

PHILOSOPHIZING AD HOC – PROBLEMS WITH CONCEPTUAL APPARATUS

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Abstract: “Philosophizing” is naturally to be understood as a philosophical reflection including the nonprofessional philosophical reasoning and some general applied aspects of philosophy, conceived as substituting competence. The attention here is focused on a widespread type of philosophizing – the philosophizing ad hoc and the latter is taken in respect mainly to the field of scientific knowledge. Philosophizing ad hoc is a local (to a “target”) and partial (a “piece of philosophy” applies to a part of knowledge unit) application of philosophical ideas and philosophical reasoning to a fragment of knowledge and its subject, and in a sense it is the opposite of the professional and systemic philosophical reflection. In particular, the shortcomings of the conceptual “toolkit” of philosophizing ad hoc prove to be inherited by the conceptual apparatuses which are built in the process of philosophizing.

Key words: philosophizing, ad hoc, conceptual apparatus, substituting competence, philosophical culture

I. Introduction

The word “philosophizing” is preferred here because the notion of philosophical reflection is understood in a broad sense, admitting some types of nonprofessional practicing of philosophical reasoning (including by people unfamiliar with philosophy).¹ Some general applied aspects of philosophy², conceived as some kind of substituting competence³, are added too. Since this is too wide an area, I will confine myself to philosophizing in the field of scientific

¹ I. e., admitting nonprofessional philosophizing in a sense being, for example, somewhat similar to the understanding, typical for the movement of experimental philosophy.

² Recently it begins to be realized the idea that the philosophical competence, like any other competence, has its specific applied aspects and its characteristic points of application (see for instance [Petrov, 2015]).

³ As, for instance, it is put in the title of an article from the 70-s: “Inkompetenzkompensationskompetenz” (“competence compensating the incompetence”). [Marquard, 1974].

knowledge, without identifying it entirely with the philosophy of science. It is necessary to begin by outlining some of the most important circumstances and problems which determine the increasingly widespread practice of a type of philosophizing, which can be reasonably called “philosophizing ad hoc” and make the topic of such philosophizing ad hoc very actual. A significant part of these circumstances and problems are directly or indirectly related to the philosophical conceptual apparatus and to the metamorphoses of the conceptual apparatuses, functioning in scientific cognition.⁴

1. We live in a world, in which more and more people become engaged directly or indirectly in some kind of intellectual activity and a world, in which the technological dominant dictates the need of higher and higher education and increasingly higher culture of thinking. This also requires more and more philosophy to be mobilized for everyday use and for permanent solving problems that are in fact philosophical.

2. Nowadays the genre “philosophical system” and a systemic philosopher are endangered species. Philosophy faces many expectations from its social context, that do not comply with its essence, specificity, methods, criteria, etc., and that are recopied from other sciences. Trying to meet them philosophy becomes more and more narrowly specialized, “plotted out”, fragmented, and the non-systemic philosophizing ad hoc spreads more and more widely, pushing out the fundamental and systemic philosophical disciplines to the periphery of philosophical practice.

3. The accepted nowadays formal quantitative criteria for evaluation of scientific achievements predispose to such effects too, because they bring to the fore competitive doing science and doing science on a piece and ad hoc. They usually “show” the shortest way, practicing science, to achieve prestige, social success, fame, career and money – all these are results being visible and understandable for everyone. The problem here is that they are also motives for certain shifts in the choice of themes, problems, approaches, and, in general, directions in the scientific research.

4. The increase of the information flow gives rise to a peculiar “snowdrift effect”: constant covering the old content of the information flow by new content, which is quickly covered in turn before we are able to assimilate and understand it. Often it is easier to rediscover anew some idea than to trace its genesis and context in which it acquires its meaningfulness and significance. Constantly repeated cheap clichés cover, by virtue of the frequency, the serious scrupulous publications that few have patience to read. All this leads to increasing influence of attitudes suggesting preference for ad hoc solutions and stimulating the growth of ad-hocness.

