

Guest Editor: Pavol Labuda

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*From the early history of philosophy there exist conflicting sets of philosophical doctrines – realism and antirealism. Each of these is not a single thesis but rather a diverse family of positions. Realism typically insists on the independence of an item  $X$  from our conceptual apparatus, language or scientific theories, whereas antirealism affirms  $X$ 's dependence. These conflicting positions had been discussed in many of the areas of philosophy (e.g. metaphysics, ethics, philosophy of mathematics, etc.) and they persist in philosophy hitherto. Knowing the history of philosophical thought, one can even think that the dispute cannot be resolved. It has been occasionally asserted that the realism/antirealism dispute is a kind of Kantian antinomy with the consequence that being a realist or an antirealist can be therefore seen more as a matter of decision (not of solvability). The question of the nature and plausibility of realism/anti-realism is so controversial that no brief account of it will satisfy all those with a stake in the debates between realists and antirealists (see Miller 2012).*

*This special issue (there are three articles, two discussion papers and one review) intends to offer several insights into the selected domains of realism/antirealism debate. All these texts are the outputs of the grant project On What There Is: Varieties of Realism (2011-2014) which takes place at the Catholic University in Ružomberok (Slovakia).*

*Ladislav Koreň's paper on underdetermination, scepticism and realism articulates and compares the structure, presuppositions and implications of two famous sceptical arguments to elucidate whether a possibly appealing diagnosis of one case can successfully carry over to the other. In his paper, Ján Hrkút explores the role which aspectualism plays in answering the question – what the aesthetic judgments are related to? Standard answers embrace either realistic or antirealistic standpoint. But what is the role of aspectualism? The third article of this special issue deals with Ladislav Kvasz's version of instrumental realism. It aims to show that Kvasz's version fails in elucidating the ontological status of instruments. Moreover, the first of two discussion papers investigates the way how Kvasz's instrumental realism provides justification for belief in realism about mathematical entities and whether this way of justification is sufficient for instrumental realism to be considered a form of realism. In the second discussion paper, in response to Lukáš Bielík's views, Eugen Zelenák develops what he believes to be a more adequate reading of Goodman's new riddle of induction. Finally, the review essay analyzes Peter Icke's book on Frank Ankersmit, whose theory of history contains both antirealistic (narrativist) and more realistic threads.*

*I would like to express my gratitude to those who contributed to the preparation of this special issue. First of all, I would like to thank Marián Zoubar, Lukáš Bielik and all anonymous referees for the excellent work they have done in the editorial process of this issue. I would also like to thank the authors for their admirable contribution in elucidating some aspects and in answering some fundamental questions of the realism/antirealism debate. Last, I would like to express the immense gratitude to the John Templeton Foundation for all its generous support.*

*I hope that that this issue of *Organon F* will address an academic readership that is open to how the notion of realism/antirealism is approached in diverse disciplines of philosophy.*

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# Underdetermination, Scepticism and Realism<sup>1</sup>

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**ABSTRACT:** This study aims to articulate and compare the structure, presuppositions and implications of two paradigmatic sceptical arguments, i.e. arguments from underdetermination of scientific theories by observational data (*UA*) and Cartesian-style arguments (*CA*) invoking sceptical scenarios of severe cognitive dislocation. Although salient analogies between them may prompt one to think that a unified diagnosis of what is amiss with them is called for, it will be argued that this may be a false hope, if those analogies do not underwrite a complete homology. That said, possible parallels of one promising anti-sceptical exposure of *CA* are pointed out for the case of *UA*, which conspire together to render the problem of underdetermination less threatening than it could at first appear.

**KEYWORDS:** Evidence – realism – scepticism – underdetermination.

A venerable tradition portrays science as aiming at explaining observable patterns through deeper causal mechanisms that, for all their hiddenness, are “really out there” in the natural world. Scientists, striving to “cut nature at its joints,” work hard to amass data via observation or controlled experiments to make it likely that their theories give increasingly more accurate and comprehensive accounts of the ready-made world out there, including, prominently, its hidden joints. What is more, a modest epistemological op-

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<sup>1</sup> Work on this study was supported by the grant GA ČR, *Jistoty a skeptický problém*, n. P401/12/P599.

timism seems warranted. At least with our mature and impressively successful scientific theories, evidence accumulated over time warrants belief in at least their approximate and partial truth.

This familiar picture of scientific theorizing has come to be called *scientific realism* (henceforth: *SR*). Despite its initial attractions, it has mobilized many able philosophical opponents, as the ongoing controversy over *SR* vividly testifies. Among many objections that have been raised against it, *underdetermination-style arguments* (*UA*) stand out as advancing a particularly serious challenge to its epistemological optimism, on the ground that observational data – no matter how massive – might be equally accommodated by empirically equivalent theories that make incompatible claims about hidden contents and structure of the natural world.<sup>2</sup> In this respect, as many thinkers have noted, there are salient analogies between *UA* and the classical *Cartesian-style sceptical arguments* (*CA*). The latter threaten to undermine even our most common-sense claims to knowledge of the world around us, on the ground that the whole of our experiential evidence – past, present or future – can be accounted for by experientially equivalent hypotheses of severe cognitive dislocation<sup>3</sup> that make incompatible claims about the contents of the outside world (and, in particular, about the causal origin of our sensory experience).

Both *UA* and *CA* aim to establish a radical sceptical thesis on the basis of *prima facie* appealing premises. They have accordingly provoked several attempts to diagnose what is amiss with them but none has commanded wider acceptance. However, I believe it worthwhile to explore in some depth and detail the possibility that suggests itself here, namely, that aforementioned analogies between *UA* and *CA* invite analogous or even structurally unified anti-sceptical diagnoses. To prepare the ground for this issue, I first situate *UA* in its proper dialectical context, explaining its motivation, structure and possible ramifications for the controversy over *SR*. Having reconstructed *CA* as an underdetermination problem of a sort, I then compare both puzzles highlighting their analogies as well as their specifics. On this basis I sketch an anti-sceptical exposure of *CA* that I find promising, but which, owing to the specifics of *UA*, does not straightforwardly carry over to it. This, I argue, should come as no great surprise, because analogies be-

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<sup>2</sup> More precisely, this applies to so-called strong underdetermination arguments, according to the distinctions to be introduced in Section 1.2.

<sup>3</sup> To use an apt term coined by Wright (2002), (2004).

tween *UA* and *CA* do not amount to full homology. That said, I also try to show that instructive parallels of that exposure tactics can be discerned in the case of *UA*, which might conspire together to render the problem of underdetermination less threatening than it could at first appear.

## 1. Underdetermination problem and the controversy over *SR*

### 1.1. Sources

The relevant history of *UA* is usually traced back to Pierre Duhem's path-breaking critique of the hypothetico-deductive model of confirmation of scientific hypotheses.<sup>4</sup> According to this model, once a hypothesis *H* is proposed, one may go on to confirm or falsify it by checking its observational consequences concerning occurrence of phenomena under specified circumstances. If a phenomenon does not occur as predicted by *H*, *H* should be taken as falsified, hence rejected and replaced by another hypothesis. If, on the other hand, phenomena occur as *H* predicts, *H* gets (increasingly) confirmed.

But things do not quite work this simple way – or so Duhem argued. First, scientific hypotheses have observational implications only within a larger theoretical context or system – if conjoined with auxiliary hypotheses and background assumptions about initial conditions, experimental setting, instruments, etc. Let us call this enlarged system *H+A*, *A* incorporating whatever relevant auxiliary hypotheses or background assumptions. Second, Duhem pointed out that observational consequences do not – by themselves or together with logical principles – determine confirmation or falsification of the hypothesis *H*. Thus a false observational consequence does not automatically falsify *H*, because it is derived from *H+A* so that what it shows is at most that *H* is false or *A* is false. Accordingly, we may save the data by keeping *H* and making appropriate revisions within *A*, or the other way round. Still, data plus logic alone do not dictate what to do. Second, even if we assume that all so far checked observational consequences of *H* are true, this does not confirm *H* as likely to be true, as there is always a rival hypothesis *H\** that, conjoined with its own *A\**, accommo-

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<sup>4</sup> See Duhem (1914/1954). Also Poincaré's (1905/1952) famous considerations about alternative, yet empirically equivalent physical geometries of space-time are often quoted as an important milestone.

dates all the data equally well, but makes incompatible claims about the underlying reality. So data plus logic alone do not dictate a choice of  $H$  over  $H^*$ .

Summing up, Duhem's holistic thesis says that larger theoretical systems, not single hypotheses, are subject to empirical test. Its corollary then seems to be that observational data together with logic are not enough to determine (a) what item is falsified vis-à-vis recalcitrant data and (b) which of two rival but empirically equivalent theoretical systems is more likely to be true, hence worthy of choice.

A few decades later, Quine contributed by two generalizations of Duhem's claims. First, in his assault on empiricism he argued that the system (theory) to be tested against sensory experience is a whole web of inter-linked beliefs including also logical and mathematical claims, so that they too are eventually up for revision if the system faces recalcitrant data (cf. Quine 1951). Second, whereas Duhem had in mind empirical equivalence – hence underdetermination – relative to all available data (already checked observational consequences), Quine radicalized  $UA$  to mean underdetermination of whole (perhaps even comprehensive) physical theories relative to the totality of all possible data. Importantly, the strong version of  $UA$  excludes the possibility that future observations could eventually distinguish  $H$  and  $H^*$ .<sup>5</sup>

It is arguably easier to come up with historical examples of the weak underdetermination. One notorious example put forward by Duhem himself is the transient empirical equivalence of the Ptolemaic and the Copernican system: both were able to accommodate all observed astronomical data at the time of appearance of *De Revolutionibus*. Hence, at the time, available empirical data did not support one system over the other as more likely to be true. We shall have an occasion to see that the situation is more delicate with the strong underdetermination, there being fewer genuinely interesting examples of alternative theories that are both incompatible and empirically

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<sup>5</sup> Okasha (2002) argues that the strong version of  $UA$  is hard to reconcile with Quine's own holism: either a theory  $T$  is incomplete/local and then it is always possible that future evidence will distinguish it from currently equivalent rival theories (thus we have at most the weaker Duhemian version of  $UA$ ); or the argument has to be formulated at the level of global (complete) theories – but then we do not quite know what it would be like to have such a theory. See also Hofer – Rosenberg (1994) who distinguish local and global theories and, accordingly, local and global underdetermination, holding that only the latter is a potential threat.



equivalent relative to all possible data. Let it be said that the clash of rival accounts of quantum mechanics – viz. Copenhagen interpretation versus Bohmian interpretation in terms of hidden parameters – is often cited as a particularly up-to-date example of the strong underdetermination. Also Poincaré-style examples of rival space-time cosmologies based on different geometries seem to supply instructive examples – viz. a space-time theory based on the classical Euclidean geometry and a space-time theory based on the non-classical Riemannian geometry.<sup>6</sup> The idea behind is that all possible predictions about trajectories of physical objects made by one theory can be mimicked by the other: thus, curved trajectories of objects predicted by the space-time theory based on the Riemannian geometry can be mimicked by the space-time theory based on Euclidean geometry if we introduce into the latter theory extra-forces acting on objects as well as rulers. The two alternative theories seem equally underdetermined by all possible data.

### 1.2. *The role of UA in the controversy over SR*

It is the strong version of *UA* that will concern me in what follows. For one thing, it seems to be potentially more devastating. For another, it is structurally analogous to the Cartesian-style sceptical argument with which it will be compared in due course.

To reconstruct *UA* in its strong form, a few distinctions are in order.<sup>7</sup>

*C belongs to the testable basis of a theory T* iff *C* is a claim about phenomena and *T* allows us to infer *C*.

*T* and *T\** are empirically equivalent theories iff they have exactly the same testable basis.

*T* and *T\** are rival empirically equivalent theories iff they are empirically equivalent theories that make incompatible claims about unobservable items.

*T* and *T\** are evidentially indistinguishable theories iff they are equally well supported with respect to all possible evidence so that any possible ob-

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<sup>6</sup> See Poincaré (1905/1952). Reichenbach (1958) formulates a famous generalization of this procedure.

<sup>7</sup> There is already an extensive literature on underdetermination arguments and their relation to the issue of *SR*. For different perspectives on it, I refer the reader to Laudan – Leplin (1991), Earman (1993), Hofer – Rosenberg (1994), Psillos (1999), Stanford (2001), Devitt (2002), Okasha (2002), Norton (2008).

ervation that contributes to confirming (or disconfirming) one (to a given extent) confirms (or disconfirms) equally well the other (to the same extent).

With this terminology in place, it is easy to formulate *UA* as involving the following steps:

1. For any scientific theory *T* there is an alternative theory *T\** such that the two are rival empirically equivalent theories.
2. Empirically equivalent theories are evidentially indistinguishable.
3. So no possibly relevant evidence supports *T* as more likely to be true than *T\**.
4. So no possibly relevant evidence justifies one in holding *T* to be more likely to be true than not.
5. So one is never justified in holding *T* to be more likely to be true than not.

Simple and abstract as *UA* is, its ramifications for *SR* are potentially far-reaching. To appreciate this, we should note that *SR*, as commonly conceived, involves a mixture of essential ingredients backing up the claim that scientific theories aim to provide approximately true descriptions of the objective sort that are apt to be warranted by empirical evidence:

*Semantic commitment:* Sentences comprising theories – including those apparently about unobservable items – are to be taken semantically at face value, that is, as purporting to refer to and describe what they *prima facie* appear to refer to and describe (truly or falsely).

*Ontological commitment:* There is some stuff out there for them to be approximately true descriptions of – including entities, structures, etc. underlying phenomena and their regularities.

*Independence commitment:* That stuff *is what it is* quite independently of any linguistic, conceptual or epistemic means that can be employed in positing, classifying, describing or confirming them.

*Epistemological commitment:* Empirical evidence can place us in a favourable position to hold (at least our best current) scientific theories to be (at least nearly and partially) true descriptions of the world – in both its observable and non-observable parts.

What *UA* urges on us is that on a realistic construal of a scientific theory *T* – as concerned with a largely unobservable and ready-made world out there – there is a gap between the two that cannot be bridged by empirical evidence, however varied and massive. Clearly, observational data do not entail theories, there being always room for alternative theories equally accommodating all the data in terms of incompatible claims about hidden structures. But, if *UA* goes through, the data do not determine scientific theories inductively either – by lending them at least a reasonable degree of support – since (a) empirically equivalent theories *T* and *T\** are held to be evidentially indistinguishable but (b), being incompatible, only one of them can hope to be true to the facts.. Thus, if *SR* with all its essential ingredients holds, then, epistemically speaking, the hidden natural world out there seems once and for all lost!

*UA*, I submit, can be seen as an improvement upon more traditional and controversial arguments informed by the positivist stricture to the effect that what transcends experience/observation is beyond the province of knowledge: i.e. to claim anything about unobservable items is to outstrip the bounds of evidence that only licenses warranted claims about the world out there. In response to arguments of this calibre, friends of *SR* would do well to challenge the positivist stricture behind them – *only what is observable or reducible to observable is knowable*. Even if it is granted that scientific hypotheses and theories are evidentially controlled by the data of observation and experiment, this reasonably looking empiricist regulative does not entail the positivist stricture. For why, realists ask, shouldn't theories positing unobservable items be liable to empirical test indirectly, that is, via what they (together with auxiliary hypotheses and background assumptions) imply about phenomena? Why, then, shouldn't we regard the fact that some theories fare excellently in predicting and explaining phenomena – indeed, much better than alternative theories – as giving considerable, if indirect, empirical support also to their claims about unobservable items?<sup>8</sup>

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<sup>8</sup> The “No miracle” argument – sometimes dubbed *the master argument for SR* – makes this point dramatically: wouldn't it be a most remarkable coincidence – indeed, a mystery – if our best current theories, successfully predicting and explaining regularities of phenomena in terms of hidden structures/mechanisms, were not onto something as regards the hidden nature of the world? See Putnam (1978) and Boyd (1983) for influential defences of the claim that only *SR* does not make the apparent success of science one big mystery left without any explanation.

So, without a more powerful line of argument against the possibility of warranted claims about unobservables, realists may feel relatively safe. Yet, *UA* promises to give its opponents precisely such a principled argument, because it directly challenges the crux of *SR* – the claim that (our mature and impressively) successful scientific theories are likely to be true (nearly and partially).

Although *UA* directly attacks the epistemological commitment of *SR*, it could be used in drawing significant metaphysical or semantic conclusions. Indeed, scientific scepticism wholeheartedly embracing its negative conclusion has been a rare reaction to *UA*.<sup>9</sup> Thus, constructivists, projectivists or internal realists would argue that realities must be theory-dependent after all. Differences aside, their goal is to close the gap between theories and reality by evidentially constraining truth-conditions or urging some form of conceptual or epistemic dependence of realities on theoretical frameworks employed to capture them.<sup>10</sup> Others would contend that sentences apparently about unobservables should not be interpreted literally but, as instrumentalists would have us say, as computational means (perhaps useful fictions) in the service of correlating phenomena (input-data with output-predictions). Either way, the problem of underdetermination can be mitigated, though on pain of incurring theoretical commitments which are far from unproblematic.

There are other “non-realist” strategies, to be sure. Since this study is not primarily concerned to review them, suffice it to say, for this moment, that the friends of *SR* have several lines of response available to them to

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<sup>9</sup> A notable exception, however, is Van Fraassen’s *constructive empiricism* (1980) to which I shall shortly return later.

<sup>10</sup> Here we may assign Kuhn’s (1962/1996) *paradigm-style* account of the structure of scientific theory change with its corollary of conceptual incommensurability of scientific frameworks employing different classificatory and epistemic styles (based on different *exemplars* establishing the range of problems to be solved and the methods of solving them). On this view, realities of concern to scientists are always immanent to scientific frameworks – different frameworks coping with different realities. Though in many respects very different, Putnam’s *internal realism* (1981) may also be reckoned here. Positions of this sort need not deny that scientific theories are concerned with observable as well as unobservable aspects of the world and that they aim to give us, in a way, accurate accounts of both. What they in different ways question is theory-independence of realities studied by science, unconditioned by conceptual and epistemic means that constitute theories or theoretical frameworks.

show that, while the embarrassing conclusion of *UA* compromises some of its premises, it does not reduce *SR* to absurdity, if *SR* does not license the culprit premises. I will mention some of those responses later, after having compared *UA* with *CA*. But let me now turn to the classical Cartesian-style sceptical argument and its subversive potential.

## 2. *CA* as an underdetermination argument

It is well known – even well worn – that Descartes bequeathed to us a sceptical problem,<sup>11</sup> whose ghost is still with us today, in spite of the fact that he thought to have disposed of it. In its restricted form, targeting only empirical claims about the world out there, the issue arises if we take it that at least some of our best common-sense or scientific claims – e.g. claims about medium-sized objects observable by unaided senses under optimal conditions – are certain or at least likely to be true. However, the fact that we confidently take the world to be a certain way does not yet guarantee that the world really is that way. So what basis, if any, can we have for placing such confidence in our most cherished empirical claims? Sensory experience we take ourselves to have made with the outside world seems to be, *prima facie* at least, the most plausible candidate. However, if experience consists of a stream of appearances – internal phenomena – that might just as well occur when we are being subject to a severe cognitive dislocation (e.g. devious delusion or compact dream), it does not seem to lend a reasonable degree of support to our empirical claims – still less an assurance that the world out there is, by and large, the way we take it to be. As Descartes pointed out, apparently far-fetched claims about the contents and structure of the world can accommodate the totality of given appearances – even the totality of all past, present and future appearances – which are nevertheless incompatible with the claims that we take to be true.

It suggests itself to reconstruct *CA* as a radical underdetermination problem: underdetermination of empirical claims, including all claims about observable items, by the data of experience-based evidence, no matter how varied and massive. And here is a simple receipt to this effect. First, take your best common-sense and scientific claims about the world – including those about the aetiology of your sensory experiences – as belonging to an

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<sup>11</sup> For an original statement of the problem see Descartes (1640/1996).

empirical theory/system  $B$  that depends for its support, if any, on the data of experience-based evidence  $E$ . Then confront  $B$  with whatever sceptical theory  $S$  that is specifically devised to fit all experience-based data that you might ever have while making incompatible claims about the world (if only because it makes incompatible claims about the causal origin of experiential data). Descartes' *Evil Demon Hypothesis* might serve the purpose, as well as the more up-to-date *Brain-in-Vat Hypothesis*. Finally, ask if you have a sufficient evidential basis to favour  $B$  over  $S$ .

Now, the would-be sceptic expects the answer to be in the negative and he has a simple argument at hand.  $E$ , recall, is supposed to consist of all internal phenomena – items of the sort *It appears to me as if  $p$*  or *I am appeared to as if  $p$*  – that might evidentially bear on  $B$ .<sup>12</sup> We then choose as  $S$  some suitable sceptical hypothesis (theory) that allows us to expect all phenomena belonging to  $E$  – in fact,  $S$  typically provides an alternative account of their aetiology – but is incompatible with  $B$  regarding many external phenomena (including, prominently, the causal origin of internal phenomena).  $CA$ -style underdetermination argument is then simple:

1.  $B$  has a sceptical rival-incompatible hypothesis  $S$  that is equivalent with it with respect to  $E$ .
2. If  $B$  and  $S$  are equivalent with respect to  $E$ , then they are equally well supported by  $E$ .
3. So  $E$  does not support  $B$  as more likely to be true than the incompatible  $S$ .
4. So  $E$  does not justify one in taking  $B$  as more likely to be true than not.
5. So one is never justified in taking  $B$  as more likely to be true than not.

