and uncertainty of the future. Hayek's example shows that there are certain unavoidable limitations to the spectrum of epistemic resources of the theorizing agent.

Case of math

- Descartes – Brower – …
- Constructivism
- (Ultra)intuitivism
- Step-by-step observable proofs + comprehendible as a whole
- (as opposed to computer proofs)
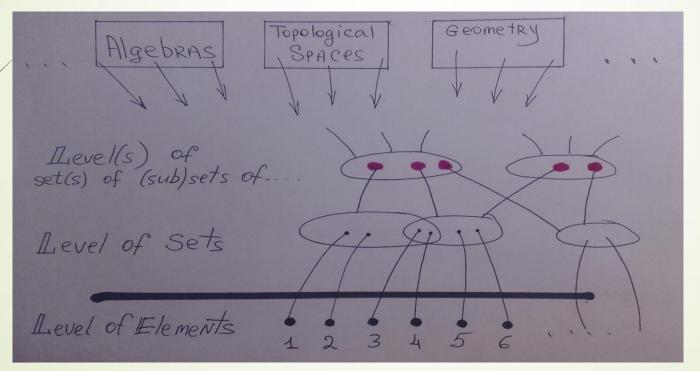
From Husserl to Heidegger

- What is the ontological status of Husserl's 'pure consciousness'?
- How its way-of-being could be described?
- Heidegger's answer:
- It has a form of **being-in-the-world**
- Its structure: the horizon of 'verweisung' (horizon of dispatches, indications)

NB:

1) this horizon has recursive and hermeneutical structure: our understanding is the way we be in the world, and this way of existence has a form of hermeneutics of the being.

2) The horizon is stepping away indefinitely
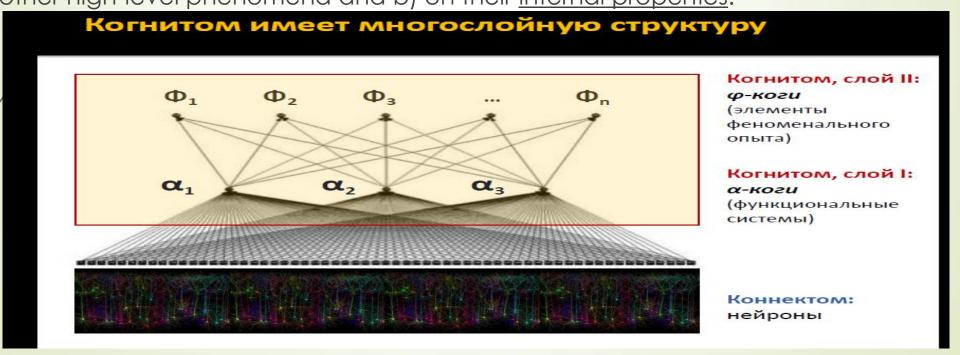
Autonomy of different levels (1)

- Math example: (Poincare H., Du rôle de l'intuition et de la logique en mathematics, 1902): Now only integer numbers and finite or infinite systems of integers remain in mathematics… Mathematics is completely arithmetized… We can say that an absolute strictness is achieved".

Autonomy of different levels (2)

By the same token: higher-level properties of consciousness (which **could be coded** in terms of **clusters of clusters of… neurons**) are not necessarily 'deducible' from lower level properties.

High-level phenomena depend on a) their own history of their interactions with the other high-level phenomena and b) on their internal properties.

Когнитом имеет многослойную структуру

Φ_1 Φ_2 Φ_3 … Φ_n

α_1 α_2 α_3

Когнитом, слой II:
φ-коги
(элементы феноменального опыта)

Когнитом, слой I:
α-коги
(функциональные системы)

Коннектом: нейроны

Autonomy of different levels (3)

- **To code A** in terms of **d1,d2,d3, ...** is not the same thing as **to reduce A** to the ontology described by **d1, d2, d3 ...**

- Why a higher-level entity **A** has a form of a **stable integrity (unity)**?

There are two possible sources of this stability:

1) Stability appears to be an integral effect of its elements

2) It holds due to autonomous reasons and it can't be 'extracted' from element-by-element properties.

- Math examples:

1) The limit of continuous functions is NOT necessarily continuous. Only if this construction <u>as a whole</u> behaves in a certain way the limit will be continuous. A pointwise convergence does not guarantee it.

2) The continuity itself is not a 'pointwise' property. Continuity consists of itself.

Summary (predictions about FTC)

- FTC = philosophical analyses of horizon of questions + scientific construction of answers

- FTC – is an open-ended Network of theories which differ in predictive powers, descriptive powers, explanatory powers, in criteria of theoretical success and in assumptions about epistemic resources of the "theorizing agent"

- FTC will heavily depend on everlasting hermeneutical process of defining consciousness (i.e. it will have implicitly recursive and explicitly ramified form).

- The latter means that "explanation" of consciousness is by far not the only method for Consciousness Studies. The nature of consciousness can not be exhausted in terms of explanation. Explanation of c can be limited to those aspects of c which could be grasped by "explicit definitions".

- Whenever we face irreducible aspects of Hermeneutical Definition of Consciousness (points of self-reference) we have to take into account such theoretical procedures as Self-description, mutual descriptions via social interactions, … phenomenological methods of analytical explication… and so forth.

More definitions

- Philosophy = philosophical logic = logic-generating process (logical design) that lies in the base of underlying ontological assumptions and semantic choices. These 'assumptions' and 'choices' heavily depend on The Question which initiates our theoretical research.