II. What means “philosophizing ad hoc”?

Now I have to outline more precisely, what I mean when I say “philosophizing ad hoc”, since the term is not conventional. Firstly, of course, this is the literal meaning of “ad hoc” – “for this”. Philosophizing ad hoc is an application of philosophical reflection or a philosophical apparatus (philosophical knowledge, skills, views, intuitions, worldview concepts, reasoning patterns, philosophically

based guesswork and corresponding methodological constructions, etc.) to something – a thing, a property, a relation, a state, a phenomenon, a problem, a knowledge unit or fragment, etc. which is the “target” or the “point of application” of philosophizing. This understanding is not as trivial as it seems, because of two important things: 1) it means application, where local, or at least narrowly regional, characteristics predominate; 2) it is the neutral starting point for considering the philosophizing ad hoc. The second is important because, when it is said “philosophizing ad hoc”, an intuitive notion forms that contains additional meanings reflecting some epistemological experience, gained mainly during the last century. Besides its local and partial character (“for this”), the philosophizing ad hoc usually is associated with an essential moment of randomness and it is perceived intuitively as a kind of alternative to the systemic philosophical knowledge and reasoning. Also it is associated with dealing with philosophical notions suffering from a deficiency of systemic character in the cases, when we proceed with the “toolkit” of obviousness, common sense and immediate experience to answering questions and solving problems, that need philosophical interpretation, methodological instruments, non-obvious philosophical knowledge, and reliable philosophical competence. To all this, very strong and popular attitudes are added, that are inspired by the philosophy of science (mainly the philosophy of physics), where over the last half century the nature and the use of the ad hoc hypotheses become a subject of lively discussions (with the participation of a large number of philosophers, such as K. Popper, I. Lakatos, C. Hempel, P. Feyerabend, T. Bayes, J. Leplin, M. Strevens, G. Bamford, M. Forster, E. Sober, S. Scott, and many others). These arguments produce two important effects:

a) There occurs a tradition “ad hoc” to be perceived as a negative, even pejorative, characteristic, most often as an indication of shortcomings, or something like “a patch”, which corresponds very well with the widespread view that we use ad hoc assumptions when we want to “patch” the counterfactual “holes” of a theory, from which we do not want to give up.⁴

b) There exists a tendency, relevant to these attitudes inheriting those analyses and disputes: when considering ad hoc applications in cognition (in a broad sense – interpretations, guesswork etc.) the efforts nearly always “turn” towards searching (formal) instruments and criteria for the most accurate determining, what precisely is “ad hoc” and for making distinction between “ad hoc” and “non-ad-hoc”, considering the latter as a kind of guarantee of objectivity and truth (see [Scott, 2007]).

Pushing off from the intuition of “philosophizing ad hoc” and taking into account the aforesaid, I’ll try to outline what I put into this concept. It is clear

⁴ Here „conceptual apparatus” is understood not like K. Ajdukiewicz’s, for example, which represents a closed, compact and to some extent formalized system of notions and rules for their use. [Ajdukiewicz, 1978]. For the purposes of the considerations here, it is necessary the notion of a conceptual apparatus to be seen in a broader and more intuitive sense (concerning the basic concepts themselves, the rules for formation and transformation of expressions, and the correspondence operators between the conceptual apparatus and the object to which it refers).

why the characteristics show rather negative form: they mark relevant aspects of indefiniteness⁵ and deficiency of systemic character. Philosophizing ad hoc:

1. is a local application of philosophical means oriented to a concrete knowledge target and this may not necessarily be realized;
2. is not necessarily an application of explicitly defined philosophical apparatus;
3. is applied to a target which is not necessarily defined explicitly and accurately enough;
4. has a partial character in a double sense: a) a “piece of philosophy” (a philosophical fragment) is applied to b) a part of knowledge unit;
5. is characterized by a non-systemic moment also in a double sense: a) a philosophical fragment, more or less unattached to a systemic philosophical context, is applied to b) a target, which eventual belonging to a systemic knowledge module is rather ignored, regarding this act⁶;
6. is not necessarily a professional application of a professional philosophical apparatus;
7. is sometimes analogous to Hempel’s NOM hypotheses.⁶