Given, further, that  $E$  should include all relevant pieces of evidence that might ever bear on  $B$  – viz. all past, present or future appearances – the argument, if sound, shows that no evidence can ever justify  $B$ . Since, then,  $B$  is arbitrary, the upshot is that no empirical claim or theory is justified – all being on par in this respect. This is certainly a radical conclusion that is hard to swallow.<sup>13</sup>

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<sup>12</sup> Note that such items make no references to the outside world and have no implications about it: *It appears to me as if  $p$*  does not imply  $p$ .

<sup>13</sup> It may be argued that the underdetermination reconstruction of  $CA$  is more fundamental than alternative formulations of it – viz. the so-called argument from ignorance –

### 3. Comparison

We have seen that strong underdetermination arguments pose a challenge to scientific realism, on the ground that virtually any empirical theory  $T$  may be confronted with a rival theory  $T^*$  that allows us to infer exactly the same claims about phenomena while being committed to incompatible claims about unobservable structures and mechanisms underlying phenomena. Assuming, furthermore, that the only relevant evidence for (or against) a scientific theory comes ultimately from observational confirming or disconfirming of its implied claims about occurrence of phenomena,  $T$  and  $T^*$  should be evidentially on a par, equally likely to be true in the light of all possibly relevant empirical evidence. If so, the presumption that such evidence could justify our acceptance of scientific theories as (nearly and partially) true descriptions of the nature of the world out there is undermined. Hence  $SR$  seems to be in serious trouble.

A similarly dramatic role has been imputed to the Cartesian argument, invoking experientially undetectable scenarios of massive delusion encapsulated in sceptical hypotheses. Obviously,  $CA$  is more radical in its intended scope and consequences.  $UA$  allows us to know a lot about external facts/events observable by unaided senses, but nothing about hidden entities and structures underlying phenomena.  $CA$ , however, threatens to deprive us even of external phenomena. Thus, *external phenomena* are to be distinguished from *internal phenomena*, only the latter being immediate data of experience – *appearances* – the presence and character of which we are in a privileged position to recognize. The crux of  $CA$  is the claim that empirical claims about the contents and causal structure of the world – claims about external phenomena in particular – depend for evidential support ultimately on appearances. Unfortunately, sceptical hypotheses are devised so as to accommodate all our appearances – past, present or future. Thus the totality of evidence supposed to be ultimately relevant for empirical claims – one supervening on appearances – does not favour empirical claims/theories over rival sceptical hypotheses, both being equally likely to be true in the light of it. If so, the initial presumption that our best systems of empirical

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that hinge on the premise that we cannot exclude (know to be false)  $S$  (and on the premise that we know  $P$ , only if we can exclude or know  $S$  to be false). If this premise is not self-evident – and many would maintain it is not – then we should argue it. And, it would seem, underdetermination of  $P$  by  $E$  would have to be invoked to justify it. Cf. Bruecker (1994) and Okasha (2003).

claims about the world out there are by and large true is undermined. Hence the very idea of empirical knowledge of the world seems to be in serious trouble.

This analogy between *UA* and *CA* can be pushed further. Crucial in *CA* is their tendency to construe even claims about things and events that we would normally call (in agreement with *UA*) “observable” as if they were on a par with epistemically derivative “theoretical” claims, inheriting their degree of evidential support, if any, by inference from *the Given* – consisting of appearances as immediate data of experience. To put it slightly differently, external phenomena are placed in the troublesome position that unobservable items occupy in *UA*, on the ground that they are beyond immediate, hence safe reach of our cognitive powers. And the dramatic challenge posed by *CA* is that the evidence of *the Given* does not favour even our best common-sense or scientific empirical claims over alternative sceptical claims, because the latter claims are designed to accommodate – indeed, to account for – *the Given*.

In light of this, perhaps the most salient analogy between *CA* and *UA* is that they presuppose a foundationalist picture of evidence based on a sort of *data/theory* dichotomy and its corollary that theory-like items can be justified – if at all – only by inference from data-like items (or non-inferential reports of them), that is, from the epistemically prior experiential and observational evidence respectively (cf. Okasha 2003).

	Data	Theory
CA	Internal phenomena	Empirical: about the observable or unobservable world
UA	External phenomena	Scientific: about the unobservable world

More precisely, both arguments seem to rest on the following assumptions that work together to license sceptical conclusions:<sup>14</sup>

*Inferential justification of theory-claims:* *T/B* – in particular, theoretical claims – can be justified only via a rationally compelling inference from more ultimate evidential claims.

<sup>14</sup> A diagnosis along these lines is offered also by Bird (2007) and Okasha (2002).



*Restricted evidence:* observational/experiential data-claims provide ultimate evidence for  $T/B$ .

*No rationally compelling inference:* rationally compelling inference can be either deductive or inductive,<sup>15</sup> but, no matter how massive the observational/experiential basis of data-claims for  $T/B$ :

$T/B$  are not inferable from it deductively – viz. the existence of inconsistent yet empirically equivalent theories  $T^*/S$  that is asserted by the 1<sup>st</sup> premise of  $UA/CA$  (call this *deductive underdetermination*).

$T/B$  are not inferable from the basis inductively – viz. the existence of inconsistent yet evidentially indistinguishable theories  $T^*/S$  that follows from the 1<sup>st</sup> and 2<sup>nd</sup> premise of  $UA/CA$  (call this *inductive-ampliative underdetermination*).

If this comparison is on the right track, one may expect that a careful analysis of one sceptical case will in turn illuminate the other. Indeed, the closely parallel structure of the two arguments may prompt one to think that there must be a closely parallel diagnosis of what – if anything – is amiss with them. This, though, may turn out to be a false hope. Granted that  $UA$  and  $CA$  are structurally parallel, this does not preclude a possibility of a promising anti-sceptical strategy vis-à-vis  $CA$  that might not be all that promising vis-à-vis  $UA$  and *vice versa*. Clearly, there is one salient difference between  $CA$  and  $UA$ : the latter typically take *phenomena* to be *intersubjective matters* accessible to observation, while the former construe *phenomena* as *subjective appearances* accessible via reflection or introspection, with no implications about the outside world – whether observable or not. It may be that precisely this difference between the two cases will prove crucial at the end of the day.

#### 4. Exposing $CA$ : not the epistemic game we play!

My favourite tactics with respect to  $CA$  is a genre of what Alex Byrne recently classified as “expose the sceptic” strategy, as opposed to “convince

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<sup>15</sup> Inductive inferences are understood here in the broad sense of ampliative inferences, whose conclusions, unlike those of deductively valid inferences, state more than is contained in the premises.

the sceptic” strategy.<sup>16</sup> In general, this tactics hinges on the idea that we should not try – in vain – to convince the sceptic via non-question-begging arguments *by his lights*. Rather, the onus is on our imaginary sceptical opponent, who could win the game with us only if it turns out that we are committed to buy his premises as resting on plausible considerations *by our lights*. We then try to show that this is not the case: the rules of the game that the sceptic wants us to play – and inevitably lose – are not something we are committed to, not being derived from the commitments inherent in *our* discursive-epistemic practices, in which *our* epistemic standards are at home. This strategy, though firmly based in ordinary practices, does not just reassert – *à la* G.E. Moore (cf. Moore’s famous 1939/1959) – the claims of common-sense as comparatively far more certain than the premises of *CA*. It proceeds by showing that the foundationalist picture driving *CA* is not something we are committed to. There are two main considerations that I want to briefly mention in support of this claim.

First, *our* conception of relevant empirical evidence differs in crucial respects from the alleged neutral phenomenal evidence with no implications about the world out there. As Wittgenstein, Austin, or McDowell taught us, apart from dubious and scepticism-infected requirements such as *infallibility of evidence*, or considerations such as *argument from illusion*, it is not clear why we should buy from the sceptic the phenomenal conception of evidence for our empirical claims (see Austin 1962; Wittgenstein 1969; McDowell 1994).

In fact, (A) what would normally count as evidence for empirical claims is hardly confined to records of internal appearances, which, anyway, are rarely cited as evidence. This holds for everyday life as well as rigorous practices of science, where evidence is, paradigmatically, intersubjectively checkable. Consequently, empirical evidence, as normally conceived of, is ex-

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<sup>16</sup> See Byrne (2004). Byrne himself appeals to McDowell (1994). In my view, this line of response to sceptical challenges was pursued by Wittgenstein (1969) and Austin (1962). More recently, except of Byrne, Leite (2009) offers an interesting version of this tactics. In his already classic discussion of scepticism, Williams (1996) urges a rather similar approach: basically, to expose sceptical arguments as resting on theoretical commitments that are, despite initial appearances, far from being intuitive and uncontroversial (he identifies what he calls *epistemological realism* as a crucial and highly controversial sceptical commitment). Clearly, if sceptical commitments are not *our* commitments, we are free to ignore them. A careful study of sceptical arguments from underdetermination is Vogel (2004), who also usefully classifies possible responses to them.

pressible in claims whose content is far from neutral about the world out there. Intersubjectivity also supplies the only “neutrality” that is needed.

(B) Furthermore, evidence is typically asked only for claims deemed unobvious, directly inaccessible or unavailable in a context of inquiry, whereas pieces of evidence are supposed to be directly or unproblematically available in the context – at least compared to what it is expected to be evidence for. Thus, under normal conditions, spontaneous perceptual judgements about medium-sized items in our vicinity are not taken as standing in need of evidence – rather, they serve as possible pieces of evidence for other claims – because we do not take what we so perceive as inaccessible or unavailable to us (see, for instance, McDowell 1994). Also evidence is typically not asked for common-sense certainties like “I am a human being”, “I have hands” or “The world has existed many years past”, whose role in our belief-systems is more accurately described as that of Wittgenstein’s metaphorical hinges around which all questioning, doubting and reason-giving turns, since they set standards of what in a given context tests what.

(C) Empirical evidence does not have to be – and usually is not – infallible or incorrigible. This, of course, hangs in closely with the previous two points, which allowed evidence to expand well beyond the allegedly safe confines of subjective experience. Perceptual judgments may provide perfect evidence by ordinary standards, even though they are fallible and corrigible.<sup>17</sup>

(D) Finally, what normally qualifies as empirical evidence is so heterogeneous and context-dependent that it is simply hopeless to try to reconstruct semantically determined kinds of claims, whose ordering would faithfully reflect invariant evidential dependencies among them.<sup>18</sup> For instance, from the perspective of our ordinary epistemic practices, there is no *a priori* reason to think that claims of type *A* (e.g. direct reports of sensory experience) are essentially non-inferential, that is, potential pieces of evidence upon which claims of type *B* inferentially (e.g. reports about the world) de-

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<sup>17</sup> Moore (1925/1959), (1939/1959) claims that such truisms are immune to sceptical doubt. Wittgenstein (1969) develops this idea in greater detail and depth, though he distances himself from Moore’s approach in many respects. I explain what I take to be a promising Wittgensteinian position in some detail in Koreň (2013). A useful survey article about evidence is Kelly (2008).

<sup>18</sup> The idea that there is an invariant and objective order of epistemic dependencies between semantically determined classes of claims/beliefs is what Williams (1996) calls *epistemological realism*.

pend, for which, however, distinct evidence is never (in no context) required. As Austin aptly put it: “*Any* kind of statement could state evidence for *any* other kind, if the circumstances were appropriate.” Thus:

I may say, for instance, “The pillar is bulgy” on the ground that it looks bulgy; but equally I might say, in different circumstances, “That pillar looks bulgy”— on the ground that I’ve just built it, and I *built* it bulgy. (Austin 1962, 116)

All these features characterizing empirical evidence as we normally conceive of it – and possibly others that I have not mentioned – are at odds with the properties attributed to phenomenal evidence, which is held to be infallible, non-inferential and world-neutral, among other things.

The second consideration, then, is closely connected to the first. It is hard to deny that empirical claims or theories are, in general, not entailed by available empirical evidence, if only because they go beyond it in universal generalizations. It is less clear, however, that we should be worried about the possibility of empirical theories being underdetermined by *our* empirical evidence. For one thing, outside philosophical circles, a reasonable attitude would be to say that only claims suggesting specific and contextually relevant possibilities of error – not *ad hoc* hypotheses devised by philosophers for the purpose of accommodating appearances – should be given hearing when we compare and evaluate epistemic standing of our empirical claims and theories. For another, once we feel free to set aside the phenomenal conception of evidence as something we are not compelled to buy, allowing empirical evidence to contain good many “outward-looking” or “external” claims, sceptical hypotheses, even if they are allowed to enter comparison, would be excluded as incompatible with the more liberal empirical evidence.

## 5. Some responses to *UA* and instructive parallels

The upshot of the exposure-tactics as applied to *CA* is that the phenomenal conception of evidence is not something we are compelled to identify with. The situation with *UA* is a more delicate matter, though, if only because it is difficult to abandon completely the empiricist regulative that scientific theories should be evidentially controlled by observational data. Anyway, given that *UA* construes *phenomena* as external, hence intersubjectively available, the exposure-tactics does not carry over to *UA*. Nevertheless,

a few instructive parallels could occur to us when we start to think about possible responses to *UA*. In this way, I think, a careful discussion of one case can shed light also on the other.

Perhaps the most straightforward reaction to *UA* is that of the *sceptic* (or *agnostic*) who concurs with its negative conclusion and reads the whole argument as effectively compromising not just the epistemological commitment of *SR* but indirectly also the realist tenet behind it, namely that scientific theorizing aims to give a true account of the largely unobservable world. If that is the aim, the sceptic goes on, we are never warranted in holding it to be achieved – or so *UA* teaches us. Yet, we may embrace a different (in this sense, anti-realist) view of the aim of scientific theorizing, which does not seem to have the embarrassing consequence that we can never have epistemic warrant to believe that the aim has been achieved. According to the most influential development of this approach – Van Fraassen's *constructive empiricism* (cf. Van Fraassen 1980) – a reasonable aim of science is to produce *empirically adequate* theories that allow us to infer only true claims about phenomena and their regularities. Accordingly, in *accepting* scientific theories we need not – fortunately – hold them to be true *tout court*. We only need to hold them to be empirically adequate – true, that is, in what they claim about phenomena. And we may be warranted in such modest claims, because they do not transcend phenomena.<sup>19</sup>

Whatever its merits, this agnostic strategy with respect to unobservable facts has not been widely followed. Still, it has an insight in that we can profitably read *UA* as an attempt to reveal a tension between realism and empiricism. Incidentally, it is not without interest that Descartes' methodological scepticism can be interpreted in a similar way – namely as challenging a view of knowledge based on empiricism – be it a naive empiricism of common sense or a more elaborate empiricism animating the post-Aristotelian philosophical and scientific tradition.<sup>20</sup> Empiricist approaches to science emphasize the key role of observational evidence in testing scientific hypotheses and theories. However, if sound, *UA* shows that a seemingly innocuous version of empiricism gives rise to scepticism about realistically interpreted theories as not likely to be true in the light of total observational

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<sup>19</sup> Following the lead of Duhem and Poincaré, one may add to this line that a choice of theory is not determined solely by the data and logic, but also by extra-empirical virtues and pragmatic, conventional or social factors.

<sup>20</sup> For an influential interpretation of Descartes in this spirit see Frankfurt (1970).

evidence. That would be pretty bad news to many realists who accept an empiricist approach to scientific knowledge.

The situation, though, is not hopeless. In fact, realists are likely to deny the force of *UA* and its devastating potential vis-à-vis realism, while hoping to retain a version of the empiricist regulative. And they could either question the premise that any theory *T* has a rival empirical theory *T\** or the premise that empirically equivalent theories are equally well supported by total evidence. Neither strategy is without appeal.

One may argue that except for a few interesting or genuine cases of empirically equivalent theories, most other cases cited in expositions of *UA* are just contrived *ad hoc* rivals of no interest to everyday scientific practice, some of them even generated by sterile algorithms of the sort: *T\* is like T in what it says about phenomena but incompatible with T in what it says about unobservable parts of the world*. Furthermore, if interesting cases of underdetermination apply to partial theories *T* and *T\**, their future incorporation (or failure to be incorporated) into a more comprehensive and successful theory could render them distinguishable after all: only one of them may be successfully incorporated into the larger theory, or if both are, the resulting systems might produce different sets of predicted phenomena so that *T* and *T\** won't count as empirically equivalent (cf. Laudan – Leplin 1991; Hofer – Rosenberg 1994; Okasha 2002). Here we face only the weak underdetermination problem that is not so threatening. Since the strong underdetermination problem arises only at the level of total (or comprehensive) scientific systems accommodating all phenomena that might ever occur in their intended domain – or, even more ambitiously, at the level of complete scientific systems of the world – the first question to ask is what interesting examples there are of such total scientific systems, and the second question is whether one could come up with a plausible pair of empirically equivalent total systems that would not involve *ad hoc* alternatives such as *Evil Demon* or its algorithmic likes. One problem then is that it is hard to provide even one plausible candidate for a comprehensive theory, not to speak of two (cf. Hofer – Rosenberg 1994; Okasha 2002). Another problem is that it might not even be clear enough that alternative systems are really *rivals* rather than notational variants (cf. Norton 2008). At any rate, if we set aside merely *ad hoc* rival theories that scientists would not dream of taking seriously, there is little reason to think that every theory *T* has a rival *T\** which is empirically equivalent in the sense required for the strong underdetermination problem to arise.

Here, then, is the first parallel with the diagnosis urged by the exposure-tactics applied to *CA*, which also allows us to dismiss *ad hoc* sceptical alternatives as irrelevant from the point of view of our ordinary epistemic practices.

Furthermore, one may challenge as inadequate the positivist view of the epistemic structure of scientific theories implicated in the definitions of observational basis and empirical equivalence of scientific theories. Arguably the crucial aspect of this view is the dichotomy of observable and unobservable items itself reflected in the dichotomy of observational and theoretical claims. Now, many critics argue that there is no *a priori* demarcation criterion – and actual scientific practice does not suggest any – separating observable from unobservable items. Admittedly, some items are detectable by unaided senses, while others we can detect only with aid of more or less sophisticated instruments – starting with glasses and ending with quantum microscopes.<sup>21</sup> Yet scientists would not hesitate to say of the latter that they are observable – though a good deal of background theory is implicated in detection-procedures – provided that detection-procedures have been established as reliable.<sup>22</sup> Also, *what we observe/perceive* seems influenced or shaped to some extent by what we expect from the world around us, where collateral expectations may well be more of a “theoretical” than “observational” sort.<sup>23</sup> Now, if on the right track, observations of this type suggest that the dichotomy of observational and theoretical distorts rather than illuminates actual scientific practice.

This points to the second parallel with the diagnosis of *CA* in the spirit of the exposure-tactics: intrusion of *prima facie* theoretical elements into the evidential basis of empirical/scientific theories undermines the foundationalist schism shared by *CA* and *UA*: viz. that there is a theory independent evidential basis of non-inferential data-claims (about experiences and observations respectively) upon which theoretical/empirical claims asymmetrically and inferentially depend for their support. Now, once the observation/theory dichotomy is discredited, a potentially much more extensive and contextually flexible evidential basis is available to scientists – compared to the austere positivist basis confined to purely observational claims – pos-

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<sup>21</sup> This is the basis of a famous argument by Maxwell (1962).

<sup>22</sup> I can only recommend Hacking (1983) for many fascinating examples.

<sup>23</sup> Two classic works – both emphasizing *theory-ladenness* of observation – are Hanson (1958) and Kuhn (1962/1996).

sibly including assumptions about the existence of underlying causes or about existence and reliability of (say, causal) explanations,<sup>24</sup> or even theoretical analogues of *hinge-propositions* exempt from empirical test.<sup>25</sup> If we put this together with the reservations already expressed, the threat of underdetermination of theories by data becomes even more moot.

The last and related point that I want to mention is that opponents of *UA* may complain that it rests on an overly simplified conception of empirical support for scientific theories/hypotheses – basically, on a simple version of the hypothetico-deductive model attacked already by Duhem. Once we recognize this inadequacy, it is doubtful that, in general, empirically equivalent theories are equally well supported by the totality of possible evidence, even if we grant the premise stating the existence of empirically equivalent rivals. Some critics would say that *theoretic-explanatory virtues* such as simplicity and systematicity might evidentially distinguish empirically equivalent theories, provided there are any genuine and interesting examples of such theories. Others would point out that we do not even need to appeal to such ‘super-empirical’ virtues in order to show that the same data might support empirically equivalent theories to a different degree. Various theories of inductive support or confirmation can be invoked for this purpose (cf. Norton 2008), prominent among them being the *Bayesian* confirmation theory that emphasizes the possible impact of different prior probabilities assigned to rival theories/hypotheses in addition to updating of probabilities conditional of new pieces of evidence (though notorious problems concerning arbitrariness of prior probabilities may diminish its appeal). Eventually, one may want to differentiate between genuine prediction and mere accommodation of available data. Thus, hypotheses explicitly devised to accommodate the data are not supported by them – certainly not to the same degree as when an independently motivated hypothesis turns out to predict them.

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<sup>24</sup> See a useful discussion of this point in Bird (2007).

<sup>25</sup> Lakatos (1970) seems to come close to recognizing something like *theoretical hinge propositions* when he talks about research programmes having „hard core“ of unrevisable principles. Similar ideas, of course, have been present already in pragmatist and conventionalist approaches. Poincaré (1905/1952) is particularly interesting in this respect, as he claims that originally experientially based truths might gradually harden into principles. Whether or not such propositions are allowed to feature in the empirical evidential basis, they might be held to structure it in the sense that they help to determine what to test in the light of what pieces of evidence. This has parallels in Wittgenstein’s category of hinge propositions (Wittgenstein 1969).



## 6. Conclusion

There are no doubt other options. Suffice it to say, by way of conclusion, that the very last line of response to *UA* available to realists has no analogy with the exposure-tactics applied to *CA*, though nothing in the latter precludes similar factors to play a role in governing and determining empirical theories. But the absence of analogy here is not so surprising, since this specific strategy vis-à-vis *UA* usually aims to show how we can hope to block the threat of underdetermination of theories by data, *even if* we accept that data are purely observational. As a matter of fact, analogous anti-sceptical strategies have been proposed for *CA* but they are of a completely different kind than the exposure-tactics urged in this study. And their prospects – in my view – are not so bright. One of them, for instance, attempts to show that even if we grant the foundationalist conception of phenomenal evidence, our best empirical theories might still be reasonably taken as approximating the truth about the world out there, because they provide the best explanation of patterns of phenomenal evidence (cf. Vogel 1990). This, obviously, is not the way of my favourite exposure-tactics, which challenges the very idea of purely phenomenal nature of ultimate empirical evidence that arguably underwrites the foundationalist schism.

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## Aspektualizmus a problém realizmu v analytickej filozofii umenia

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**ABSTRACT:** The paper aims to explore the model which is trying to explain the nature of aesthetic properties. The starting point for testing a plausibility of aspectualistic solution is a kind of exploration. Aspectualism plays a role between realistic and anti-realistic answer to the question: what are the aesthetic judgments related to? Standard discussions are linked in two directions. The first one presupposes existence of real aesthetic properties or qualities in artworks, thus independent of the human mind. The second, on the contrary, explains our aesthetic judgments as related to aesthetic properties (values) that are constructed in relationship of artwork and recipient, thus dependent on human mind. Both positions have strengths and weaknesses with respect to the different artistic genres and approaches. Aspectualistic strategy offers an explanation which has an ambition to be the solution to this dispute. The paper analyzes this position in the work of Roger Scruton and looks for the answer to the question whether this solution is sufficient and where are its limits, if any.

**KEYWORDS:** Aesthetic properties – Kennick – non/realism – Scruton – Sibley.

Ako v iných oblastiach filozofie, aj v estetike možno sledovať diskusiu medzi tzv. realizmom a antirealizmom. Klasické polohy tejto diskusie sú už dobre sformulované a viac-menej zodpovedajú svojim pendantom v ostatných tzv. *value-theories* (por. Bender 2003; Zangwill 2003). Kladenie otázky o povahe estetických vlastností má však v analytickej tradícii estetiky svoje špecifiká.

## 1. Analytická estetika ako analýza estetických pojmov

Už od 60. rokov 20. storočia sa v pozornosti filozofickej estetiky vo väčšej miere objavuje skúmanie povahy jazyka, ktorý sprevádza vnímanie a hodnotenie umenia. Frank Sibley, jedna z kľúčových postáv tejto tradície filozofie umenia, ukazuje na špecifickú povahu estetických pojmov, ktorých použitie v našom jazyku odlišuje od ostatných výrazov (por. Sibley 1959). Nejde tu o školské rozlíšenie, že hodiny literatúry sú o umení a hodiny biológie o pozorovaní prírody. Hodiny literatúry sú plné aj non-estetických<sup>1</sup> výpovedí v pravom zmysle slova. Napríklad informácia o tom, že „*Cervantesov román O dômyselnom rytierovi Donovi Quijotovi vyšiel prvýkrát v Madride v roku 1605*“, nie je prípad estetického súdu. Ide o informáciu o umení, no informuje nás o umeleckom diele nešpecificky, t. j. bez ohľadu na to, že v predmetnej informácii sa opisuje umelecké dielo. Estetické súdy alebo použitie estetických pojmov sa týka vyjadrení ako „*tento obraz je vášnivý*“ alebo „*bra bola od začiatku veľmi dynamická*“, alebo „*štruktúra fasády a priečelia pôsobí disharmonicky*“. Až keď recipient v skúsenosti s dielom samým pochopí artefakt ako neutilitárny objekt – a komentuje ho, hodnotí, obdivuje alebo, naopak, odsudzuje či vyjadruje odpor –, až tu začína oblasť estetických súdov alebo pojmov. Tradične sa od novoveku táto hranica estetického identifikuje pomocou používania vkusu, resp. tvorenia vkusových súdov (úsudkov vkusu).

O umení je možné tvoriť tvrdenia, z ktorých sa niektoré týkajú estetických aspektov, iné opisujú mimoestetické vlastnosti umeleckých diel (napr. ich hmotnosť). Naše výpovede o vnímaní, ale aj tvorení alebo hodnotení umeleckých skúseností a zážitkov sú teda odlišné od výpovedí o kameňoch, plátne, zvukoch alebo pohyboch tiel.<sup>2</sup> Empirický súd, zdá sa, opisuje nejaké empirické rysy, ktoré zachytávame v našej skúsenosti. Zato estetické súdy sú také jazykové nástroje, ktoré nevyhnutne obsahujú ako kľúčový komponent istý evaluačný moment, teda nejaké hodnotenie. Toto rozlíšenie však otvára

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<sup>1</sup> Špecifický výraz *non-estetický* používam zámerne najmä preto, aby som poukázal na zásadne inú ako estetickú povahu výrazov (nie anti-estetickú, ani proti-estetickú); na povahu, ktorá nemá nič spoločné s estetickou rovinou. Výraz *nonaesthetik* často používa aj sám Sibley (napríklad v Sibley 1965).

<sup>2</sup> Výber objektov ako plátno alebo pohyb tela má zdôrazniť, že oblasť estetického nie je stotožniteľná s bežnými fyzickými objektmi, ktoré sa – vo výnimočných prípadoch – stávajú nositeľmi umeleckej hodnoty. Plátno je „obyčajný“ fyzikálny objekt až kým sa netransformuje na objekt estetického záujmu.

viacero otázok. V nasledujúcom texte sa chcem venovať otázke, ktorá predpokladá existenciu špecifických estetických jazykových výpovedí alebo, inak povedané, súdov. Znie: Čoho sa týkajú estetické výpovede alebo súdy? Často je odpoveďou na túto otázku tvrdenie, že estetické súdy sa týkajú estetických vlastností, resp. takých kvalít objektov, ktoré označujeme ako estetické. Problém to však len posúva o jeden krok ďalej, pretože po preformulovaní pôvodná otázka znie: Akú povahu majú estetické vlastnosti (kvality) objektov a artefaktov a odkiaľ pochádzajú? V štandardnej diskusii v rámci filozofie umenia sú dominantné dve línie odpovede na túto otázku.<sup>3</sup>

Prvý spôsob – ako zodpovedať uvedenú otázku – preferuje realistické predpoklady. Jednoducho povedané: Tvrdí, že existujú skutočné estetické vlastnosti mimo ľudskej mysle, a tieto vlastnosti nachádzame v tvorení a recepcii umeleckých diel; estetické vlastnosti sú v dielach samých. Druhý spôsob, naopak, vysvetľuje naše estetické súdy tak, že sa týkajú estetických vlastností (hodnôt), ktoré sa konštruujú vo vzťahu diela a recipienta. V tomto prípade sú teda estetické vlastnosti závislé od ľudskej mysle, ktorá ich tvorí práve v špecifickom kontexte recepcie umenia. Umelecký priestor alebo kontext je príležitosťou, vytvára potenciál, v ktorom sa kompetentnému recipientovi podarí vytvoriť si estetický zážitok.

Obe pozície majú silné a slabé stránky aj s ohľadom na rôzne umelecké žánre a druhy. Napríklad hudobná symfónia, poézia alebo klasický figuratívny realisticko-opisný obraz sú príklady, na ktorých by sa dalo na prvý pohľad ľahko demonštrovať tvrdenie, že hodnoty alebo vlastnosti, ktoré sa obdivujú na týchto dielach, sú v nich prítomné. A preto sa tieto diela opakovane predvádzajú, čítajú alebo vystavujú, pretože oni samé prinášajú a odovzdávajú estetickú hodnotu poslucháčom, čitateľom a divákom. Na druhej strane abstraktné umelecké formy alebo konceptuálne umenie – často minimalistické, pokiaľ ide o objektivosť artefaktov – sa zdajú byť rozumne interpretovateľné práve preto, že kľúčom k ich interpretácii je aktívny vklad recipienta, ktorý musí vynaložiť úsilie na to, aby mu porozumel alebo sa v ňom dokázal orientovať. Bez kompetentného recipienta by teda bolo dielo ako také nezrozumiteľné a nachádzalo by sa mimo diskusie o es-

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<sup>3</sup> Iste, s týmto tvrdením možno aj nesúhlasiť. Ako jeden z ďalších prístupov sa uvádza teória vysvetľujúca estetické predovšetkým ako vzťah medzi recipientom a tým, čo je recipientované. Tento typ vzťahu je špecifickým súladom medzi predmetom a tým, kto daný predmet vníma. Za typického predstaviteľa takéhoto východiska estetickej teórie sa považuje profesor Cambridgeskej univerzity Edward Bollough (1880-1934).

tetických hodnotách a vlastnostiach. Pokusy identifikovať konceptuálne umenie inou štruktúrou, odlišnou teóriou od teórie umenia, nepovažujem za presvedčivé.<sup>4</sup>

Spor o povahu estetických vlastností je veľkou témou v analytickej estetike, pričom túto diskusiu čiastočne živia aj diskusie a teórie z oblasti filozofie mysle a epistemológie na jednej strane a pochybnosti o povahe analogických entít, napríklad v morálnej teórii, na druhej strane.<sup>5</sup> A práve vo filozofii mysle aj v estetike môžeme nájsť stratégiu tzv. aspektualizmu. Aspektualizmus má ambíciu riešiť spor medzi tvrdením, že estetické vlastnosti sú v dielach, a tvrdením, že, naopak, sa konštruujú v kontakte diela a recipienta. Aspektualizmus je pozícia, ktorú možno nájsť už v 70. rokoch 20. storočia v dielach Rogera Scrutona (pozri najmä Scruton 1974). Mojm cieľom je analyzovať, či je odpoveď aspektualizmu riešením nastolenej otázky: Čoho sa týkajú estetické výpovede, sudy?

## 2. Povaha estetických vlastností diela

Dovolím si začať slávnym myšlienkovým experimentom Williama Kennicka, amerického filozofa, ktorý sa považuje za významného predstaviteľa súčasnej analytickej estetiky. Jeho myšlienkový experiment (por. Kennick 1958) opisuje túto situáciu: Predstavte si obrovský sklad, ktorý je plný rozličných vecí. Tieto veci sú rozličného druhu, v rozličných počtoch, farbách,

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<sup>4</sup> Riešenie konceptuálnych foriem a povahy umeleckých diel tohto charakteru poukazom na Dickieho *inštitucionálnu teóriu umenia*, ako to robí Niederle v (2010, 19), považujem za diskutabilné. Som presvedčený, že odlišenie *kandidáta* na objekt sveta umenia od ostatných súcien už znamená to, že kandidát musí spĺňať podmienku *potenciálnej umeleckosti*, a preto je výraz *kandidát* redundantný. Alebo sú *kandidátmi* všetky súcna, resp. aspoň artefakty, alebo nám inštitucionálna teória umenia cez kategóriu *kandidáta* tvorí ďalšiu množinu súcien, no nie je zrejmé, podľa akých kritérií. Zdá sa, že identifikovanie umeleckých diel spomedzi *kandidátov* na umelecké diela je cesta regresu. Odlišenie *ne-kandidáta* na objekt sveta umenia od *kandidáta* na objekt sveta umenia totiž vytvorí ďalšiu množinu kandidátov na kandidátov, a to je nekonečný regres. Dickieho procedúra teda sotva niečo rieši, lebo len posúva problém definície alebo identifikácie umenia na ďalšiu úroveň. A na nej je nevyhnutná ďalšia procedúra identifikácie alebo definície podmienok.

<sup>5</sup> Typickou morálnou teóriou, ktorá metodologicky a formálne inšpiruje a ovplyvňuje filozofov umenia (vrátane Rogera Scrutona), je „logic of moral discourse“ (por. Blackburn 1998).

tvaroch, z rozličných materiálov atď., jednoducho ide o veci nášho bežného sveta, ako ho poznáme: autá, budovy, knihy, jedlo, stromy, umelecké diela, jazerá, stoličky a pod. Zadanie, ktoré dostane úplne normálny, bežný človek z ulice, znie: Vyber také veci, objekty, ktoré sú umeleckými dielami. Kennick je presvedčený o tom, že normálny človek by správne vybral tie objekty, ktoré sú umeleckými dielami. Otázka znie: Prečo? Pretože normálny, bežný človek z ulice pozná plauzibilnú definíciu umenia? Určite nie. Kennick argumentuje v prospech tézy, že na výber správnych objektov, ktoré možno považovať za umelecké diela, nepotrebujeme poznať definíciu umenia.<sup>6</sup> Otázka však stále ostáva nezodpovedaná. Čo potrebujeme poznať, aby sme medzi vecami sveta dokázali odlíšiť umelecké diela? Možno odpovedať, že až do obdobia avantgárd prvej polovice 20. storočia to bolo možné na základe intuitívnej selekcie podľa vlastnosti krásy. To sa zdá byť prítlačlivé vysvetlenie, je to však skutočne tak? Sú diela s témami posledného súdu a pekla, ktorých autorom je Hieronymus Bosch, krásne?<sup>7</sup> V akom zmysle?

Ak by sme aj tieto ťažkosti prekonali, čelíme rovnakej otázke identifikácie umeleckých diel v 20. storočí, kde kategóriou krásy nemožno vysvetliť veľké množstvo diel umenia. Eventuálne riešenie, podľa ktorého výraz „umenie“ treba považovať za homonymný, je značne kontraintuitívne. Odporuje široko prijímanej skúsenosti a presvedčeniu, že dejiny umenia sú dejinami ľudskej umeleckej tvorivosti a génia bez ohľadu na výrazové formy a žánre, ktoré sa v umení objavovali, sú prítomné a/alebo ešte len vzniknú. Stratégia, podľa ktorej sa významy termínu „umenie“ chápajú odlišne (vzhľadom na niektoré diela či žánre), nás vedie k otázke: Koľko významov výrazu umenie pripustíme? Pluralita tohto prístupu vyprázdni problém umenia tým, že ho jednoducho zruší, a tým, že ukáže, žiadne umenie (naprieč dejinami, žánrami a dielami) neexistuje. Rozhodne nie som proponentom takéhoto prístupu.

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<sup>6</sup> Definícia môže byť niekedy dokonca prekážkou správnej identifikácii umeleckých diel. Zvážme príklad, v ktorom by spomínaný bežný človek dostal za úlohu identifikovať diela, ktoré majú *signifikantnú formu*. Je veľmi pravdepodobné, že v tomto prípade by výber vecí (vzhľadom na zadané kritérium podľa Clive-Bellovej teórie) zo skladu sveta dopadol neúspešne.

<sup>7</sup> Významný holandský maliar preslávený dielami zobrazujúcimi ľudské hriechy, démonov, zvláštne bytosti s čiastočne ľudskými a čiastočne zvieracími črtami. Vlastným menom Jeroen Anthonissen van Aken (1450-1516).



Proces selekcie umeleckých diel spomedzi ostatných objektov pravdepodobne spočíva v identifikácii estetických kvalít alebo vlastností. Signifikantný prúd súčasnej anglofónnej filozofie umenia rezignuje na hľadanie definície umenia. Rozliční autori majú na to rozličné dôvody. Spája ich antiesencialistický postoj a teória rodinných podobností, ktorá je ovplyvnená neskorým Wittgensteinom. Kľúčová teda nie je pre nich *definícia* (umenia), ale *identifikácia* (estetických pojmov a estetických vlastností). A znovu sme pri tom istom probléme: Akú povahu majú estetické vlastnosti? Sú „na objektoch“ alebo „v našich myšliach“?

### 2.1. Estetické vlastnosti „na objektoch“

Ak by estetické vlastnosti boli „na objektoch“, museli by sme argumentovať v prospech tvrdenia, že estetické kvality spočívajú v reálnych vlastnostiach objektu, artefaktu, a teda sú nezávislé od recipienta (por. Hrkút 2012, 356), resp. od recipientovej mysle. Pojmy vyjadrujúce estetické hodnotenie sa potom týkajú skutočne prítomných vlastností estetických objektov. Estetické myslenie a skúsenosť sú v tomto prípade „realistické“ v tom zmysle, že reprezentujú skutočné estetické vlastnosti (por. Zangwill 2003, 63). Aj napriek takto radikálne formulovanej pozícii to neznamená, že musíme predpokladať nejaký substanciálny charakter kategórií, ako je krása alebo škaredosť (por. Hrkút 2012, 356).

Takéto robustné realistické chápanie estetických vlastností, samozrejme, otvára mnoho problémov. Najzávažnejší problém spočíva v tom, že je ťažké – ak je to vôbec možné – definovať, ktoré vlastnosti sú estetické. Tvrdenie, že umelecké objekty majú skutočné/reálne estetické vlastnosti, totiž vedie k otázke: Ktoré vlastnosti sú estetické? A akú majú povahu? Odpoveď, že sú to práve tie vlastnosti, ktoré sú „iba“ a výlučne „na“ umeleckých dielach, je, samozrejme, argumentáciou v kruhu. Realisti by potrebovali „nezávislejšiu“ definíciu estetických vlastností, ale takúto definícia, zdá sa, nie je ľahké získať. Tak sa to aspoň zdá z diskusie na túto tému. Ani tu však nie je vhodné zjednodušovať. Jedna zo stále perspektívnych možností spočíva v tom, že spolu s Frankom Sibleym budeme tvrdiť, že estetické sú tie vlastnosti, pri ktorých recepcii a identifikácii využívame vkus a estetické hodnotenie (pozri Sibley 1959, 421).<sup>8</sup> Opustenie realistických pozícií, samozrejme, nie je bez

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<sup>8</sup> “The making of such remarks as these requires the exercise of taste, perceptiveness, or sensitivity, of aesthetic discrimination or appreciation“ (Sibley 1959, 421).

rizík. Za najčastejšie riziko sa považuje relativizmus, resp. nemožnosť identifikácie estetických objektov.

## 2.2. *Estetické vlastnosti „v myšliach“*

Na rozdiel od realistickej pozície, ktorú som opísal, non-realisti alebo konštruktivisti tvrdia, že estetické vlastnosti, resp. estetické kvality sú výsledkom špecifického prístupu recipientov; v rámci vzťahu vnímajúceho subjektu k artefaktu sa objavujú estetické vlastnosti alebo, inak povedané, sú recipované estetické kvality. Táto pozícia celkom prirodzene predpokladá, že estetické kvality sú závislé od mysle, a recipient ich priradzuje k objektom a artefaktom vo svojej skúsenosti (por. Hrkút 2012, 357-358).<sup>9</sup> Non-realisticke teórie ukazujú, že estetické kvality a vlastnosti nemajú svoj vlastný, autonómny ontologický charakter. Naopak, sú heterogénne v tom zmysle, že až vnímanie recipientov podmieňuje priradovanie estetických kvalít objektom (por. Hrkút 2012, 358). Objekt, artefakt alebo „materiálny substrát estetických objektov je len bázou, na ktorej sa vytvárajú estetické objekty, a to vďaka aktivite percipienta“ (Zuska 2001, 30).

Ani táto pozícia nie je bez vážnych námietok. Takýto konštruktivistický koncept priamo protirečí bežnej skúsenosti a bežnému vnímaniu umenia. Svet umenia si totiž cení artefakty, ktoré majú hodnotu práve preto, že bez ohľadu na meniaci sa kontext a radikálne odlišných recipientov sprostredkujú hodnotné estetické vlastnosti. Za autora fascinujúcich mimozemských výjavov preto považujeme Hieronyma Boscha a miesto, kde sa nachádzajú tieto výjavy (často plné hrôzy), označujeme ako oltárnu dosku alebo oltárny obraz. My, recipienti prirodzene identifikujeme estetické vlastnosti so špecifickými vlastnosťami objektov.

Diskusia medzi realistami a anti-realistami v estetike teda ukazuje silné a slabé miesta oboch prístupov. A domnievam sa, že práve úsilie vyhnúť sa slabým miestam oboch teórií viedlo k pokusu, ktorý sa v estetickej teórii označuje ako aspektualizmus.

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<sup>9</sup> Pojem objektu môžu non-realisti chápať značne odlišne v porovnaní s bežným vnímaním alebo tzv. ľudovou estetikou. Podľa niektorých non-realistov je estetický objekt nehmatateľný a nezachytiteľný, má heteronómny charakter, ide o entitu, ktorá ponúka potenciálny priestor pre estetickú skúsenosť. Na svoju existenciu potrebuje (z časového hľadiska) participáciu iného bytia – vedomie recipienta (por. Zuska 2001, 34).

### 3. Aspektualizmus

Vo filozofii umenia sa aspektualizmus považuje za anti-realistickú pozíciu. Slovníkovú definíciu možno nájsť napríklad v Guter (2010, 20),<sup>10</sup> avšak kľúčové momenty sú nasledovné:

- (i) naša skúsenosť s objektmi je skúsenosťou s aspektmi vecí, a nie s celkami, ako by sa mohlo zdať;
- (ii) estetické vlastnosti sú – z aspektualistického uhla pohľadu – vlastnosti závislé od mysle;
- (iii) estetické vlastnosti možno prisudzovať reálnym, ale aj fiktívnym entitám;
- (iv) kľúčové pre porozumenie prisudzovaniu estetických pojmov (prisudzovaniu estetických vlastností) je skutočnosť, že estetické vlastnosti aplikujeme v jazyku metaforickým, a nie doslovným spôsobom.

Z týchto charakteristík možno získať predstavu, ako budú aspektualistické teórie vybudované. V nasledovnom texte predstavím teóriu Rogera Scrutona. Vzhľadom na rozsiahle a tematicky mimoriadne bohaté dielo tohto britského filozofa možno podľahnúť pokušeniu interpretovať jeho aspektualizmus príliš úzko. Scruton sám však tvrdí, že od diela *Art and Imagination* (1974) v tomto ohľade nijako zásadne svoju teóriu nerevidoval (por. Scruton 2009a, 319–320).