III. Philosophizing ad hoc – neutral vs pejorative view

As it can be seen, this attempt to clarify the features of philosophizing ad hoc brings to the fore a variety of problems, related to the applied philosophical conceptual apparatus and to the conceptual context of the target of philosophizing ad hoc. Since the focus here is on the indeterminacy and the non-systemic character, the issues related to increasing and not increasing (empirical) content of the theories as knowledge modules, that are traditionally associated with ad-hocness criteria, are deliberately omitted. That is a) because I find the definer “empirical” too restrictive; philosophizing ad hoc is applicable not only to the category of natural science, and b) because the history of science provides enough examples, when philosophizing even in the genre (NOM) “ad hoc” have led to adding, or at least have stimulated producing, a lot of empirical or quasi-empirical content.⁷

So I believe that a relatively neutral view on philosophizing ad hoc is more adequate than the purely negative views. Of course, the philosophizing ad hoc tends to be problematic due to its very nature, but the proper position is to consider the relevant types of problems and the conditions under which they arise, instead

⁵ Which I am tended to view not only as a problematic characteristic, but also as a factor providing degrees of freedom for reasoning, in some cases.

⁶ Sometimes the analogy is striking. When Goodman and Quine face insurmountable difficulties with their constructive nominalism because of the refusal of any abstract objects, they begin to philosophize ad hoc assuming potential existing of series of symbols and accepting the ad hoc “hypothesis” that a white sheet of paper always contains a given series of symbols. This is a typical application of a philosophical fragment (the thesis of potential existence) to a part of a knowledge module (the series of symbols in the logical apparatus of constructive nominalism). [Goodman and Quine 1972].

⁷ The striking thing is that some ad hoc “hypotheses” like “No one shall drive us out of the paradise which Cantor has created for us” not only survive contrary to the time and sanity, but even are working. [Hilbert, 1983: 191].

directly reject it. The philosophizing ad hoc is not prohibited or necessarily wrong cognitive technique. It should not be forgotten that philosophizing ad hoc is a significant and often dominant aspect of an extremely rich category, comprising considerations, assumptions, techniques, approaches, methods etc., in which philosophical elements, functioning as “substituting competence”, are present explicitly or implicitly. This category is called “heuristics”. Yet situations constantly are encountered in scientific cognition, in which arises need of substituting competence and it is resorted to application of some philosophical means, mostly in the form of philosophizing ad hoc. This happens, for example, when within a given knowledge module there appear peculiarities (paradoxes, counterintuitive facts or results, unexpected logical twists and turns⁸), or problems (contradictions, counterfactual situations, incompatibilities, inconsistencies and other tensions), that are not amenable to routine explanation or solving within the module. When the problems are sufficiently serious and the peculiarities – eye-catching enough, this stimulates the interest in clarifying their nature, i. e., in philosophical interpretations of these phenomena, becoming as a rule, targets of philosophizing ad hoc. Philosophizing ad hoc is practically inevitable when in the foundations of a given scientific area arises a severe problem, inducing a crisis situation that tangibly hinders the routinely doing science, because of: 1) the perceived or realized uncertainty in understanding the substrate, structure and function of science as a whole, and 2) the doubts in reliability of the produced knowledge. Usually the scientists working in this field begin to look for a way out of crisis. After trying to solve the problem by their habitual means they turn to analyzing the essence of the crisis, philosophizing, as a rule within the local framework of the concrete problem (i. e. ad hoc), and as a rule, non-professionally. And only afterwards professional philosophers and a systemic philosophical apparatus may be attracted. For instance, the foundational programs in mathematics: logicism, formalism, intuitionism (and some others), are a product of philosophizing ad hoc with a preferred logical and mathematical methodological dominants (theory of types, constructivism, formal axiomatic) as targets. Meanwhile B. Russell⁹ and – absentia – I. Kant¹⁰ are included in solving the foundational problems arising from the set theoretic antinomies, and the systemic philosophical apparatus of universals is applied to the situation because of the transparent connection “set – universal”. The failure of the programs (and other schools and trends in the philosophy of mathematics) draws attention to a key issue: building a suitable conceptual apparatus through which to examine the crisis (peculiarity, problem) and creating heuristics, strategies, prescriptions, algorithms for overcoming the crises (explanation of paradoxes, solving problems); and to the question of adequate choice and alignment of the philosophical and non-philosophical conceptual components when synthesizing such an apparatus.