#### 3.1. Scrutonov aspektualizmus

Roger Scruton predstavil sofistikovanejšiu a prepracovanejšiu verziu aspektualizmu. Urobil tak pomocou konceptu tzv. metaforickej transferencie. Podľa Scrutona používame v estetických súdoch rovnaké výrazy ako v non-estetických výrokoch. V non-estetických výrokoch jednotlivé výrazy opisujú

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<sup>10</sup> „Estetické vlastnosti a estetické poznanie prepája s vlastnosťami a reprezentáciami z našej skúsenosti. Naše opisy estetických vlastností nemožno doslovne aplikovať na opísané objekty [teda na artefakty alebo umelecké diela – pozn. J. H.]. My máme skúsenosť len s aspektmi vecí: Počujeme nejaký zvuk ako pohyb alebo vidíme nejakú farbu ako smutnú. Aspektualizmus predpokladá, že estetické vlastnosti sú od mysle závislé vlastnosti. A tieto vlastnosti je možné prisudzovať skutočným veciam, ale aj veciam, ktoré si predstavujeme alebo predstierame, a to práve z toho dôvodu, že estetické vlastnosti veciam prisudzujeme metaforickým, a nie doslovným spôsobom” (Guter, 2010, 20).

non-estetické vlastnosti alebo kvality vecí. Ako je teda možné, že niekedy použijeme určitý výraz na opis estetických vlastností? Tak, že ho nepoužijeme v tradičnom, štandardnom spôsobe, ale v metaforickom spôsobe. Znamená to predovšetkým to, že v estetickom hodnotení sme najčastejšie v situácii, keď si predstavujeme alebo predstierame v metaforickom zmysle niečo, nejaký aspekt alebo vlastnosť objektu, ktorú by sme v doslovnom zmysle nemohli objektu priradiť (por. Zangwill 2003, 67).

Vráťme sa teraz k našej pôvodnej otázke: Čoho sa týkajú estetické súde? Odpoveď, že týkajú sa estetických vlastností, len posúva túto otázku o úroveň vyššie k otázke: Akú povahu majú estetické vlastnosti? Podľa Scrutona, zdá sa, estetické vlastnosti na objektoch ako takých definitívne neexistujú. Objekty také vlastnosti nevlastnia a nie je možné ich doslovne pomenovať a popísať. Priestor pre estetické vlastnosti však Scruton, samozrejme, nachádza. Je ním ľudská schopnosť fikcie – jej tvorby a recepcie – a aj schopnosť metaforicky používať jazyk.<sup>11</sup> Smutné obrazy teda v skutočnosti existovať nemôžu. Môžu však existovať obrazy vyvolávajúce pocity smútku alebo nostalgie. Otázkou však ostáva to, či ich *objektívne* vyvolávajú samé vlastnosti obrazov alebo ich takto interpretuje nejaký typ stabilizovanej recepcie či, inak povedané, štandardného vnímania. Už Goodman tvrdil, že realizmus je vecou zvyku (por. Goodman 2007, 45). V otázke objektívnosti vplyvu konkrétnych vlastností diel, ktoré by mali vyvolávať konkrétne reakcie (emócie), som skeptický. Namiesto objektívnosti by sa tu skôr malo hovoriť o tradičnosti či zvyku.

Estetické pojmy podľa Scrutona nemajú autonómny charakter. Objektom v našom jazyku tak podľa Scrutona prisudzujeme hneď niekoľko typov vlastností alebo kvalít (por. Scruton 2005, 25):

- (i) primárne (môže ich opísať vedecká explanácia, napríklad tvar)
- (ii) sekundárne (dajú sa zachytiť pomocou zmyslových receptorov, napríklad farba)
- (iii) terciárne (estetické vlastnosti – metaforicky použitý jazyk, pričom percepcia týchto kvalít predpokladá isté intelektuálne a emocionálne schopnosti).

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<sup>11</sup> Roger Scruton zaujímavo ukazuje, ako je jazyk umenia odlišný (napr. v prijímaní, resp. odmietaní) konvencií a zaužívaných sémantických vzťahov. Bežný jazyk na akceptovanie konvencií stavia a je tak zrozumiteľný, jazyk umenia, naopak, vytvára fikcie a nové sémantické vzťahy (napr. metaforickou transferenciou) a ich dovtedajšie používanie nahradza novými vzťahmi (por. Scruton 2009b, 148-149).

Toto rozlíšenie má signifikantné dôsledky. Podľa Zangwilla, ktorý interpretuje Scrutona, estetické súdy nie sú skutočné tvrdenia (Zangwill 2003, 67). Vysvetlenie použitia estetických pojmov na opis estetických kvalít je vždy metaforické. To vysvetľuje, prečo sú estetické kvality v Scrutonovom rozlíšení kvalitami tretej skupiny. Táto tretia skupina vlastností je inherentne závislá od prvej skupiny, ktorá je ontologicky primárna. Povaha vzťahu (či ide o supervenienciu alebo iný typ vzťahu) medzi týmito dvoma skupinami vlastností je iste zaujímavou otázkou, ale v tomto texte sa ňou nezaobráme (pozri Hrkút 2012, 359). Scruton teda, zdá sa, verí, že všetky estetické súdy majú vždy charakter metaforickej transferencie. Keď teda používame výrazy tretej kategórie, *de facto* používame rovnaké výrazy ako v predchádzajúcich kategóriách (prvej alebo druhej kategórie), ak ich použijeme v mimoestetickom význame.

Scrutonovi to umožňuje pochybovať o nejakej silnej korelácii medzi estetickými súdmi recipienta na jednej strane a systémom pravidiel použitia týchto výrazov, ktorý by bol derivovaný z vlastností objektu/artefaktu na strane druhej. Preto nás ani nemôže prekvapiť, že vďaka tejto pozícii sa Scruton skepticky stavia k otázke korektnosti estetických súdov. Podľa neho: „Estetická percepcia je vzhľadom k otázke pravdivosti v istom zmysle indiferentná“ (Scruton 2005, 42). A inde: „Estetický záujem abstrahuje od korektnosti alebo nekorektnosti svojho záujmu“ (Scruton 2005, 11). Presvedčivosť na základe dobrých dôvodov alebo správnosť je tým, čo umelecký kritik ešte môže ponúknuť. Nie je to však tak málo, ako by sa mohlo zdať. Ak je predpokladom recepcie estetických vlastností používanie vkusu a hodnotenia, zrieknutie sa možnosti pravdivých výpovedí o tom, či je napr. niečo krásne alebo dynamické, nie je fatálne. Možnosť pravdivosti estetického súdu bola aj pre Kanta otázkou toho, či je estetický súd poznávacím súdom. Kantova odpoveď, že estetické súdy nie sú poznávacie súdy teda vylučuje možnosť, aby sa na ne vzťahovali kritériá pravdivosti.

### 3.2. Hodnotenie aspektualizmu

Na záver ešte krátke zhodnotenie silných a slabých momentov aspektualistického riešenia. Výhody:

- (i) Toto riešenie je elegantné v tom, že nemusí riešiť otázku definície estetických vlastností, a vyhýba sa tak aj pokúšeniu ohraničiť sféru autonómnych estetických pojmov – čo je dosť problematické;

- (ii) aspektualizmus zároveň zaujímavo pomenúva vzťah medzi objektmi/artefaktmi a výroky o nich – o čo vlastne pri estetických súdoch ide;
- (iii) aspektualizmus neprotirečí intuícii a zdravému rozumu, keď vysvetľuje, ako je možné, že používame identické výrazy na pomenovanie estetických aj non-estetických kvalít (pomocou metaforického vyjadrenia).

Pred aspektualizmom však stoja aj určité výzvy, ktoré treba vyriešiť, aby táto pozícia nebola problematická a nevyvolávala pochybnosti:

1. Ako každý anti-realizmus, aj aspektualizmus je kontra-intuitívny v tom, že presúva ťažisko umeleckej komunikácie na recipienta (presnejšie, na jeho kapacitu a kompetenciu tvoriť a interpretovať metaforické transferencie), pričom napríklad ľudová estetika považuje za primárneho nositeľa estetických kvalít alebo hodnôt dielo, resp. autora.
2. Aspektualizmus musí predpokladať neexistenciu ontologicky autonómnych umeleckých objektov alebo diel. Diela existujú len ako fyzikálne objekty, no sú typické tým, že majú potenciál pre kompetentných recipientov vytvoriť priestor na metaforickú transferenciu. A to je, samozrejme, tiež v rozpore s tým, ako prirodzene vnímame umelecké diela, keď ich považujeme za unikátne, hodnotné, vzácne, samé osebe.
3. Ďalšou námietkou voči Scrutonovej pozícii môže byť povaha výrazov ako „krásny“ alebo „škarredý“. Zdá sa, že nemajú žiadny iný primárny spôsob použitia v jazyku ako práve estetický spôsob použitia; resp. ak ich aj používame v inom význame, tak len metaforicky, ale v opačnom smere (od estetického k non-estetickému použitiu). Bolo by určite nevyhnutné vysvetliť, či predikáty „krásny“ alebo „škarredý“ nie sú exkluzívne výrazmi tretej kategórie. Ak by sa to potvrdilo, narušilo by to nevyhnutnosť použitia metaforickej transferencie pri estetických súdoch (por. Hrkút 2012, 359).

#### 4. Záverečné poznámky

Na záver ešte treba dodať dve poznámky, ktoré by si vyžadovali ďalšiu analýzu. Takáto rozšírená analýza by doplnila hodnotenie aspektualizmu a prispela by k porozumeniu tejto zaujímavej pozície v analytickej filozofie umenia. Po prvé, určite stojí za analýzu vysvetlenie rozporu aspektualizmu a ľudovej estetiky, resp. intuitívneho prístupu k svetu umenia; po druhé,

takisto sa nevyhnutne treba vyrovnat' s otázkou: Čo robí všetky estetické súdy estetickými?

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# Inštrumentálny realizmus, ontológia rozlíšení a problém ontologického statusu inštrumentov

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**ABSTRACT:** Scientific realism is a positive epistemic attitude towards the content of our best theories/models recommending belief in both observable and unobservable aspects of the world described by the sciences. This attitude has important metaphysical dimension. It is committed to the mind-independent existence of the world investigated by the sciences (Chakravartty 2013). In his papers *Mathematics and Experience* (2009) and *Mathematics and Reality* (2011) Ladislav Kvasz holds a position of instrumental realism. Kvasz claims that reality is instrumentally constituted and realism issue should be understood as a relation between two languages instead of world-language relation. Kvasz's instrumental realism also suggests to build up an ontology of distinctions instead of an ontology of fillings. The paper deals with Kvasz's version of instrumental realism critically and it aims to show that Kvasz's position is much closer to antirealism than to scientific realism because it does not meet the metaphysical dimension.

**KEYWORDS:** Antirealism – experience – instrument – Ladislav Kvasz – language – ontology – realism – reality.

## 1. Úvod

V prácach *Matematika a skúsenosť* (2009) a *Matematika a skutočnosť* (2011) sa Ladislav Kvasz prihlásil k pozícii inštrumentálneho realizmu,<sup>1</sup>

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<sup>1</sup> „Inštrumentálny realizmus“ je označenie, ktoré v monografii *Instrumental Realism* zaviedol do oblasti filozofie vedy a techniky americký filozof Don Ihde (pozri Ihde 1991).



ktorý tvrdí, že realita je konštituovaná na základe inštrumentov a namiesto vzťahu jazyka a sveta navrhuje chápať realizmus ako vzťah dvoch jazykov (Kvasz 2011, 314). Jedným z prirodzených dôsledkov tejto Kvaszovej pozície je i jeho návrh budovania ontológie rozlíšení namiesto ontológie výplní.

Vo svojej štúdií budem kriticky namietat' voči viacerým východiskám a tézám Kvaszovej verzie inštrumentálneho realizmu a pokúsím sa ukázať, že Kvaszova pozícia je vo svojej podstate antirealistická. Za antirealistickú ju považujem preto, lebo neplní záväzok vedeckého realizmu týkajúci sa nezávislosti reality od ľudského jazyka. Taktiež sa pokúsím aspoň v náznakoch ukázať, že Kvaszova pozícia čelí i vnútornému problému, ako v rámci ontológie rozlíšení presvedčivo vysvetliť ontologický status inštrumentov.

Môj postup, ako dosiahnuť zmienené ciele, je nasledovný. Najskôr stručne vymedzím pozíciu realizmu v rámci teórie vedy prostredníctvom trojdimenzionálneho záväzku: metafyzického, epistemologického a sémantického. Zdôrazním, že pri rozhodovaní o tom, kam zaradiť nejakú pozíciu v spore medzi realizmom a antirealizmom, treba zohľadniť všetky tri dimenzie. Následne stručne predstavím základné pojmy, východiská a tézy inštrumentálneho realizmu Ladislava Kvasza, a zároveň vo forme otázok naznačím ich problematické miesta.<sup>2</sup> Ďalšiu časť štúdie venujem analýze Kvas-

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Za školu inštrumentálneho realizmu označil pozíciu, ktorá sa zrodila v rokoch 1972 až 1987 v prácach piatich amerických filozofov vedy: Roberta Ackermanna, Huberta Dreyfusa, Iana Hackinga, Patricia Heelana a Dona Ihdeho. Vznik pozície inštrumentálneho realizmu úzko súvisel s kritikou dovtedajšej filozofie vedy a zároveň s myšlienkou vedy ako technologického stelesnenia (*technological embodiment of science's mode of knowledge*). Veda sa podľa Ihdeho uskutočňuje ako prax prostredníctvom inštrumentov a experimentálnych situácií. Inštrumentálny realizmus je teda charakteristický tým, že 1. akcentuje centrálnu úlohu praxe (inštrumentov a experimentálnej praxe) pre vysvetľovanie dynamicky sa rozvíjajúcej vedy, 2. kritizuje výhradne propozíčný (lingvistický a logický) charakter analýzy a 3. priznáva istý stupeň skutočnosti, tzv. reality-status, entitám, ktoré sa v predchádzajúcej filozofii vedy považovali za čisto teoretické – teda myšlienka, že vedecké objekty sú konštituované za pomoci inštrumentov. Pozri Ihde (1991, 98-114). K základným tézám a argumentom inštrumentálneho realizmu pozri tiež Baird (1988).

<sup>2</sup> Tu je potrebné zdôrazniť, že Kvaszove východiská svojimi všeobecnými formuláciami o povahe inštrumentálnej skúsenosti a povahe jazyka vedy jednoznačne presahujú oblasť matematiky. Moja interpretácia a kritika problematizuje práve túto východiskovú bázu Kvaszovej filozofie matematiky. Preto svoju pozornosť upriamujem na Kvaszovo chápanie skúsenosti a jazyka, presnejšie povedané, na ním akcentovaný priepastný rozdiel medzi bežnou (neinštrumentálnou) skúsenosťou a inštrumentálnou (symbolickou) skúsenosťou matematiky.

zom navrhnutej dištinkcie ontológie na ontológiu výplní a ontológiu rozlíšení. Neskôr upriamim pozornosť na formulovanie výhrad, ktoré mi v závere poslúžia jednak na vysvetlenie toho, prečo sa môže interpretom Kvaszovej pozície zdať, že jeho inštrumentálny realizmus lavíruje medzi realizmom a antirealizmom,<sup>3</sup> na druhej strane mi formulované výhrady pomôžu zdôvodniť, prečo interpretujem Kvaszovu pozíciu ako antirealistickú.

## 2. Nutnosť metafyzickej podmienky v rámci trojdimenzionálneho záväzku realizmu

Realistická pozícia sa v teórii vedy zvyčajne predstavuje ako pozícia, ktorá tvrdí, že naše najlepšie teórie a modely nám poskytujú pravdivý alebo približne pravdivý opis pozorovateľných a nepozorovateľných aspektov od mysle/jazyka nezávislej reality. Takto vymedzený realizmus má teda trojdimenzionálny záväzok: metafyzický, sémantický, epistemologický (Chakravartty 2013, Ch. 1). Z metafyzického hľadiska sa pozícia realizmu vo vedách zaväzuje k téze, že realita, ktorú objavuje príslušná veda (a to i s prihliadnutím na neprivilégovanosť a aspektovosť prístupu danej vedy), existuje nezávisle od mysle/jazyka. Pozíciu, podľa ktorej realita existuje nezávisle od myslenia a jazyka, možno najlepšie pochopiť v kontraste s idealizmom, ktorý túto myšlienku popiera, ale aj v kontraste s neokantiánstvom. Neokantiánstvo túto myšlienku paralyzuje formou trivializácie – tým, že síce pripúšťa triviálny predpoklad existencie sveta o sebe, ale tvrdí jeho nepoznateľnosť a nahrádza ho pojmom epistemicky relevantnej reality závislej od nášho myslenia a jazyka.

Z dôvodu nutnosti metafyzického záväzku vedeckého realizmu budem teda vo svojom texte pristupovať k otázke realizmu a k hodnoteniu Kvaszovho projektu inštrumentálneho realizmu prostredníctvom aspektu nezávislosti – prostredníctvom nezávislej existencie reality. Za realistickú budem považovať takú pozíciu, ktorá tvrdí nezávislosť toho, čo je myslené a vyjadrované, od toho, čím to je myslené a vyjadrované.

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<sup>3</sup> Na lavírovanie Kvaszovej filozofie matematiky medzi realizmom a antirealizmom upozornil hneď po publikovaní prvého (*Matematika a skúsenosť*) z dvojice Kvaszových textov Jaroslav Peregrin v Peregrin (2010).

### 3. Inštrumentálny realizmus Ladislava Kvasza

Domnievam sa, že hoci je Kvaszov inštrumentálny realizmus rozvíjaný pre oblasť matematiky, mnohými analýzami i príkladmi, ktoré Kvasz robí, ide jeho pozícia naprieč jednotlivými vedami, ale aj naprieč každodennou praxou. Na základe toho si dovoľím všeobecnejšie tvrdiť, že Kvaszov variant inštrumentálneho realizmu je motivovaný cieľom vysvetliť komplexnosť vzťahu vedy a skutočnosti tak, aby sa objasnila objektívnosť a netriviálnosť vedeckého poznania v rámci historického vývinu vedy.

Kvaszovu pozíciu v spore realizmu a antirealizmu určuje najmä jeho špecifické chápanie skúsenosti a jazyka. Tomu zodpovedajú aj základné ciele a výstavba jeho dvojice štúdií. Práca *Matematika a skúsenosť* (2009) začína konceptuálnym vymedzením skúsenosti a jazyka. Voľne nadväzujúca štúdia *Matematika a skutočnosť* (2011) následne využíva vymedzené pojmy skúsenosti a jazyka na kritiku dvojice rivalských pozícií vo filozofii matematiky – logicizmu a empirizmu – a kritizuje ich kvôli skresľovaniu vzťahu matematiky a skutočnosti. Kvaszova koncepcia ašpiruje na vysvetlenie vzťahu matematiky a skutočnosti obrúsením skresľujúcich a spojením zdravých častí týchto rivalských pozícií do jedného jadra v podobe pozície zlatého streda. Inštrumentálny realizmus Ladislava Kvasza sa tak pokúša sklbiť realistickú tézu, že veda opisuje určité aspekty reality, s inštrumentalistickou tézou o inštrumentálnom charaktere vedy. Tým sa Kvaszov inštrumentálny realizmus pokúša zaujať stredovú pozíciu nielen medzi formalizmom a empirizmom, ale aj medzi substančným realizmom a transcendentálnym idealizmom, a medzi umierneným realizmom a umierneným antirealizmom. Každé úsilie o zmier rivalských pozícií, ktoré majú svoje historické trvanie i hodnotu, však popri obdive voči zmierovateľskému konštruktívnemu úsiliu prirodzene navodzuje i výhrady týkajúce sa otázky realizovateľnosti takéhoto prepojenia protipólov.<sup>4</sup> Na to, aby sa výhrady mohli formulovať, je nutné najskôr predstaviť a analyzovať samé základy Kvaszovej pozície, teda jeho chápanie skúsenosti a jazyka.

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<sup>4</sup> Stredovosť každej filozofickej pozície však navodzuje popri zaslúženom obdive za úsilie o konštruktívne prepájanie protichodných pozícií aj určité výhrady. Takéto uznanie, ale aj kritika voči Kvaszovmu variantu inštrumentálneho realizmu sa doposiaľ vzniesli v prácach: Peregrin (2010), Labuda (2013) a Bánovský (2014).

### 3.1. Skúsenosť

Je evidentné, že Kvasz vo svojich úvahách vychádza z predpokladu existencie netriviálne odlišných druhov ľudskej skúsenosti. Základné rozdelenie skúsenosti uskutočňuje podľa toho, či sa na skúsenosti podieľajú, alebo nepodieľajú inštrumenty. Inštrumenty pritom chápe ako artefakty. Pokiaľ sa na skúsenosti inštrumenty nepodieľajú, vtedy Kvasz hovorí o prirodzenej alebo bežnej skúsenosti. Pokiaľ je však proces našej interakcie so svetom realizovaný za pomoci inštrumentov, Kvasz danú skúsenosť označuje ako inštrumentálnu. Následne rozlišuje inštrumentálnu skúsenosť ešte na dva podtypy podľa toho, či ide o inštrumenty ako *prístroje* experimentálneho charakteru (meracie prístroje v rámci fyziky), alebo ide o inštrumenty ako *nástroje* symbolického a ikonického charakteru (jazyk matematiky). Jeho rozlíšenia skúsenosti sa dajú graficky zhrnúť v nasledujúcej klasifikácii:

Skúsenosť:

- (a) *prirodzená* = neinštrumentálna (bez artefaktov);
- (b) *inštrumentálna* = artefaktuálna (s artefaktmi);
  - (b.1) inštrumentálna typu – *experimentálna* (fyzikálna): pomocou meracích prístrojov
  - (b.2) inštrumentálna typu – *symbolická* (matematická): pomocou nástrojov symbolickej a ikonickej reprezentácie

Čo je motívom tejto Kvaszovej klasifikácie? Z textov je zrejmé, že motívom danej klasifikácie je predstavenie skúsenostného rozmeru matematiky, a tým aj vyriešenie Benacerrafovej dilemy rozpustením. Benacerrafova dilema sa týka toho, že v rámci filozofie matematiky sa epistemológia rozvíja na úkor sémantiky a *vice versa*.<sup>5</sup> Kvaszovým cieľom je ukázať, že ak má matematika skúsenostný rozmer, tak je nádej na skĺbenie silného vysvetlenia toho, čo v matematike objektívne poznávame, s tým, ako v matematike objektívne poznávame. Teda prepojenia objektívnosti matematického poznania a jeho väzby na skutočnosť. Na rozpustenie epistemologického pólu Benacerrafovej dilemy Kvaszovi slúži práve špecifický pojem skúsenosti, kto-

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<sup>5</sup> Kvasz v (2009, 147) uvádza: „[c]ieľom je ukázať, že ak sa na epistemologický aspekt matematiky pozrieme z historickej perspektívy, matematické poznanie je príbuzné s poznaním fyziky (táto príbuznosť, po vytrhnutí z historického kontextu, tvorí základ intuícií, na ktorých stoja realistické programy). Odpoveď na Benacerrafovú dilemu je možná len po výklade oboch jej pólův, epistemologického i sémantického.“

rú nazýva symbolickou skúsenosťou. Vráťme sa teda po objasnení motívu o krok späť a analyzujeme pozorne Kvaszovo chápanie skúsenosti.

Predloženie akejkoľvek klasifikácie je vždy motivované a každá klasifikácia má určité kritérium delenia. Kritériom prvého delenia v uvedenej klasifikácii je prítomnosť či neprítomnosť inštrumentov. Tá nám delí skúsenosť na (a) neinštrumentálnu a (b) inštrumentálnu. Druhú úroveň klasifikácie Kvasz zavádza na základe rozdielnosti povahy inštrumentov raz ako experimentálnych prístrojov (b1), inokedy ako nástrojov symbolickej a ikonickkej reprezentácie (b2). Pri voľbe označení v rámci grafickej klasifikácie druhej úrovne som zámerne zvolil označenie (b1) a (b2), aby som dokázal vyjadriť rodovú príbuznosť spočívajúcu v (b) artefaktuálnosti inštrumentov, a aby som zároveň dokázal vyjadriť aj druhovú rozličnosť podľa toho, či ide (b1) o meracie prístroje fyziky alebo (b2) o nástroje symbolickej a ikonickkej reprezentácie matematiky.

Motív Kvaszovho chápania skúsenosti a jej klasifikácie ozrejmuje aj jeho vyjadrenie, že jeho „[c]ieľom je asymetriu medzi empirickým charakterom experimentálnej skúsenosti a neempirickým charakterom symbolickej skúsenosti *oslabiť*. Urobíme to tak, že [...] budeme radikalizovať výklad inštrumentu“ (Kvasz 2009, 150). Až posun chápania skúsenosti radikalizáciou inštrumentu Kvaszovi totiž prináša vytúžené ovocie. Ovocím je oslabenie hraníc matematiky a fyziky vo forme premostenia neempirického charakteru symbolickej skúsenosti a empirického charakteru experimentálnej skúsenosti. Týmto oslabením hraníc (zjednodušene medzi empirickosťou fyziky a neempirickosťou matematiky) sa však v Kvaszovom projekte zároveň vytvára trhlina na inom mieste jeho klasifikácie. Vytvára sa priepasť medzi prirodzenou skúsenosťou a inštrumentálnou skúsenosťou, čím sa vlastne vytvára aj priepasť medzi každodenným zmyslovo vnímateľným svetom dostupným bežnej skúsenosti a svetom fyziky a matematiky sprostredkovaným pomocou inštrumentálnej skúsenosti. Na zvýraznenie rozdielu medzi (a) a (b) Kvasz sám siaha po básnickej metafore priepasti. Bežnej skúsenosti (a) nie sú k dispozícii inštrumenty. Inštrumenty ostávajú k dispozícii len na strane (b), na ktorej sa uskutočňuje prax matematiky či fyziky.

Za značne problematické v súvislosti s Kvaszovým postojom ohľadom skúsenosti považujem to, že centrálné vymedzenie pojmu skúsenosti, ktoré by prepájalo všetky tri druhy skúsenosti, v jeho texte takmer absentuje.<sup>6</sup> Is-

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<sup>6</sup> Určité spoločné vymedzenie, ktoré by prepájalo všetky tri druhy skúsenosti, Kvasz predsa len ponúka. Toto vymedzenie je však minimalistické. Kvasz ľudskú skúsenosť

tú výnimku nachádzame v Kvaszovom vyjadrení, že „[s]kúsenosť nie je každé dráždenie nervových zakončení, ale len také, ktoré dospeje k uvedomeniu, teda ktoré dokáže priradiť *zmysel*“ (Kvasz 2009, 168). Zdá sa, že celá klasifikácia je vlastne Kvaszovou účelovou reakciou na ním odmietané dichotómie (napríklad syntetické verzus analytické), ktoré dezinterpretujú skutočnú povahu a historický vývoj moderných vied a v oblasti matematiky živia viaceré dilemy – napr. spomenutú Benacerrafovú dilemu. Tu sa nám však vnucuje celý rad otázok, ktoré problematizujú Kvaszovu pozíciu: Nie je uvedomenie (si niečoho) ako schopnosť priradenia zmyslu doménu každej skúsenosti? Teda aj prirodzenej skúsenosti? Nie je symbolická a ikonická reprezentácia charakteristikou nášho bežného, každodenného jazyka, ktorý je súčasťou našej bežnej skúsenosti a ako taký je zakorenený v realite, nezávislej od jazyka, v ktorej sa evolučne vyvíjal? Ak je, prečo neradikalizovať výklad inštrumentu až na biologickú rovinu (oko alebo mozog)? A čo nám bráni pomenovať konvečne prijaté sekvencie artikulovaných zvukov či im priradených grafém, ktorými fixujeme zmysel nášho zjavného správania podľa určitých pravidiel bežnej praxe taktiež nástrojmi symbolickej a ikonickej reprezentácie?

Kvaszova radikalizácia výkladu inštrumentu spočíva v tom, že sa rozširuje chápanie inštrumentu tak, aby sa za ne nepovažovali len vedecké *prístroje* fyziky, ale aj vedecký jazyk matematiky ako *nástroj* symbolickej a ikonickej reprezentácie. Tákato radikalizácia výkladu inštrumentu potom dokáže elegantne poukázať na neudržateľnosť postojov krajných pozícií vo filozofii matematiky (formalizmus vs. platonizmus) a dokáže tiež elegantne vysvetliť blízkosť modernej fyziky a matematiky. Vyberá si však aj nutnú daň, ktorou je až prílišné úzke, reduktívne chápanie bežnej skúsenosti s hroziacou konzekvenciou potreby odmietnuť symbolickú povahu prirodzeného jazyka. Ak sa vo svojej úvahe nemýlim, tak je tým Kvaszov projekt inštrumentálneho realizmu dotlačený pred nasledujúcu otázku: Ako vysvetliť mystérium tvorby matematického univerza? Presnejšie povedané: Ako vysvetliť vzťah zrodu sveta matematiky zo sveta bežnej skúsenosti vo forme objasnenia procesu idealizácie?<sup>7</sup> Každé filozofické konštatovanie priepasti (vrátane toho Kvaszovho) totiž priam volá po zlanení vo forme objasnenia.

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považuje za akt priradenia či presnejšie povedané, za „vnímanie zmyslu“. Aj Jaroslav Peregrin v Peregrin (2010, 76) toto Kvaszovo vymedzenie skúsenosti označuje za vysvetlenie *obscurum per obscurius*.

<sup>7</sup> Je čestné dodať, že Kvasz si je tohto dlhu v podobe potreby vysvetlenia procesu idealizácie (ako epistemickej zmeny, ktorou sa rodí univerzum matematiky z univerza bežnej

### 3.2. Jazyk

Kvasz vysvetľuje svoje chápanie jazyka pomocou vymedzenia sa voči Quinovmu jazykovému holizmu. Uvádza:

Namiesto Quinovho *holistického* modelu jazyka navrhujeme model *fragmentárny*. Jazyk netvorí jeden súvislý celok, nie je to sieť, do ktorej chytáme fakty. Jazyk je skôr súborom fragmentov, z ktorých každý bol vytvorený s iným účelom, podľa odlišných pravidiel, v rôznych dobách. (Kvasz 2009, 150)

Jazyk matematiky je tak podľa Kvasza len súborom nástrojov symbolickej a ikonickkej reprezentácie vytvoreným na rozličné účely, podľa odlišných pravidiel, v rôznych dobách.<sup>8</sup> Z fragmentárneho modelu následne Kvaszovi vyplýva téza o historicky previazanej pluralite jazykov matematiky.

Na margo vzťahu jazyka, skúsenosti a matematiky Kvasz píše:

Z chaosu vnemov vzniká skúsenosť. A práve v tom, že pomocou nástrojov symbolickej a ikonickkej reprezentácie matematika otvára prístup k javom a súvislostiam, ktoré by bez týchto nástrojov zostali navždy nepoznateľné, je vzťah matematiky so skúsenosťou. (Kvasz 2009, 164)

V súvislosti so vzťahom jazyka, skúsenosti a matematiky sa Kvasz týmto vyjadrením otvorene hlási k spochybneniu tézy o (matematickej) skutočnosti nezávislej od inštrumentov. To, čo však presne Ladislav Kvasz spochybňuje, zostáva pre kolísavosť jeho stredovej pozície otáznе. Spochybňuje Kvasz (1) tézu o nezávislosti skutočnosti od inštrumentov, *alebo* spochybňuje (2) tézu o nezávislosti nášho poznania skutočnosti od inštrumentov?<sup>9</sup> Spochybňovanie tézy (2), teda toho, že naše poznanie a jeho obsahy sú závislé od nami používaných poznávacích nástrojov považujem za neproblematické. Spochybňovanie tézy (1) však automaticky čelí výhrade typu: To, čo nepoznáme, potom neexistuje. Príklad, ktorý Kvasz uvádza v texte *Matematika a skúsenosť* (2009, 151), tiež naznačuje, že aj keď Rimania na aritmetické

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skúsenosti) vedomý. K tomu pozri Kvasz (2011, 306, pozn. 4; 309 pozn. 5; a 313, pozn. 7).

<sup>8</sup> Pravdepodobne nie ďaleko od zmyslu neskorowittgensteinovskej rozmanitosti jazykových hier.

<sup>9</sup> Analogicky sa dá pýtať aj na oblasť nášho zmyslového vnímania skutočnosti či vedeckých teórií opisujúcich skutočnosť.

operácie používali nepozičnú sústavu, v prípade toho, že by im nejaká iná kultúra poskytla výpožičku v podobe pozičnej sústavy, tak by dokázali dopracovať k vypočítaniu  $\pi$  (ako odhaleniu matematickej skutočnosti) na 60 desatinných miest. Naše poznanie sveta je teda vždy závislé od našich konceptuálnych schéma, avšak to, že niečo (napr. matematická realita) leží za horizontom nášho videnia, poznania či jazykového vyjadrenia, ešte neznamená, že to neexistuje nezávisle od nás.

V prípade matematiky to znamená, že realita, ktorú matematika nástrojmi symbolickej a ikonickkej reprezentácie opisuje (a tým zároveň i konštituuje a funduje), je podľa Kvasza celkom závislá od matematických jazykových nástrojov. „Matematika je poznávaním objektívneho sveta konštituovaného pomocou nástrojov symbolickej a ikonickkej reprezentácie“ (Kvasz 2009, 168). Kvasz síce ďalej tvrdí, že objekty, o ktorých hovorí matematika, objektívne existujú, ale ich existencia je inštrumentálne (rozumej jazykom matematiky) konštituovaná. Domnievam sa, že Kvaszovo úsilie ukázať, že objekty matematiky či moderných fyzikálnych teórií nie sú len subjektívnymi konštruktmi našich jednotlivých myslí (psychologizmus), ale ani objektívnymi a jazykovo nezávislými predmetmi externého sveta, ho vedie k stabilizácii týchto „objektov“ formou ich existenčnej závislosti od jazyka. Kvasz je v tomto bode celkom jasný: „[m]atematickú realitu tvoria stabilizované obsahy inštrumentálnych reprezentácií“ (Kvasz 2011, 321).

Zdá sa, že Kvasz v podstate ponúka určitú verziu „realizmu“ kultúrnej stabilizácie významov našich jazykových praxí, ktoré boli vytvorené na isté účely, podľa určitých pravidiel a v konkrétnych historických epochách. V rámci fragmentárneho modelu jazyka je potom univerzum matematiky tvorené súborom čiastkových univerz stabilizovaných obsahov jednotlivých jazykových epoch matematiky. Univerzum sa tak rozťahuje, zmršťuje a prebudováva podľa horizontov a medzi príslušných jazykov historického vývoja matematiky (syntetická geometria, algebra, atď.). Jednosmerná závislosť reality od jazyka týmto odkazuje Kvaszovu pozíciu k štandardnému antirealizmu, ktorý tvrdí úplnú závislosť reality od horizontu a medzi jazyka, s čím súvisí i jeho odmietanie myšlienky objektového jazyka a jeho výzva riešiť otázku realizmu výhradne ako otázku vzťahu dvoch jazykov.

### 3.3. Cieľ a základné tézy inštrumentálneho realizmu

Cieľom inštrumentálneho realizmu Ladislava Kvasza je analýza a objasnenie komplexnosti vzťahu medzi vedou (matematikou) a skutočnosťou. Inštrumentálny realizmus Kvaszovho variantu sa usiluje spojiť tak realistic-



ký, ako i inštrumentálny aspekt prítomný v každej vedeckej paradigme tým, „že sa usiluje porozumieť procesu konštituovania reality na základe inštrumentálnej skúsenosti“ (Kvasz 2011, 305). Základnými tézami Kvaszovho variantu inštrumentálneho realizmu teda sú:

- (T1) Realizmus: Matematika vypovedá o určitom vybranom aspekte skutočnosti.
- (T2) Inštrumentalizmus: Skutočnosť, o ktorej matematika vypovedá, nie je daná bezprostredne, ale prostredníctvom jazyka ako nástroja symbolickej a ikonickkej reprezentácie.

Z Kvaszovho chápania skúsenosti, jazyka i základných téz jeho pozície je zrejme, že kľúčom k objasneniu vzťahu vedy a skutočnosti je jazyk. Jazyk, ktorý je historicky otvoreným a kultúrne utváraným nástrojom symbolickej a ikonickkej reprezentácie, plní vo vzťahu k skutočnosti tri neredukovateľné roly: deskriptívnu, konštitutívnu a fundačnú. Práve takéto chápanie jazyka Kvaszovi umožňuje formulovať otázku realizmu ako otázku vzťahu dvoch jazykov. Píše:

Miesto otázky, *aký je vzťah určitého teoretického jazyka k mimojazykovej realite [...]* položíme otázku, *kedy je teoretický jazyk preložiteľný do ontologického jazyka [...]*. Domnievam sa, že až takto možno problém realizmu v matematike adekvátne formulovať. (Kvasz 2011, 315)

Pri takomto chápaní jazyka sa nám však vnucuje otázka: Čo leží za hranicami jazyka?

#### 4. Ontológia v medziach inštrumentálneho realizmu

V zmierovacej tendencii zlaďovania proti sebe stojacich pozícií realizmu a antirealizmu Kvasz pokračuje tým, že svoj variant inštrumentálneho realizmu v otázkach ontológie opätovne predstavuje ako stredovú pozíciu. Tentoraz ako stred medzi substančným a transcendentálnym realizmom.<sup>10</sup> Kvasz píše:

<sup>10</sup> Keďže Kvasz používa slovné spojenie *transcendentálny realizmus*, nie je celkom zrejme, či má ísť o kantovskú pozíciu transcendentálneho idealizmu (čomu by nasvedčovalo Kvaszovo vymedzenie) alebo o pozíciu, voči ktorej sa Kant vymedzoval.

Na rozdiel od substančného realizmu inštrumentálny realizmus tvrdí, že *k podstatám vecí* nemáme prístup. *Reálne nie sú substancie, ale rozlíšenia.*<sup>11</sup> Termín „rozlíšenia“ používam v zmysle inštrumentálneho rozlíšenia pomocou určitého prístroja. [...] Na rozdiel od transcendentálneho realizmu inštrumentálny realizmus vychádza z predpokladu, že k realite prístup máme – síce sprostredkovaný inštrumentmi, ale napriek tomu dost’ robustný na to, aby sme mohli tvrdiť, že čísla, trojuholníky [...] reálne existujú. (Kvasz 2011, 303-304)

V rámci takého vymedzenia svojej pozície Kvasz navrhuje aj rozlišovanie dvoch typov realizmov – realizmu rozlíšenia a realizmu výplní, ktoré korešpondujú s jeho klasifikáciou ontológie. Ontológie výplní podľa neho prisudzujú status reality určitej látke či substancii v súlade so sémantikou bežného jazyka. Ontológie rozlíšenia tejto tendencii fixovania entít vzdorujú tým, že za reálne považujú len rozlíšenia, a nie výplne. Evidentným teda je to, že Kvasz odmieta myšlienku objektového jazyka, a preto odmieta riešiť otázku realizmu ako otázku vzťahu mimojazykovej reality a jazyka.

Súhlasím s Kvaszom v tom, že otázka realizmu je zakorenená, a tým i rozhodovaná rastrom nášho jazyka, a zároveň dodávam, že aspektovosť jazyka je len vyjadrením intencionality nášho vnímania, myslenia i konania, ktoré tvoria jednotnú životnú prax. Principiálny problém však vidím v tom, že dva typy ontológií, ktoré postulujú v podobe vylučovacej ponuky, sa vzájomne predpokladajú. Pojem rozlíšenia predpokladá pojem rozlišiteľného

Aj Kvaszovo vymedzenie substančného realizmu je veľmi zjednodušujúce a účelové. Najčastejší variant substančného realizmu, ktorý má svoj pôvod v Aristotelovom učení, totiž predpokladá, že prvá substancia je neakcidentálnou jednotlivinou a ako taká je pre oblasť matematiky úplne nemysliteľná. Substanciu v najvlastnejšom zmysle považuje Aristoteles za nič, čo „nie je v podmete a ani sa o podmete nevytvára“. Pre oblasť matematiky by sme teda v rámci aristotelizmu museli hľadať [matematické entity] medzi druhými substanciami, ktoré sú neakcidentálnymi všeobecninami typu rodov a druhov, pretože matematika pracuje s abstraktnými objektmi, ktoré majú univerzálnu povahu a sú v kontrapozícii k jedinečnosti a neopakovateľnosti prvých substancii.

Ďalšou dôležitou poznámkou na margo substancii a Kvaszovho vymedzenia substančného realizmu je to, že v Kvaszovom výklade dochádza k neprípustnému zamieňaniu substancii so substrátmi. K tomu pozri napríklad Carr (2004, 27-42).

<sup>11</sup> Na inom mieste Kvasz dokonca tvrdí neutralitu svojej pozície voči substanciam, ktorú však sprevádza istým druhom pragmatizmu v zmysle kritéria užitočnosti – ak nám postulovanie takýchto entít na niečo pomôže, tak predpokladáme, že takého entity sú.

(ktorý pramení z intencionality vnímania, myslenia i jazyka). Pojem výplne zas predpokladá pojem vyplňaného (nejaký substrát alebo určitú substanciu). Kvasz však jednoznačne odmieta myšlienku reality nezávislej od jazyka matematiky, čím sa automaticky vzdáva aj plnenia metafyzického záväzku nezávislosti vopred štruktúrovanej reality, ktorú matematika aspektovo idealizuje, rozumie, matematizuje (a to dokonca aj „na spodnom poschodí“).<sup>12</sup> Tu si musíme položiť otázku: Ak k podstatám prístup nemáme a prvotné z hľadiska ontológie sú práve naše rozlíšenia fixované jazykom, aký pojem reality nám potom zostáva v rámci inštrumentálneho realizmu k dispozícii? Kvaszovou odpoveďou je pojem konštituujúcej sa reality v závislosti od jazyka.

### 5. Problematický pojem reality a problém ontologického statusu inštrumentov<sup>13</sup>

Kvasz píše o realite, ktorá sa realitou „stáva až v dôsledku rozkrájania a následného postulovania súcien“ (Kvasz 2011, 314). Kvaszom zastávaná skutočnosť je „disponovaná“ k tomu, aby bola krájaná jazykom, a realita je realitou až na základe konštitutívnej sily jazyka. Kvasz tým zreteľne odmieta tézu o nezávislej existencii vopred štruktúrovanej reality. Pri pátraní po jeho dôvodoch odmietnutia tejto tézy však nachádzame v jeho texte Kvasz (2011, 314) len nasledovnú dvojicu kandidátov: (a) existenciu nekonečného množstva spôsobov, akými možno rozkrájať skutočnosť a určité bloky prehlásiť za „súcna“, a (b) fakt, že určitý jazyk vyberá vždy len jednu možnosť, ktorú ontologizuje.