⁸ like Gödel's theorems

⁹ “Principia” and other works

¹⁰ see [Brouwer, 1964], [Zach et al., 2003]

IV. Philosophizing ad hoc – generating problematic conceptual apparatuses

The local characteristics together with the deficit of systemic character are factors of the risk that the conceptual apparatus made by philosophizing ad hoc, may be essentially eclectic. The same risk arises from the intuitive philosophizing ad hoc without clarity what philosophical prerequisites it is based on and whether they are consistent. For example, the conceptual apparatus of Leibniz's infinitesimals on which the early mathematical analysis was built, and which was not free from quite obvious contradictions, was an eclectic (ontological) combination of philosophical and mathematical ideas of finite and infinite objects. It was withheld more than a century after Leibniz, in a paradoxical quasi-consistent state by virtue of the instrumental skeleton of differential and integral calculi. The fact that the philosophizing ad hoc may lead to an eclectic conceptual product, means that the interpretations, assumptions, prescriptions obtained in this way, may turn out to be unfree of defects, such as discontinuity, incoherence, inconsistency etc., and the reasoning, conclusions and extrapolations may have an occasional character. Within an eclectic type of cognition context producing provenness and ensuring the (necessary) truth is very problematic. Eclectics threaten with lack of orientation, problems with concordance of the local and the global, etc. The partial character of philosophizing ad hoc, as a local application of a "piece" of philosophy to a part of knowledge module, means that it is not comprised the whole field of relevant objects and situations, and this carries risks: 1) of distortion of the perspective of vision for the actual state of the correspondence between the subject and reflection, and 2) of narrowing inadequately the horizon of validity, when there are claims and expectations for universal validity.

When it is observed a new, unknown and unexplained phenomenon being essentially different from the known ones (and perhaps belonging to a completely new category), the start point of studying it is to attract a kind of philosophical ideas as a substituting competence. This takes the form of proposing hypotheses having a significant philosophical content, which is oriented to the essence and basics of the observed subject. They are, for example, substrate (postulating the existence of elements and substances, such as Leibniz's infinitesimals and J. Becher's phlogiston), structural (postulating the presence of a certain structure, such as J. Thomson's "plum pudding" and E. Rutherford's "planetary" models of the atom¹¹), deterministic (making assumptions for the existence of causal, correlative, conditional, functional and other determinacies¹²) etc. In this initial period, it is natural that: 1) Phenomenon in question is concomitantly a subject of scientific study and of philosophical reflection. Both take part in building a conceptual apparatus, within the framework of which it has to be described and explained. 2) The philosophizing is going very close to the meta-scientific level, it is definitely oriented to the ad hoc model, and the presence of systemic

¹¹ The structural models of "a cloud" and "a clock" (see [Popper, 1973], suggesting respective methodological consequences.

¹² Or for "the end of determinism" (I. Prigogine et al.)

philosophy is very weak – as a rule, it is in the form of ad hoc attempts to modify and adapt existing popular philosophical conceptions, e. g. atomism.¹³ 3) The essence of the subject which becomes a target of philosophizing is not clear and it is determined by metaphors, analogies, figurative descriptions (as an unconscious and very much mediated application of the universal interrelationship principle, understood as existence of eventual relations and similarities on which it is possible to build research strategies). It is not a surprise that the indefiniteness of the target of philosophizing ad hoc becomes a source of misunderstandings and confusions. And it is not such a rarity the situation, when in the process of further scientific research (and parallel philosophizing) it comes out that the real target has been actually something quite different, and the obtained knowledge ultimately refers to a quite different category of objects and phenomena. It appears that the contensively¹⁴ determined target of the philosophizing and study has functioned rather in a formal manner. By the way, the opposite principal possibility for replacing, in a given conceptual apparatus, a real (or hypothetical) but undefined target of reflection by a formally defined fiction, is in the base of D. Hilbert's method of ideal elements and successful use of theoretical constructs.