Na rozdiel od Kvasza sa nedomnievam, že to, čo tu je, sa realitou stáva až v dôsledku rozkrájania a následného postulovania súcien jazykom, pretože nevidím dôvod na to, aby som namiesto jedného pojmu reality mal dva pojmy reality. Presnejšie povedané, aby som používal pojem neštruktúrovanej skutočnosti, ktorú epistemologicky trivializujem, a zároveň používal ešte i pojem epistemicky relevantnej reality štruktúrovanej jazykom. Problematickosť Kvaszovho náhľadu vidím v tom, že ani jeden z dôvodov, ktoré uvá-

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<sup>12</sup> Vecne sa tým podľa mňa hlási k novokantovsko–kuhnovskému antirealizmu, ako ho predstavuje napríklad Chakravartty (2013, Ch. 4.2).

<sup>13</sup> Analýze Kvaszovho chápania reality som sa bližšie venoval už aj v texte Labuda (2013, 71–75).

dza, nijakým spôsobom neprotirečí téze o existencii štruktúrovanej reality nezávislej od jazyka.<sup>14</sup> Kvaszov prvý dôvod sa kryje s tézou o pluralite konceptuálnych schém a ich jazykových vyjadrení, s ktorou realista nemusí mať žiadny problém. Jeho druhý dôvod sa zase kryje s tézou o pluralite jazykom fundovaných ontologických koncepcií, ktorá taktiež nijako neproblematizuje realizmus. Kvaszove výhrady, ktoré ho vedú k popieraniu reality nezávislej od jazyka, sú teda jednoznačne zlučiteľné aj s pozíciou priamočiareho realizmu, ktorá má oproti antirealistickým rivalom jednu výhodu, a tou je fakt, že realistické tvrdenia o jazyku sa dajú plauzibilne vzťahnúť aj na ne samé.<sup>15</sup>

Kvaszov pojem neštruktúrovanej skutočnosti, ktorá je pripravená na to, aby „bola pokrájaná“, je štandardným antirealistickým pojmom beztvareho podkladu či masy. Toto „neštruktúrované niečo“ však Kvasz nenazýva realitou, pretože realita v jeho chápaní (a v tom sa s ním zhodnem) vyžaduje nejakosť, teda štruktúrovanosť. Štruktúrovanosť bez rozlišovania prostredníctvom inštrumentov však Kvaszova pozícia nepripúšťa. Ak však štruktúrovanosť bez rozlišovania nie je možná a rozlišovanie je procesom používania našich nástrojov, ako dokáže inštrumentálny realizmus vysvetliť ontologický status inštrumentov? V čom spočíva ontologická primárnosť inštrumentov (a to či už experimentálnych prístrojov alebo symbolických nástrojov reprezentácie)? Ak niet v ontológii miesta pre entity, ale len pre rozlíšenia, tak sú aj Kvaszove inštrumenty len ontologickými rezíduami našich jazykových rozlíšení. Ak sú len rezíduami, ako ich môžeme označiť za činiteľov konštitúcie? Ak inštrumenty nie sú iba stabilizovanými obsahmi našich rozlíšení, tak by mal Kvasz výnimočnosť ich statusu vysvetliť. Domnievam sa, že práve tu sa nachádza jedna z najväčších slabín inštrumentálneho realizmu. V otázke – v čom spočíva mimoriadny status inštrumentov. Ide o to, že ak je všetko len výsledkom našej rozlišovacej schopnosti, ktorú len fixujeme prostredníctvom jazyka, tak rozlišovacou schopnosťou disponuje vlastne aj bežná skúsenosť. Aj bežná skúsenosť priraduje zmysel a je teda konceptu-

<sup>14</sup> Nechcem tvrdiť, že Kvaszove tézy tendujú k realizmu či sú realistické. Len upozorňujem, že na svoje antirealistické tézy o krájaní a postulovaní reality používa nedostatočné dôvody, pretože sú zlučiteľné aj s opakom jeho tézy – a síce s tézou, že realita má celkom určitú štruktúru aj nezávisle od nášho jazyka.

<sup>15</sup> Ide o tzv. test reflexivity, ktorý rieši, či je možné konzistentne vzťahnúť chápanie jazyka realistu či antirealistu na jeho vlastné výpovede o jazyku. Problém antirealistickej pozície pri teste reflexivity spočíva v tom, že antirealizmus nevie „zabezpečiť“ od jazyka nezávislý status inštrumentov, ktorými by konštituoval od jazyka závislú realitu. K tomu pozri Kořátko (2005, 383-385).

álnou. Kvasz predsa i sám tvrdí, že skúsenosťou „nie je každé dráždenie nervových zakončení, ale len také, ktoré dospeje k uvedomeniu, teda ktoré dokáže priradiť *zmysel*“ (Kvasz 2009, 168). Ak je aj bežná skúsenosť konceptuálna, aký rozdiel (okrem miery komplexnosti) spočíva medzi ňou a Kvaszom definovanou symbolickou skúsenosťou? Ak experimentálna skúsenosť modernej fyziky spočíva v používaní artefaktov – napríklad v používaní Hubblovho vesmírneho ďalekohľadu – akú úlohu pre konštituovanie majú tieto artefakty, ak by sme neboli schopní konceptuálne rozlíšiť dáta, ktoré nám dané artefakty poskytujú? A ako sa vlastne proces konštituovania a zachytávania rozlíšení v jazyku vedy vecne odlišuje od oblasti každodenného života? Domnievam sa, že vymedzením špecifického média (teda jazyka vedy vecne odlišného od jazyka bežnej skúsenosti) cesta vysvetlenia radikálnej odlišnosti prirodzenej a vedeckej skúsenosti nevedie. Keďže neexistuje nič také ako prirodzená nesymbolická skúsenosť a neexistuje ani nič také ako prirodzený nesymbolický jazyk. Ten, kto tvrdí opak, mal by uviesť nejaký spôsob, ktorým by vysvetlil, ako sa vecne odlišujú diskkrétne jednotky zvuku či diskkrétne jednotky vizuálneho poľa v oblasti bežného života od oblasti vedeckej praxe, ak nie iba presnosťou a prísnosťou pravidiel ich použitia.

Domnievam sa, že jazyk (i jazyk matematiky) ako rozmanitosť nástrojov symbolickej a ikonickej reprezentácie má moc vytvárať rozmanité konceptualizácie, ale to na vopred a nezávisle štruktúrovanej realite, v ktorej rámci sa (evolučne či revolučne) vyvinul. Túto vopred štruktúrovanú realitu a našu skúsenosť s ňou jazyk konceptualizuje (matematizuje). Tým jazyk tvorí „nové reality“, z pohľadu ktorých sa pôvodná realita (v ktorej je bežný jazyk ukotvený a z ktorej sa každý jazyk vedy musel vyvinúť) môže javiť nereálna. Podmienka vopred štruktúrovanosti reality, v ktorej sa jazyk matematiky musel vyvinúť, sa mi však zdá celkom prirodzenou kauzálnou podmienkou. Uvedomujem si, že toto vyjadrovanie si vyžaduje podrobnejšie vysvetlenie. Rozpracovanie uspokojivej a nevulgárnej verzie vysvetlenia si však určite zaslúži samostatný text. Mój cieľ bol iný: poukázať na problémy, ktoré inštrumentálnemu realizmu Laca Kvasza prináša radikalizácia chápania inštrumentu i postulovanie neprekonateľnej priepasti medzi prirodzenou a inštrumentálnou skúsenosťou. Osobne za vhodného adepta na obhájenie mojej pozície považujem prístup pragmatizmu s pozíciou priamočiareho realizmu. Ten totiž korešponduje s mojou intuíciou, že matematika sa ako jazyková prax špecifického druhu musela vyvíjať prostredníctvom reálnej schopnosti (abstrahovanie), ktorou disponovali reálni ľudia v reálnom a od týchto ľudí a ich schopností existenčne nezávislom vopred štruktúrovanom prostredí.

## 6. Záver

Cieľom mojej štúdie bolo predstavenie a kritika inštrumentálneho realizmu Ladislava Kvasza. Pokúsil som sa (1) identifikovať problematické momenty jeho pozície, ktoré by som zhrnul nasledovne: a) reduktívne chápanie bežnej skúsenosti ako nesymbolickej; b) lavírovanie medzi silnejšou (konštitutívnou) a slabšou (deskriptívnou) úlohou inštrumentov vo vzťahu k realite; c) riešenie otázky realizmu ako vzťahu dvoch jazykov a d) problematickosť vysvetlenia ontologického statusu inštrumentov v Kvaszom preferovanej ontológii rozlíšení, v ktorej rámci sú samotné diskrétné jednotky, teda aj inštrumenty (fyzikálne prístroje či matematické rovnice) konštituované len silou jazyka. Pokúsil som tiež (2) ukázať, že pri dodržaní zásadných téz Kvaszovho variantu inštrumentálneho realizmu (rozumej: pri dodržaní Kvaszovej skeptickosti k epistemickej relevantnosti vopred štruktúrovanej reality, ktorá je nezávislá od jazyka) je jeho pozícia vlastne antirealistická. Dôvodom môjho presvedčenie je fakt, že Kvasz svojimi základnými tézami programovo odmieta metafyzickú požiadku vedeckého realizmu, ktorou je existencia reality nezávislej od jazyka.

Moje výhrady tak na jednej strane demonštrujú problematickosť Kvaszových téz lavírujúcich medzi realizmom a antirealizmom, ale zároveň danú koncepciu označujem za antirealistickú. Legitímne sa tu natíska otázka, ako je možné, aby niekto súbežne zastával názor, že Kvaszova pozícia inštrumentálneho realizmu lavíruje medzi realizmom a antirealizmom, a zároveň názor, že je antirealistická? Možné to je vďaka tomu, že v rámci otázky vzniku matematiky z lona bežnej skúsenosti (proces idealizácie) a s ohľadom na vzťah historického fragmentu jazyka matematiky a jej interakcie so svetom bežnej skúsenosti sa domnievam, že Kvasz by nemusel mať problém zastávať ani pozíciu priamočiareho realistu. Nič mu totiž nebráni, aby akcent svojho výkladu v tejto časti položil na svet, ktorý spoznáваме zmyslami a ktorý je zdrojom a podkladom našej matematizácie. Matematizácie ako schopnosti človeka, ktorú v rámci jeho evolúcie musela umožniť práve bežná skúsenosť, presnejšie povedané, predpoklad bežnej skúsenosti – vopred štruktúrovaná realita (svet či prostredie). V dvojici článkov, ktoré som analyzoval, sa však Kvasz touto fázou matematiky nezaobera. Práve naopak. Za pravú a plnokrvnú matematiku považuje až disciplínu oslobodenú od zmyslového sveta bežnej skúsenosti, ktorá sa vyvinula v protiklade a viacnásobnom zapretí sveta bežnej skúsenosti. A tým sa jeho pozornosť presúva zo zanedbateľnej roviny reality, ktorú proto-matematika matematizuje, do ro-

viny matematickej reality ako reality, ktorú matematika koštituuje. Domnievam sa, že práve tohto momentu sa týka vyjadrenie Jaroslava Peregrina v Peregrin (2010, 73-74), ktorý identifikoval Kvaszovo kolísanie medzi slabšou a silnejšou sprostredkovateľskou úlohou inštrumentov, ktoré buď realisticky umožňujú objaviť a opísať niečo existujúce, čo nejazykovo preexistuje, alebo antirealisticky (teda v silnejšom zmysle) konštituujujú niečo, čo existenčne vzniká až na ich základe. Za antirealistickú zas považujem Kvaszovu pozíciu preto, že vymedzením otázky realizmu ako otázky vzťahu dvoch jazykov sa de facto vzdáva možnosti odlišiť matematickú realitu od reality matematiky.

Domnievam sa, že Kvaszovo lavírovanie medzi realizmom a antirealizmom i jeho vecná tendencia k antirealizmu by sa dali vyjadriť počiatocným striedaním a následným vecným posunom v prospech druhej z nasledovnej dvojice otázok. Mám na mysli posun od otázky „*S čím máme matematickú skúsenosť?*“ smerom k otázke „*Čím je nám sprostredkovaná matematická skúsenosť?*“ Pri vysvetľovaní etapy zrodu a pri otázkach typu, ako matematika historicky či antropologicky vzniká, treba odpovedať na otázku „*S čím máme skúsenosť?*“ Ako priamočiary realista by som na tú otázku osobne odpovedal: Pri počítaní máme skúsenosť s vopred štruktúrovaným svetom, s prostredím, v ktorom sme začali byť v istej etape našej evolúcie schopní fixovať zmysel nami zdieľaných a všeobecne rozpoznateľných situácií za pomoci konvenčne prijatých nástrojov symbolickej a ikonickkej reprezentácie. Preto dokážeme tento svet nielen zmyslovo nazrieť, ale dokážeme ho i vedome uchopiť tým, že ho urobíme diskretným. Slovom, dokážeme ho konceptualizovať, a teda i matematizovať. V druhej etape (ktorá zamestnáva väčšinu Kvaszovej pozornosti) sa však vytráca dôvod hľadania odpovede na otázku „*S čím máme skúsenosť?*“ Matematika sa totiž historicky oslobodzuje od bežnej skúsenosti zmyslového sveta a speje (hoci historicky pevne zviazaná rigoróznosťou svojich pravidiel) do „sféry čistého ducha“. V tejto etape sa už odpovedá na inú otázku, a to otázku: „*Čím je nám sprostredkovaná matematická skúsenosť?*“ Spôsob Kvaszovej odpovede na túto otázku považujem za jednoznačne antirealistický. Naša matematická skúsenosť je nám sprostredkovaná jazykom matematiky. Matematika je tak vlastne jazykovou praxou, ktorá má mnohodimenzionálny vzťah k realite (deskriptívny, konštitutívny i fundačný), avšak všetky tri dimenzie sa realizujú len v rámci jazyka a jeho historických úrovní. Matematika sa slobodne rozvíja v postupnom a mnohonásobnom zapieraní našej bežnej skúsenosti. Svet plnokrvnej matematiky je závislý už len sám od seba. Dostávame sa tak do situácie, v ktorej jazyk

matematiky objavuje realitu matematiky, ktorú zároveň konštituuje i funduje. To sa mi zdá problematické, pretože týmto spôsobom nám matematika vystupujúca v podobe jazyka súbežne kolabuje do matematickej reality.

Kvaszov projekt inštrumentálneho realizmu považujem za nesmierne zaujímavý, ale domnievam sa, že otázka jeho realizmu môže byť definitívne rozhodnutá až po zlanení priepasti, ktorú sám roztvára medzi bežnou a inštrumentálnou skúsenosťou, teda až po objasnení procesu idealizácie – po vysvetlení toho, ako sa formálny svet matematiky a vedy zrodil z lona sveta prirodzenej skúsenosti, a po vysvetlení toho, čo tieto dva svety spája. Nateraz a z dôvodov, ktoré som uviedol, považujem inštrumentálny realizmus Ladislava Kvasza dimenzovaný pre oblasť plnokrvnej matematiky a modernej fyziky<sup>16</sup> za antirealistickú pozíciu, pretože (1) mapuje vývin matematiky až po fáze idealizácie, (2) neplní metafyzickú požiadavku vedeckého realizmu, ktorou je nezávislosť reality od jazyka, a (3) za matematickú realitu považuje iba stabilizované obsahy vlastných reprezentácií.<sup>17</sup>

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<sup>16</sup> Skutočnou matematikou je podľa Kvasza až matematika od rozvoja algebry a za plnokrvnú fyziku považuje fyziku počínajúcu Newtonom.

<sup>17</sup> Za cenné pripomienky k predchádzajúcej verzii textu ďakujem Eugenovi Zelenákovi a dvom anonymným recenzentom.



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# Communication in a Multi-Cultural World<sup>1</sup>

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**ABSTRACT:** The goal of this paper is to demonstrate that procedurally structured concepts are central to human communication in all cultures and throughout history. This thesis is supported by an analytical survey of three very different means of communication, namely Egyptian hieroglyphs, pictures, and Inca knot writing known as khipu. My thesis is that we learn, communicate and think by means of concepts; and regardless of the way in which the meaning of an expression is encoded, the meaning is a concept. Yet we do not define concepts within the classical set-theoretical framework. Instead, within the logical framework of Transparent Intensional Logic, we explicate concepts as logical *procedures* that can be assigned to expressions as their context-invariant meaning. In particular, complex meanings, which structurally match complex expressions, are complex procedures whose parts are sub-procedures. The moral suggested by the paper is this. Concepts are not flat sets; rather, they are algorithmically structured abstract procedures. Unlike sets, concepts have constituent sub-procedures that can be executed in order to arrive at the product of the procedure (if any). Not only particular parts matter, but also the way of combining these parts into one whole ‘instruction’ that can be followed, understood, executed, learnt, etc., matters.

**KEYWORDS:** Communication – concept – procedural isomorphism – structured meaning – Transparent Intensional Logic.

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*In the beginning was the Word,  
and the Word was with God,  
and the Word was God.  
(John 1:1)*

## 0. Introduction

How do we communicate? How is it possible that we (more or less) understand each other despite different cultural and historical backgrounds, great cultural differences and language barriers? A seemingly simple answer might be this: because we are all human beings. Unlike machines, we *adapt* to new ideas, new environments, new cultures; we are able to *learn* from experience, we have the ability of *empathy*. Yet, how is it possible that we are able to learn a (new) language? On its standard conception, a language is a (potentially) infinite set of expressions. In order to reach such an infinity we need a ‘clue instruction’ that makes it possible to get to know *any* element of the infinite set in a finite number of steps.<sup>2</sup> In this paper I am going to present the idea that such a ‘clue instruction’ is a *procedurally structured concept*.<sup>3</sup>

I am not going to be involved in a particular theory of language; nor am I going to contribute to the endless discussions on where language comes from (see, for instance, Nordquist 2013). There are so many theories of language that it would be a futile contribution in this short study. I will assume that regardless of the way in which a meaningful expression is encoded, it is always a code endowed with a meaning.

In Transparent Intensional Logic (TIL), which is my background theory, we explicate structured meanings *procedurally*. An empirical expression *E* encodes an instruction of how, in any possible world at any time, to execute the procedure expressed by the expression as its meaning. Based on this explication I am going to present possible answers to the questions posed at the outset. My thesis is the following. We learn, communicate and

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<sup>2</sup> I accept Kant’s finitist view in the sense that there is no upper bound on the number of steps we execute. No matter how many steps we may have executed, we can always move one step further. But at any point we will have acquired only a *finite* amount of experience and have taken only a finite number of steps.

<sup>3</sup> For the procedural theory of concepts, see Duží – Jespersen – Materna (2010, Chap. 2) and also Materna (1998).

think by means of *procedurally structured* concepts. Regardless of the way in which the meaning of an expression is encoded, its *meaning* is a *concept*. Yet I do *not* explicate concepts within the classical set-theoretical framework.<sup>4</sup> The moral I extract from this paper is this: Concepts are *not flat sets*; rather, concepts are *algorithmically structured, abstract procedures*. Unlike sets, concepts have *constituent sub-procedures* that can be executed in order to arrive at the product of the procedure (if any). Not only particular parts matter, but also the *way of combining these parts into one whole instruction* that can be followed, understood, executed, learnt, etc., matters. We explicate concepts as logical procedures that can be assigned to expressions as their context-invariant meaning; in particular, complex meanings, which structurally match complex expressions, are complex procedures whose parts are sub-procedures. For instance, the simple sentence “Tom is wise” encodes an instruction of how, in any possible world  $w$  at any time  $t$ , to evaluate its meaning in order to arrive at a truth-value. The respective procedure consists of these constituent sub-procedures: take the individual Tom; take the property of being wise; extensionalize the property with respect to the world  $w$  and time  $t$  of evaluation; produce a truth-value **T** or **F** according as Tom has the property of being wise in that world  $w$  and at that time  $t$  of evaluation.

Traditionally, concepts are often conceived of as mental objects. Yet already in 1837 Bolzano dealt a serious blow to the psychologistic tradition of concepts. In his *Wissenschaftslehre* Bolzano worked out a systematic realist theory of concepts, construing concepts as objective entities endowed with *structure*. Our theory embraces this conception.

The procedural character of structured mathematical concepts should be obvious. For instance, when one is seeking the solution of the equation  $\sin(x) = 0$  they are not related to the infinite set  $\{\dots, -2\pi, -\pi, 0, \pi, 2\pi, \dots\}$ , because otherwise the seeker would immediately be a finder and there would be nothing to solve. On the other hand, relating the seeker to a particular syntactic term is not general enough. The Ancient Greek mathematicians, for instance, would solve such an equation using a different syntactic system. Any seeker, whether Greek or Babylonian, modern or extraterrestrial, is related to the *structured meaning* of “ $\sin(x) = 0$ ”, which is the very *procedure* consisting of these constituents: applying the function sine to a real number  $x$ , checking whether the value of the function is zero, and if

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<sup>4</sup> For instance, a Fregean concept is a characteristic function of objects (*Gegenstände*).

so abstracting over the value of the input number  $x$ . When solving the equation the seeker aims to execute this procedure in order to produce the infinite set of multiples of  $\pi$ .

This *procedural character* of mathematical concepts is *universal*. For instance, Ascher (2002) is an important contribution to a global view of mathematics. It humanizes our view of mathematics and expands our conception of what is mathematical. Ascher demonstrates that traditional cultures have mathematical ideas that are far more substantial and sophisticated than is generally acknowledged. Many ideas taken to be the exclusive province of professionally trained Western mathematicians are, in fact, shared by people in many societies. The ideas discussed come from geographically varied cultures, including the Borana and Malagasy of Africa, the Tongans and Marshall Islanders of Oceania, the Tamil of South India, the Basques of Western Europe, and the Balinese and Kodi of Indonesia. And Ascher reminds us of how *mathematical and logical procedures* are *universal* across any culture.