Unfortunately, the risks generated by the more and more aggressive philosophizing ad hoc have an unpleasant tendency to get implemented, giving raise to all those types of problems I have sketched briefly above, and to many others. For example, on the forefront of science where permanently new scientific units appear and new ideas get conceptualized, the permanent philosophizing ad hoc is inevitable. I am afraid that anyone hardly can tell, what amount of conceptual products is generated, and what part of them is problematic in the considered sense. In that context, outlined above problems arising from the philosophizing ad hoc tend to be inherited worrying easily by the resulting conceptual apparatuses. The most common are problems of different forms of insufficiency. For example: A) Internal problems of a conceptual apparatus. Al) Substrate problems. They are generated by the insufficiently clear, adequate and unambiguous definitions of basic notions. This sometimes leads to substantial differences in the interpretation and use of one and the same terminology. It is typical for the humanitarian branch of scientific knowledge but even in sciences like logic, the efforts to determine precisely the basis of a conceptual apparatus result in phenomena, such as logical pluralism.¹⁵ This kind of problems is particularly prevalent in conceptual apparatuses based

¹³ Or, for example, a version of the standard ad hoc “hypothesis” of the natural philosophy: the assuming that a given scientific result Y is a direct consequence of some philosophical premises X .

¹⁴ The term “contensive” is derived from „content” and is in use in logic and philosophy of mathematics as the opposite of “formal” (see for example [Curry, 1977: 14]).

¹⁵ E. g., when the semantics of possible worlds began to show some limitations of its validity, it appeared a series of new interpretative contexts: D. Lewis and Stalnaker's “nearby possible worlds”, “impossible worlds”, Barwise and Perry's “situational” semantics, Scott-Montague's “neighborhood” semantics, Hintikka's “states of affairs”, Austin's “events”, Seligman's “infons”, Fillmore's “frames”, etc. Their names bear in themselves the imprint of philosophizing ad hoc, as well as the fact that the fuzzier notions are preferred to the concept of possible world.

on polygenetic and hybrid ontologies (e. g. in interdisciplinary fields), and is inevitable in the philosophy of science¹⁶, where the reflection is running on at least two levels with effects of structural transcendencies occurring in between. A2) Structural problems. They due mainly to insufficient consistency, because of A1), of the methodological part of the conceptual apparatus where there may be different forms of factual and logical tensions: paradoxes, incommensurabilities, counterfactuals, even incompatibilities and contradictions. This again is manifested the most in the conceptual apparatuses based on polygenetic and hybrid ontologies¹⁷, mainly in the interdisciplinary areas of scientific knowledge where the unification of logical apparatuses faces difficulties. A3) Functional problems. Usually they are meta-problems like narrowing the limits of validity because of substrate and structural problems, or a kind of functional deficiency, consisting in the fact that the system of notions is essentially incomplete and insufficient for satisfactory description, explanation, and prediction of the nature and behavior of the studied target. B) External problems. These are, in brief, problems related to the integration of a given conceptual apparatus and the corresponding knowledge module into the conceptual system of scientific knowledge and its worldview background as a whole. They are substrate (e. g. factual), structural (e. g. logical), and functional (e. g. related to applicability in other fields) tensions, incommensurabilities, paradoxes, and contradictions, arising from the insufficient compatibility between the given apparatus and the conceptual apparatuses of the relatively nearby or the broader regions of knowledge.¹⁸ These, in particular, are also problems of concordance with the worldview background of science and with the professional intuition, which do not deserve to be neglected.