The same universal *procedural structures* govern our communication and reasoning not only in mathematics but also in ordinary life. As a semantic realist I am convinced that logic should assist in unearthing the objective structures underlying the expressions of a given language.

The rest of the paper is organized as follows. To demonstrate the thesis that procedural structures are central to human communication, in Section 1 I briefly examine three very different means of communication: Egyptian hieroglyphs, pictures, and Inca knot writing. I will argue that all these very different means of communication share a common procedural character; to wit, they are structures endowed with a procedural sense. Section 2 introduces the foundations of the logical background within which we define concepts as structured procedures, namely TIL, and the procedural definition of concepts is reproduced here. Concluding remarks are presented in Section 3.

## 1. Hieroglyphs, pictures, khipu

### 1.1. Hieroglyphic writing is not a pictorial script

The hieroglyphic writing system of the Ancient Egyptians is sometimes taken as the example *par excellence* of a *purely pictorial script*. Most prominently, Ludwig Wittgenstein draws an analogy between the pictorial se-

mantics of the *Tractatus Logico-Philosophicus* and the alleged pictorial script of hieroglyphic writing:

In order to understand the essence of the proposition [*Satz*], consider hieroglyphic writing, which pictures the facts it describes. And from it came the alphabet without the essence of the representation being lost. (Wittgenstein 1922, §4.016)

Yet there are many arguments against this conception. Here I will briefly reproduce the arguments of Jespersen – Reintges (2008). The authors criticize Wittgenstein's conception, claiming that Egyptian hieroglyphic writing is *not* a pictorial script. Their criticism can be summarized as follows. For more than three millennia, hieroglyphic writings were continuously used for the codification of a varied collection of Ancient Egyptian texts, ranging from the monumental religious corpora of the Pyramid Texts and the Book of the Dead and the elaborate historiographical inscriptions of Egyptian temples to all sorts of legal and administrative texts, bills, recipes, love letters, and so forth. The replacement of hieroglyphic writing by a Greek-based alphabet in late antiquity and early medieval Christian Egypt was *not* motivated by considerations of *efficiency*, but rather had an ideological basis, namely its association with the pagan Pharaonic culture. If the hieroglyphs were organized in a pictographic system, how come that we *cannot* read Ancient Egyptian texts right away, although we can readily identify hieroglyphic signs as graphic depictions of human beings, birds, fishes, reptiles, weapons, household equipment, and so on? The reason why we cannot read hieroglyphic texts is simply that the hieroglyphic writing system is *not pictographic in nature*. In the era of the Old Kingdom, the Middle Kingdom and the New Kingdom, about 800 hieroglyphs existed. By the Greco-Roman period, they numbered more than 5000. This means that the inventory of Egyptian hieroglyphs ran to maximally *5000 different characters*, yet the universe of discourse of such a highly complex culture as the one of Ancient Egypt certainly included far more than 5000 different *concrete objects* for depiction. Moreover, if we were to assume, counterfactually, that hieroglyphic writing were a pictographic system, the question naturally arises how it could possibly indicate *abstract objects*, such as truth, beauty, love, or justice.

Even the meaning of the word 'hieroglyph' throws doubts on the conception of a purely pictorial script. 'Hieroglyph' is a compound of 'hierós' (sacred) and 'glýpho' (engrave, carve), which is the translation of Egyptian

*medu-netjer* ('God's words'). Hence Egyptian hieroglyphs are sacred engraved *words*. They consist of three kinds of glyphs: phonetic glyphs, including single-consonant characters that function like an alphabet; logographs, representing morphemes; and determinatives, which narrow down the meaning of logographic or phonetic words. Hence it should be clear that hieroglyphic writing has the capacity of rendering complex *structures*.

### 1.2. *The structure of pictures*

The second source I am going to exploit is Westerhoff (2005). The author analyses the structure of pictures, and argues (*italics mine*):

Pictures differ from paintings as propositions differ from sentences. Paintings and sentences are tokens: spatio-temporally located physical objects. Different paintings can show the same picture, and different sentences can express the same proposition. (Westerhoff 2005, 605)

And he asks: What are *the parts of a picture*? The question is not as innocuous as it may sound. The mereology of ordinary physical objects is well-developed, but pictures are not ordinary physical objects. First of all, they are *not spatio-temporal*; rather, they are abstract objects. Secondly, they are *structured*: they are not like a heap of grain or a puddle of water the identity of which is preserved under various rearrangements of their parts. Pictures have parts which are *put together in a certain way*; if we destroy this way of putting the parts together the picture is gone.

Westerhoff criticizes the commonly accepted opinion that possible-world semantics is a proper tool for explaining the semantics of structures.

Consider the sense in which states of affairs (possible worlds) could be taken to have parts. It is straightforward to argue that the state of affairs that John loves Becca has John as a part. But it is equally straightforward to argue that John's brain is part of the state of affairs that John loves Becca. But the mere parts (John's brain as opposed to John) are just any parts of that particular bit of the world we happen to be talking about, whether they take part in our *conceptualization* or not. (Westerhoff 2005, 609)<sup>5</sup>

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<sup>5</sup> Similar arguments can be found also in Tichý (1995, 179-180).

Possible-world semantics receives a fare amount of criticism also in Blumson (2010) where the structure of pictures is investigated:

Depictions, like thoughts and sentences, distinguish between different ways things might be; the Mona Lisa, for example, represents Lisa by distinguishing amongst the various possible ways which Lisa might have looked. It suggests that the content of the Mona Lisa, for example, should be analysed in terms of the possible worlds in which Lisa's appearance is as the picture portrays. (Blumson 2010, 135)

But how could this be so? First, one and the same painting can be seen from different perspectives in which Lisa's appearance is completely different. Second, and more importantly, the possibility of depicting *logical* or *a priori impossibilities* is directly problematic for the analysis of depictive content in terms of possible worlds.



Fig. 1. Penrose triangle

A straightforward argument against the possibility of capturing the structure of a picture by possible-world semantics is the Penrose triangle (see Penrose – Penrose 1958). It is a picture of an *a priori*, rather than merely *a posteriori*, impossibility, as illustrated by Fig. 1. The content of the picture cannot be analyzed as a subset of possible worlds, because the depicted triangle does not exist in any possible world.

So much for Blumson's criticism of possible-world semantics; I would like to add the following note. True, there are theories that attempt to account for absurd objects (like round squares or Penrose triangle) by introducing a parallel logical space of logically impossible worlds (cf. Priest 1992). But just as little as the number five belongs to the domain of possible worlds and just as little as mathematical sentences are evaluated at possible worlds, so round squares or Penrose triangle should not be assigned to the domain of any impossible world. The very idiom of worlds, whether possible or impossible, is out of place, as soon as non-empirical objects like numbers and figures are involved. Yet I will show that terms like 'round square', 'the greatest prime' or 'Penrose triangle' are not meaningless expressions, though they lack a denotation, and we can handle them without the category of impossible worlds. Their meanings are empty concepts, which we explicate as procedures that do not produce any product.



### 1.3. Inca khipu

The last interesting means of communication that I am going to consider is the Inca knot writing known as *khipu* that has been used since 2000 BC. The Inca people of South America appeared to be the only civilization of all the major Bronze Age civilizations that apparently lacked a written language, an exception that embarrassed the anthropologists who habitually include writing as an attribute of a complex, highly developed culture deserving to be ranked as a *civilization*.

Khipu are textile artefacts composed of cords of cotton. There is a main primary cord from which many pendant cords hang, and there may be additional subsidiary cords attached to a pendant cord. Some khipu have up to 12 levels of subsidiaries. Each khipu cord may have one or more knots, see Fig. 2.

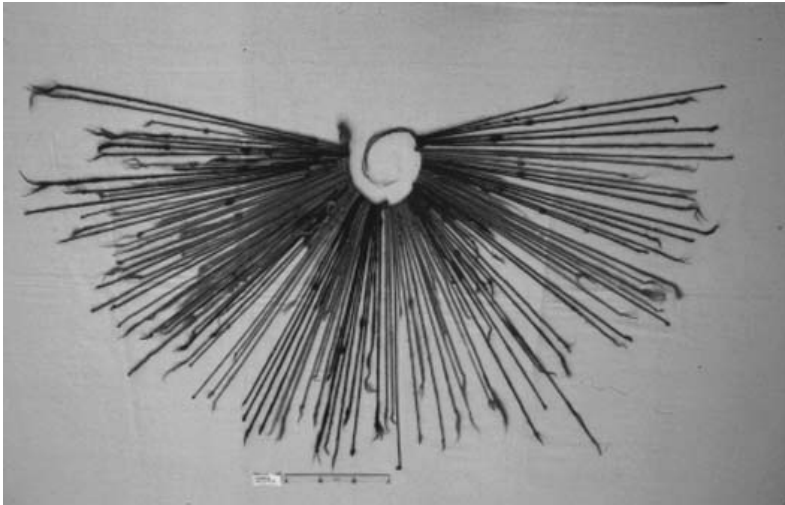


Fig. 2. Inca khipu

In the conventional view of scholars, most khipu represented decimal numbers for bookkeeping and census purposes. Hence the khipu were considered to serve as textile abacuses rather than written documents. Yet some well-informed colonial writers insisted that some khipu encoded stories and poems.

Recently, Urton recognized the depth of information contained in structured elements of khipu, and a growing number of researchers now think that khipu were mostly non-numerical and may have primarily been an early form of writing. A reading of the knotted string devices, if deciphered, could perhaps reveal narratives of the Inca Empire, the most extensive in America in its glory days before the Spanish conquest in 1532. How could cords encode a language? In an age when computers process immense amounts of information by the manipulation of sequences of 1's and 0's, it remains a frustrating mystery how prehistoric Inca record-keepers encoded a tremendous variety and quantity of information using only knotted and dyed strings. Yet the comparison between computers and khipu may hold an important clue to deciphering the Inca records.

In Urton (2003) a path-breaking theory is presented. The construction of khipu fibres constitutes *binary-coded* sequences which store units of information in a similar way as today's computers do. Urton begins his theory with the making of khipu, showing how at each step of the process binary either/or choices were made. He then investigates the symbolic components of the binary coding system, the amount of information that could have been encoded, procedures that may have been used for reading the khipu, the nature of the khipu signs, and, finally, the nature of the khipu recording system itself, emphasizing relations of semantic coupling. This research constitutes a major step forward in building a unified theory of the khipu system of information storage and communication based on the totality of construction features making up these extraordinary objects.

Needless to say, the meaning of the khipu coding system cannot be analysed within an intensional semantics such as possible-world semantics. Sets of possible worlds cannot be binary-recorded; rather, it is reasonable to assume that similarly as the binary code of a computer program is a record of the procedure to be executed, khipu writing is most probably a code of *structured* meanings best explicated as abstract *procedures*.

This completes our historical excursion into very different means of communication. Now I am going to introduce a recent theory of concepts defined as abstract procedures within the logical framework of Transparent Intensional Logic.

## 2. Transparent Intensional Logic (TIL)

### 2.1. Foundations of TIL

In possible-world semantics, which was the prevailing semantic theory in the last century, meanings are mappings defined on a domain of possible worlds, and meanings are co-intensional, i.e. identical, when they are necessarily co-extensional. As we have seen above, possible-world semantics is not a tool apt for analysis of structured meanings. Co-intensionality is nothing other than necessary co-extensionality. Moreover, possible-world intensions lack structure altogether. They are just flat set-theoretical mappings. The consequences for analysis of natural language are well-known; linguistic senses and attitude contents are too coarsely individuated; attitudes proliferate too rapidly, etc. Thus since the late 1960s many logicians have been striving for *hyperintensional semantics* and *structured meanings*.

Recent development can be characterised as an algorithmic or procedural turn. In (1994) Moschovakis put forward the idea of *meaning as algorithm*. Yet much earlier, in Tichý (1968; and 1969), Tichý had already formulated the idea of *procedural* (as opposed to set-theoretical denotational) *semantics*, according to which the sense of an expression is an algorithmically structured procedure detailing what operations to apply to what procedural constituents to arrive at the object (if any) denoted by the expression. Such procedures are rigorously defined as TIL *constructions*. Tichý developed a logical framework known today as *Transparent Intensional Logic* (TIL) (see Tichý 1988; and 2004).

Referring for details to numerous papers on TIL, and in particular to two recent books, to wit Duží – Jespersen – Materna (2010), and Duží – Materna (2012), in what follows I provide a brief summary of those features of TIL procedural semantics which we need for the definition of structured concepts. Formally, TIL is an extensional logic of hyperintensions based on the partial, typed  $\lambda$ -calculus enriched with a ramified type structure to accommodate hyperintensions.<sup>6</sup> Thus the syntax of TIL is Church's (higher-order) typed  $\lambda$ -calculus with the important difference that the syntax has been assigned a *procedural* (as opposed to denotational) semantics. TIL  $\lambda$ -terms do not denote functions-in-extensions, which are set-theoretical

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<sup>6</sup> Parts of this section draw on material from Duží – Jespersen – Materna (2010, Chap. 1; Chap. 2).

mappings; rather they denote procedures (*constructions* in TIL's terminology) that produce functions or functional values as their products.<sup>7</sup> The sense of an expression is an abstract *procedure* detailing how to arrive at an object of a particular logical type denoted by the expression. TIL *constructions* are such procedures. Thus, abstraction transforms into the molecular procedure of forming a function, application into the molecular procedure of applying a function to an argument, and variables into atomic procedures for arriving at their values assigned by a valuation.

There are two kinds of constructions, atomic and compound (molecular). Atomic constructions (*Variables* and *Trivializations*) do not contain any other constituents but themselves; they supply objects (of any type) on which compound constructions operate. The *variables*  $x, y, p, q, \dots$  construct objects dependently on a valuation; they are said to *v-construct*. The *Trivialisation* of an object  $X$  (of any type, even a construction), in symbols:  ${}^0X$ , constructs simply  $X$  without the mediation of any other construction; we say that  ${}^0X$  is the *simple concept* of  $X$ . *Compound* constructions, which consist of other constituents than just themselves, are *Composition* and *Closure*. The *Composition*  $[F A_1 \dots A_n]$  is the operation of functional application. It *v-constructs* the value of the function  $f$  (*v-constructed* by the construction  $F$ ) at the tuple-argument  $a$  (*v-constructed* by  $A_1, \dots, A_n$ ) if the function  $f$  is defined at  $a$ , otherwise the Composition is *v-improper*, i.e., it *fails* to *v-construct* anything.<sup>8</sup> The *Closure*  $[\lambda x_1 \dots x_n X]$  spells out the instruction to *v-construct* a function by abstracting over the values of the variables  $x_1, \dots, x_n$  in the ordinary manner of the  $\lambda$ -calculus. Finally, higher-order constructions can be used twice over as constituents of composite constructions. This is achieved by a construction called *Double Execution*,  ${}^2X$ , that behaves as follows: If  $X$  *v-constructs* a construction  $X'$ , and  $X'$  *v-constructs* an entity  $Y$ , then  ${}^2X$  *v-constructs*  $Y$ ; otherwise  ${}^2X$  is *v-improper*, failing as it does to *v-construct* anything.

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<sup>7</sup> I use the term 'function' as synonymous with the term 'set-theoretical mapping', that is Church's 'function-in-extension'. Church's functions-in-intension might correspond rather to our constructions of those mappings. Yet I hesitate to use Church's term 'function-in-intension', because Church did not define functions-in-intension, he only characterized them as *rules* specifying functions-in-extension.

<sup>8</sup> We treat functions as properly *partial* mappings, i.e., mappings that may lack a value at some of their arguments.

TIL constructions, as well as the entities they construct, all receive a type. The formal ontology of TIL is bi-dimensional; one dimension is made up of constructions, the other dimension encompasses functions, i.e. mappings. On the ground level of the type hierarchy, there are non-constructional entities unstructured from the algorithmic point of view belonging to a *type of order 1*. Given a *base of atomic types* of order 1, the induction rule for forming functional types is applied: where  $\alpha, \beta_1, \dots, \beta_n$  are types of order 1, the set of partial mappings from  $\beta_1 \times \dots \times \beta_n$  to  $\alpha$ , denoted ' $(\alpha \beta_1 \dots \beta_n)$ ', is a type of order 1 as well. Constructions that construct entities of order 1 are *constructions of order 1*. They themselves belong to a *type of order 2*, denoted '\*<sub>1</sub>'. The type \*<sub>1</sub> together with the atomic types of order 1 serve as a base for the induction rule: any collection of partial mappings, of type  $(\alpha \beta_1 \dots \beta_n)$ , involving \*<sub>1</sub> in their domain or range is of a *type of order 2*. Constructions belonging to a type \*<sub>2</sub> that construct entities of order 1 or 2, and partial mappings involving such constructions, belong to a *type of order 3*; and so on *ad infinitum*.<sup>9</sup>

For the purposes of natural-language analysis, the *atomic types* currently encompass these four:

- o = the set of truth-values  $\{T, \perp\}$
- ι = the universe of discourse (a constant domain of individuals)
- τ = the set of reals, doubling as times (time being a continuum)
- ω = the logical space of logically possible worlds

(Possible-world) *intensions* are entities of type  $(\beta\omega)$ : mappings from possible worlds to an arbitrary type  $\beta$ . The type  $\beta$  is frequently the type of a *chronology* of  $\alpha$ -objects, i.e. a mapping of type  $(\alpha\tau)$ . Thus  $\alpha$ -intensions are frequently functions of type  $((\alpha\tau)\omega)$ , abbreviated as ' $\alpha_{\tau\omega}$ '. We typically say that an index of evaluation is a world/time pair  $\langle w, t \rangle$ . *Extensional entities* are entities of some type  $\alpha$  where  $\alpha \neq (\beta\omega)$  for any type  $\beta$ .

In particular, a *property* of individuals is a function of type  $((\circ\iota)\tau)\omega$ , abbreviated ' $(\circ\iota)_{\tau\omega}$ '. Relative to a world/time pair, there is a set (perhaps empty) of those individuals that have the relevant property at this dual index. A *proposition* is a function of type  $((\circ\tau)\omega)$ , abbreviated ' $\circ_{\tau\omega}$ '. That is, propositions are empirical truth-conditions modelled as temporally sensitive sets of possible worlds, as in possible-world semantics enriched with

<sup>9</sup> For details see, for instance, Duži – Jespersen – Materna (2010, Chap. 1.3; Chap. 1.4), or Duži – Materna (2012, Chap. 2).

temporal indices (in which a proposition is identified with its satisfaction class). The partiality of propositions allows them to fail to return a truth-value at the given world/time pair of evaluation. For instance, the proposition that the King of France is bold currently lacks a truth-value, because the *office* of King of France, of type  $((\tau\tau)\omega)$ , abbreviated ‘ $\iota_{\tau\omega}$ ’, is currently vacant. An office is a function from worlds to a partial function from times to individuals. There is currently no individual who is the King of France of whom it is either true or false that he is bold. Nonetheless, both the term ‘the King of France’ and the sentence “The King of France is bold” remain perfectly meaningful in TIL.

Empirical expressions denote *empirical conditions* that may or may not be satisfied at some empirical index of evaluation. We model these empirical conditions as *possible-world intensions*. (Non-empirical languages have no need for an additional category of expressions for empirical conditions.) Yet, a possible-world intension is *not* the meaning of an empirical expression  $E$ ; rather it is merely the object denoted by  $E$ . The meaning of  $E$  is the construction encoded by  $E$ . Where  $w$  ranges over  $\omega$  and  $t$  over  $\tau$ , the following schematic Closure characterizes the logical syntax of an empirical language:  $\lambda w \lambda t$  [... $w$ ... $t$ ...]. If the Composition [... $w$ ... $t$ ...]  $v$ -constructs an  $\alpha$ -object, the whole Closure constructs an object of type  $\alpha_{\tau\omega}$ , i.e. an  $\alpha$ -intension.

Technically speaking, some constructions are modes of presentation of functions, including 0-place functions such as individuals and truth-values, and the rest are modes of presentation of other constructions. Thus, with constructions of constructions, constructions of functions, functions, and functional values in our stratified ontology, we need to keep track of the traffic between multiple logical strata. The ramified type hierarchy does just that. What is important about this traffic is, first of all, that constructions may themselves figure as functional arguments or values. Thus we consequently need constructions of one order higher in order to present those constructions being arguments or values of functions. As explained above, constructions that serve as arguments to operate on are supplied by atomic constructions, viz. Trivializations and variables. For instance, if a variable  $x$   $v$ -constructs objects of type  $\tau$ , then the variable belongs to  $*_1$ , the type of order 2, denoted ‘ $x/*_1 \rightarrow \tau$ ’. The Closure  $\lambda x$  [ $^0_+ x$   $^0_1$ ] that constructs the successor function of type  $(\tau\tau)$  belongs also to  $*_1$ ;  $\lambda x$  [ $^0_+ x$   $^0_1$ ]/ $*_1 \rightarrow (\tau\tau)$ . The Trivialization of this Closure,  $^0[\lambda x$  [ $^0_+ x$   $^0_1$ ]], is a construction belonging to  $*_2$ , the type of order 3, which constructs just the Closure  $\lambda x$  [ $^0_+ x$   $^0_1$ ].

We distinguish strictly between a *procedure* (construction) and its *product* (here, a constructed function), and between a *function* and its *value*. What makes TIL *anti-contextual* and *compositional* is the fact that the theory construes the semantic properties of the sense and denotation relations as remaining invariant across different sorts of linguistic contexts. We do not develop a special extensional logic for extensional contexts, an intensional logic especially for intensional contexts, and a hyperintensional logic especially for hyperintensional contexts. Logical operations are universal and context-invariant. What is context-dependent are the arguments on which these operations operate. In a *hyperintensional* context they are *constructions* themselves; in an *intensional* context the arguments of logical rules and operations are the *products* of constructions, that is set-theoretical *functions*; finally, in an *extensional* context we operate on functional *values*.<sup>10</sup>

At the outset of this paper I formulated the thesis that we learn, communicate and think by means of procedurally structured *concepts*. Hence now I am going to introduce the theory of concepts as formulated within the framework of TIL.