V. Conclusion

The topic of problematic conceptual apparatuses in science generated by the philosophizing ad hoc cannot be exhausted by a single article and I have no such claims. So I prefer to stop here and reflect a little on the prospects of development of the outlined picture. It is clear that philosophizing ad hoc will continue to grow and give rise to problems, such as the sketched here and great many others. Which, leaving aside for a moment the generation of problems like the considered above, is not necessarily a bad thing, because it means that increasing number of people will take part in increasing philosophizing. The problems, however are too real and serious to be set aside for long and, therefore, it makes sense to take a look at possible alternatives of the philosophizing ad hoc. The first alternative is the

¹⁶ E. g. that is the case with the philosophy of mathematics, where it is so difficult to make coherent by content even the same terms of the two fields (such as “space”, “identity”, “function”, “system”, and many others), that its disciplinary status itself happens to be challenged.

¹⁷ E. g. in medicine and pharmacy, which bivalent character (due to their cognitive and social roots) is a cause of methodological collisions between their biological, social and economic dominants.

¹⁸ E. g. the conceptual apparatuses of the category of alternative medicine usually suffer from such kind of problems.

methodological model of “slavish”¹⁹ following the successful patterns of reasoning in all details. Such an approach has its respectable grounds – it borders on the implementation of algorithms and following instructions. The well-known case of the “successful failure” of the mission “Apollo 13” shows how important it is sometimes the exact following the instructions in every detail. A chain of events, beginning and being caused by a forgotten, not removed bolt, leads to an explosion in one of the oxygen tanks during the flight, and to failure of the mission, which is called “successful” only because of the safe return of the astronauts. Unfortunately, the approach of “slavish” following the successful patterns and good practices is obviously inapplicable in unfamiliar conditions and to unexpected and non-standard situations. The other alternative is the fundamental method of trial and error which is a universal way to find solutions and to gain practical experience. However, this approach also has shortcomings – it is, as a rule, “overloaded” with randomness and is somewhat opposite in meaning to heuristics when an optimization of the search for solution is needed.

In fact, there is another, more specific alternative to the problematic philosophizing ad hoc. This is the less problematic philosophizing ad hoc, taken in the neutral sense of “ad hoc”. It occurs when in the philosophizing ad hoc a factor intervenes which is capable to reduce the negative consequences. Such a factor is the philosophical culture, because the quality of the results of philosophizing ad hoc is directly dependent on the level of philosophical culture of reasoning. As a non-elementary entity, the philosophical culture is a complex structure of components, relations and aspects which are in one respect or another relevant to philosophy as science and profession. Its level depends in a high degree on the kind, state and the social influence of the system of research and education institutional forms. It contains as basic components an array of expert knowledge, a “toolkit” of methodological skills and a conglomeration of worldview notions, norms, values, attitudes, models etc. The higher the level of philosophical culture, the more coherent and actively interacting are these components. A high level of philosophical culture means more systemic and consistent philosophical knowledge, and less eclectics as well. Hence, the obvious conclusion is that, if a society has the intention to progress, it is interested to raise the philosophical culture of its members²⁰, including people non-familiar with philosophy and science in general. Because in its development it needs advanced projects and winning strategies²¹, including in the sphere of science – and they are to a large extent a function of the quality of the philosophy embedded in their basis.

¹⁹ The expression is K. Lorenz’s from his book “Behind the Mirror”. [Lorenz, 1998: 111].

²⁰ This requires at least two things: 1. Improvement of the philosophical education as volume, quality and scope. 2. Improving the image of philosophy in society. Nowadays, unfortunately, attitudes are widespread of the type: “philosophy is unnecessary, philosophers deal with nonsense being useless freeloaders of the state”; some even flaunt their low level of philosophical culture. But only about a century ago H. Poincaré relied on the indisputable in his time authority of philosophy to justify in an accessible manner the very right of pure mathematics to exist. [Poincaré, 1913: 280].

²¹ Of course, a society in regress does not need development strategies and winning social projects, it needs only excuses.

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