## 2.2. The TIL theory of concepts

TIL's procedural theory of concepts follows the principles formulated by Bolzano (1837, §49) and Church (1956). Church identifies concepts with the meanings of  $\lambda$ -terms; hence TIL concepts are constructions. However, in the new orthodoxy of structured meanings we encounter an outstanding issue, to wit, the granularity of *structures*. Since we explicate structured meanings procedurally, our basic idea is that any two terms or expressions are synonymous whenever their respective meanings are *procedurally isomorphic*. The notion of procedural isomorphism helps TIL to a principled account of hyperintensional individuation. This is a major issue, because only expressions with procedurally isomorphic meanings are synonymous and can be mutually substituted in hyperintensional contexts. Moreover, since we are building an *extensional* logic of hyperintensions, the extensional rules of substitution of *identicals* and existential generalization must be valid in all kinds of context, whether extensional, intensional, or hyperintensional.

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<sup>10</sup> For details on our extensional logic of hyperintensions, see Duži (2012) and (2013).

The degree to which meanings should be fine-grained was of the utmost importance for Church, and he proposed several so-called Alternatives (see Church 1993). Senses are identical if the respective  $\lambda$ -expressions that formalise the senses are (A0) *synonymously isomorphic* or (A1) mutually  $\lambda$ -convertible. (A0) is  $\alpha$ -conversion and synonymies resting on meaning postulates; (A1) is  $\alpha$ - and  $\beta$ -conversion; Church also considered Alternative (A1'), that is,  $\alpha$ -,  $\beta$ - and  $\eta$ -conversion. There is also (A2), for completeness, which is logical equivalence. But logical equivalence is a too weak criterion of synonymy as already Carnap knew, and thus was not acceptable for Church.

TIL offers various principles of procedural isomorphism, all of which slot in between Church's Alternatives (A0) and (A1). One such would be Alternative ( $\frac{1}{2}$ ), another Alternative ( $\frac{3}{4}$ ). The former includes  $\alpha$ - and  $\eta$ -conversion, while the latter adds *restricted*  $\beta$ -conversion by name. In Duží – Jespersen – Materna (2010) we opt for Alternative ( $\frac{1}{2}$ ), whereas in Duží – Jespersen (2013) we prefer Alternative ( $\frac{3}{4}$ ) to soak up those differences between  $\beta$ -transformations that concern only  $\lambda$ -bound variables and thus (at least appear to) lack natural-language counterparts. The *restricted* version of *equivalent*  $\beta$ -reduction by name consists in substituting free variables for  $\lambda$ -bound variables of the same type. It is just a formal manipulation with  $\lambda$ -bound variables that has much in common with  $\eta$ - and less with  $\beta$ -reduction. The latter is the operation of applying a function  $f$  to its argument value  $a$  in order to obtain the value of  $f$  at  $a$  (leaving it open whether a value emerges). No such features can be found in restricted  $\beta$ -reduction that substitutes variables for variables. It is just a formal simplification of the relevant construction.

The latest variant of procedural isomorphism encompasses  $\alpha$ -conversion and  $\beta$ -conversion by value. Hence we are leaving out  $\eta$ -conversion, and  $\beta$ -conversion is restricted to conversion by value. There are two reasons for excluding  $\eta$ -conversion. First, it is rather peculiar to claim that two procedures are identical if they do not have the same number of constituents. Yet the  $\eta$ -expanded construction of the form  $\lambda x [F x]$  has at least two more constituents than the corresponding  $\eta$ -reduced construction  $F$ , because it adds the steps of applying the function constructed by  $F$  to the value of the variable  $x$  followed by abstraction over the values of  $x$ . The second and more important reason is the fact that  $\eta$ -conversion is *not a strictly equivalent* transformation in the logic of partial functions such as TIL. To see why, consider this example. Let  $F \rightarrow ((\alpha\beta)\gamma) v$ -construct



a function  $f$  such that  $f$  is not defined at the argument  $v$ -constructed by  $A \rightarrow \gamma$ . Hence the Composition  $[FA] \rightarrow (\alpha\beta)$  is  $v$ -improper, as it does not  $v$ -construct anything. However, the  $\eta$ -expanded construction  $\lambda x [[FA] x] \rightarrow (\alpha\beta)$ , where  $x \rightarrow_v \beta$ , constructs a degenerate function, which is a function undefined at all its arguments. True, due to the  $v$ -improperness of  $[FA]$  the Composition  $[[FA] x]$  is also  $v$ -improper, but  $\lambda$ -abstraction raises the context to the intensional level. Hence the Closure  $\lambda x [[FA] x]$   $v$ -constructs a degenerate function, which is an object, though a bizarre one. Hence the Compositions  $[FA]$  and  $\lambda x [[FA] x]$  are not strictly equivalent in the sense of  $v$ -constructing the same object for every valuation  $v$ .<sup>11</sup>

The reasons for excluding unrestricted  $\beta$ -conversion are these. Though  $\beta$ -conversion is the fundamental computational rule of the  $\lambda$ -calculus, it is underspecified by the rule (that we call ‘by name’)  $[\lambda x C(x) A] \vdash C(A/x)$ . The application procedure  $[\lambda x C(x) A]$  can be executed in two different ways: ‘by value’ and ‘by name’. If by name then according to the rule the *procedure*  $A$  is substituted for  $x$ . In this case there are two problems. First, conversion of this kind is not guaranteed to be an equivalent transformation as soon as partial functions are involved. This is due to the fact that  $A$  occurs extensionally as a constituent of the left-hand construction, whereas when dragged into  $C$  its occurrence may become intensional. Second, even in those cases when  $\beta$ -reduction is an equivalent transformation, it may yield loss of analytic information, because when executing  $\beta$ -reduction by name we do not keep track of the function that has been applied.<sup>12</sup> The idea of conversion by value is simple. Execute the procedure  $A$  first, and only if  $A$  does not fail to produce an argument value on which  $C$  should operate, substitute (the simple concept of) this *value* for  $x$ . This solution preserves equivalence, avoids the problem of loss of analytic information, and moreover, in practice it is more efficient.<sup>13</sup>

The granularity of the individuation of procedures is still an open problem. The variant I propose here is the strongest criterion we have at present. Yet we admit that slightly different definitions of procedural isomorphism are thinkable. These considerations are motivated by the

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<sup>11</sup> I am grateful to Jiří Raclavský for adducing the above example; see Raclavský (2010).

<sup>12</sup> For the notion of analytic information, see Duží (2010).

<sup>13</sup> For details, see Duží – Jespersen (2013).

fact that what appears to be synonymous in an ordinary vernacular might not be synonymous in a professional language like the language of, for instance, logic, mathematics or physics. Thus we are also considering whether it is philosophically wise to adopt several notions of procedural isomorphism. It is not improbable that several degrees of hyperintentional individuation are called for, depending on which sort of discourse happens to be analysed. But  $\alpha$ -conversion and  $\beta$ -conversion by value should be on any list of Alternatives attempting to accommodate procedural isomorphism.

As we have seen above, TIL embraces the view that meanings must be structured by conceiving of meanings as procedurally structured constructions. An unambiguous expression has thus assigned a unique—up to procedural isomorphism—construction as its meaning. Hence constructions are good candidates to explicate concepts.

The full identification of concepts with constructions faces, however, two minor problems. First, up until now we did not take into account expressions with pragmatically incomplete meaning, that is, sentences and terms with indexical pronouns like ‘*her father*’, “*He is a philosopher*”, etc. These expressions are assigned *open* constructions with free ‘indexical’ variables as their meanings. For instance, the analysis of the above expressions amounts to these open constructions:  $\lambda w \lambda t$  [ ${}^0\textit{Father}_{of_{wt}}\textit{ her}$ ]  $\rightarrow_v \iota_{\tau\omega}$ ,  $\lambda w \lambda t$  [ ${}^0\textit{Philosopher}_{wt}\textit{ he}$ ]  $\rightarrow o_{\tau\omega}$ ; types:  $\textit{Father}_{of}/(i)_{\tau\omega}$ : attribute, that is, a function that, dependently on worlds  $w$  and times  $t$ , assigns to an individual another individual (their father);  $\textit{Philosopher}/(oi)_{\tau\omega}$ ;  $\textit{he}, \textit{ her} \rightarrow_v \iota$ : pragmatic variables. We hesitate to claim that pragmatically incomplete expressions express concepts, because the evaluation of concepts should yield an object, provided the concept in question is not an empty one. Yet since concepts are procedures, their execution should always be, in principle, possible. It is not so with open constructions which await valuation of their free variables in order for them to be executed. Open constructions are procedures with formal parameters, and they cannot be executed until an actual parameter value is supplied. In case of expressions with pragmatically incomplete meanings the respective value of an argument (valuation of free indexical variables) is supplied by a situation of utterance. Only after the situation has done its job does one obtain a closed construction that can be executed.

Hence we might identify concepts with closed constructions. But here we must deal with the problem of procedurally isomorphic constructions.

Recall that any two unambiguous terms or expressions (even of different languages) are synonymous whenever their respective meanings are *procedurally isomorphic*. Thus synonymous expressions have the same meaning and express the same concept, yet they can be furnished with different—procedurally isomorphic—constructions. In other words, constructions are too fine-grained from the procedural point of view. For instance, the unambiguous sentence “Tom is wise” could have been assigned the following procedurally isomorphic constructions as its meaning:  $\lambda w \lambda t [{}^0 \text{Wise}_{wt} {}^0 \text{Tom}]$ ,  $\lambda w_1 \lambda t_1 [{}^0 \text{Wise}_{w_1 t_1} {}^0 \text{Tom}]$ ,  $\lambda w_2 \lambda t_2 [{}^0 \text{Wise}_{w_2 t_2} {}^0 \text{Tom}]$ , ... Note that in natural language we do not render these distinctions, because in an ordinary vernacular we do not use bound variables.

Since procedural isomorphism is an equivalence relation, it factorizes the collection of constructions into equivalence classes. From the procedural point of view it is irrelevant which element of a particular class is singled out as its representative. Each equivalence class of constructions can be well-ordered. The representative element will be the first construction occurring in the given ordering. This construction is the unique *normal form* of all the elements of the equivalence class of constructions. The representative element is designated as a *concept*.

So, in general, the structured meaning of an expression is a construction. If an expression contains indexicals its meaning is an open construction; the meaning of a non-indexical unambiguous expression is the concept expressed by the expression. Having decided in favour of construing concepts as closed constructions, we can define some special categories of concepts like various kinds of empty concepts, analytical vs. empirical concepts, etc. Since this is out of the scope of this short study I refer to Duží – Jespersen – Materna (2010, Chap. 2). Yet I will briefly explain the very important category of *simple* concepts. Simple concepts are identified with Trivializations of *non-constructional* entities. These concepts are *simple* because they supply these entities without the mediation of any other concepts, by not having any other constituents but themselves. We assume that each competent language-user is acquainted with the simple concepts in use in order that communication may proceed smoothly; which, however, does not mean that some simple concepts cannot be refined. The refinement of a simple concept  ${}^0 X$  is an ontological definition of the entity  $X$ , which is a compound concept of  $X$ . For instance, in an ordinary vernacular we use simple concepts of zoological properties like  ${}^0 \text{Whale}$ ,  ${}^0 \text{Cat}$ ,  ${}^0 \text{Horse}$  without the need to define these properties. This is a matter of zoology.

Thus, for instance, the simple concept  ${}^0Whale$  is refined as the compound concept  $\lambda\omega\lambda t$  [ $\lambda x$  [[[ ${}^0Marine$   ${}^0Mammal$ ] $_{wt}$   $x$ ]  $\wedge$  [ ${}^0Cetacea-order$ ] $_{wt}$   $x$ ]]], because zoology has explained to us that whales are marine mammals of the order Cetacea.

Concluding this section let me say a few words about the connection between *meaning* and *concept*. As illustrated above, we claim that meanings are concepts. Can we, however, claim the converse? This would be: concepts are meanings. A full identification of meanings with concepts would presuppose that every concept were the meaning of some expression. But then we could hardly explain the phenomenon of historical evolution of language, first and foremost the fact that new expressions are introduced into a language and other expressions vanish from it. Thus with the advent of a new (expression, meaning) pair a new concept would have come into being. Yet this is unacceptable for a realist: concepts *qua abstract* entities cannot come into being or vanish. Therefore, concepts outnumber expressions; some concepts are yet to be discovered and encoded in a particular language while others sink into oblivion and disappear from language, which is not to say that they would be going out of existence. For instance, before inventing computers and introducing the noun ‘computer’ into our language(s), the procedure that von Neumann made explicit was already around. The fact that in the 19th century we did not use (electronic) computers, and did not have a term for them in our language, does not mean that the concept (*qua* procedure) did not exist. In the dispute over whether concepts are discovered or invented we come down on the side of discovery.

Each of us may have their own conceptual system based on our own set of simple concepts. Yet since we are able to communicate and learn new languages, there is a common intersection that is shareable by all of us. Moreover, particular personal conceptual systems are gradually developed in the learning process; as we adapt ourselves to external stimuli and environment changes in general, we discover and learn new concepts, but also forget old ones. Concepts/procedures are the entities that we have in common across different languages, cultures, histories, different means of communication and different ways of encoding these procedures. They enable us to learn new languages and discover new means of communication.

### 3. Conclusion

In this paper I argued for the thesis that abstract, procedurally structured concepts are central for our communication, and that we learn, communicate, execute and discover concepts. In order to support this thesis, I adduced analytical survey of Egyptian hieroglyphs and Inca knot writing. These are very different ways of encoding meanings, the former embracing up to 5000 different signs, the latter just the khipu knots for 0's and 1's. Yet regardless of the nature of a particular recording system, large amount of information can be encoded. How could it be if these codes were records of potentially infinite sets of facts? And how could abstract objects be recorded? Yet both these ways (and many other writing systems) are capable of recording very complex texts including abstract objects. Thus, in my opinion, this is strong evidence in favour of the thesis that they encode procedurally structured concepts consisting of a finite number of constituents which can be executed in any possible world at any time. Hence, let me finish this paper by rephrasing John's prologue:

*In the beginning was the Concept,  
and the Concept was with God,  
and the Concept was God.*

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## Constructional vs. Denotational Conception of Aboutness

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**ABSTRACT:** Following Carnap's Principle of Subject Matter, Pavel Tichý proposed a methodological principle I call the "Denotational Principle of Aboutness". It says that expressions are about their denotata. Denotata are modelled as possible world intensions or (common) extensions. Nearly the same principle was recently defended by Marie Duží and Pavel Materna under the name the "Parmenides Principle". However, Duží and Materna did not react to Tichý's late proposal which I call the "Constructional Principle of Aboutness". It says that the subject matter of expressions consists not in their denotata but in their meanings. The meanings are explicated by Tichý, and also by Duží and Materna, as so-called constructions; constructions are complex entities akin to algorithms, they construct intensions or extensions. In this paper, I argue in favour of the Constructional Principle of Aboutness. I show that there are not only single arguments, but the whole net of methodological principles which support it. This is why the topic largely transcends the debate among Tichý's followers.

**KEYWORDS:** Aboutness – logical analysis of natural language – logical semantics – principle of subject matter.

### 1. Introduction: aboutness and constructions vs. denotata

When investigating natural language, Pavel Tichý – the founder of Transparent Intensional Logic (TIL) – introduced his own *Principle of Aboutness*, i.e. a principle related to the *subject matter* of expressions (in

a natural language), to what they speak *about*.<sup>1</sup> As I indicate in the title of this paper, I distinguish two kinds of aboutness.

The so-called *Denotational Conception of Aboutness* (DA) is the erstwhile conception by Tichý and also the recently published conception by Pavel Materna and Marie Duží (see Materna – Duží 2005). The so-called *Constructional Conception of Aboutness* was already formulated by Tichý (1988) as his supreme theory and I am going to argue in favour of its adoption.

The task of logical analysis of (natural) language, which is a discipline auxiliary for the aim consisting in the control of validity of arguments, is to associate expressions with meanings. Thus, there is an important question of what kind of entities meanings are. In the case of TIL as a semantic system, three answers are possible: meanings are extensions / (possible world) intensions / Tichý's so-called constructions of extensions or intensions. But the question goes far beyond the framework of TIL because it asks whether meanings are flat set-theoretic entities or whether they are, rather, certain 'over-set-theoretical' structures, procedures.

Such questions have also a significant historical model in Gottlob Frege's considerations in the initial pages of his seminal study (1892). Frege proposed there *Sinne* as (structured) entities connected with expressions, whereas they are grasped by every competent user of a given language; on the other hand, *Bedeutungen* of expressions are (if there are any) determined by *Sinne* and they are not necessarily grasped by the competent language users. Frege seems to oscillate between two conceptions of aboutness: in normal contexts we speak about *Bedeutungen*, while with help of indirect contexts we speak about *Sinne* of someone's words. It is obviously difficult to reconcile all this ideas and claim, e.g., that according to Frege the subject matter of an expression is its *Sinn* because it is graspable by any competent speaker.

In his view on natural language, Tichý adopted the generally accepted view that language can be understood as a code system,<sup>2</sup> which transfers, by means of its coding signs, *meanings*. These meanings were explicated by Tichý as his so-called *constructions*. Constructions are abstract procedures which are specified by the entities they construct and the way how they

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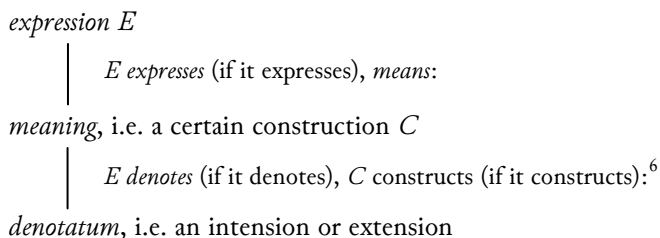
<sup>1</sup> I do not discriminate terminologically among "aboutness", "subject matter" and "talking" or "speaking about" in this text.

<sup>2</sup> See Raclavský (2006) for more details; a detailed analysis can be found in my forthcoming paper "A Model of Language in a Synchronic and Diachronic Sense".



construct them. It holds that any object is constructed by infinitely many distinct constructions.<sup>3</sup> Constructions do not have extensional individuation as possible world intensions do – intensions are mere functions, unstructured mappings. Constructions have ‘intensional’ individuation: they can be equivalent without being identical; they differ as regards their structure. Individuation of constructions is thus more fine-grained than individuation of possible world intensions or (common) extensions. Constructions can be thus understood as *hyperintensions*, which have been recently often discussed in the philosophy of language and logical semantics.

There is no need here to introduce the apparatus of TIL.<sup>4</sup> It suffices to be acquainted with the *semantic scheme*, which is usually adopted in TIL. The scheme has two levels, the constructional and the denotational one:<sup>5</sup>



In TIL, the relation of *naming* is often identified with the relation of denotation.

The motivation for this scheme will be expressed just after an illustrative example of the application of TIL in logical analysis of natural language. According to TIL, the sentence

“Fido is a dog”

<sup>3</sup> The term “construction” has nothing to do with intuitionism or constructivism.

<sup>4</sup> I refer especially to Tichý (1988) as the most relevant source.

<sup>5</sup> The explication of basic semantic notions in the spirit of TIL can be found in Ráclavský (2012a). The above semantic scheme is not the only one accepted by TILians. It resembles the scheme propagated, e.g., by Materna – Duží (2005), and Tichý’s earlier scheme (cf. Tichý 1980a; 1980b): ‘an expression *E* depicts/represents a construction *C*; *E* names an object *O* (*E*’s nominatum) if *C* is closed’.

<sup>6</sup> Some constructions are *improper* in the sense that they construct, on a certain valuation, nothing at all.

expresses the construction

$$\lambda w \lambda t [\mathbf{Dog}_{wt} \mathbf{Fido}],$$

which constructs the proposition (i.e. a class of  $\langle$ a possible world, a moment of time $\rangle$  couples) that Fido is a dog. The proposition is the denotatum of the sentence.<sup>7</sup>

Unlike the reference of mathematical, logical and some other expressions which does not change dependently on modal or temporal circumstances, the reference of many common expressions does vary; we will call them *empirical expressions*.<sup>8</sup> Empirical expressions denote (non-trivial, i.e. non-constant) intensions. Possible world *intensions* are total or partial functions from  $\langle$ a possible world, moment of time $\rangle$  couples. A value of a denoted intension in a given world  $W$  and time  $T$ , i.e. the reference of that expression in  $W$  and  $T$ , cannot be assessed by logic alone because it is a matter of empirical facts. To illustrate, the empirical sentence “The number of planet is eight” refers to the truth-value T in the actual world and at the present time, yet it need not be so in other worlds and at other times – an empirical investigation is thus indispensable to pinpoint the reference of that sentence. Other examples of empirical expressions include the individual description “the president of the USA” or the predicate “dog”. *Non-empirical expressions*, on the other hand, denote extensions (or trivial, constant intensions); their reference in  $W$ s and  $T$ s can be identified with their denotation.

As mentioned above, distinguishing reference and denotation is not the only notable peculiarity of TIL: TIL uses a hyperintensional level of meaning. Such level of hyperintensions was introduced in semantics and philosophy of language because intensional semantics was incapable to model faithfully the structuredness of meanings. This is obvious in the case of mathematical beliefs (reported by the respective sentences) which cannot be directed towards flat classes of  $\langle$ a possible world, a moment of time $\rangle$  couples, but towards structured ways to achieve the propositions. As suggested

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<sup>7</sup> The logical analysis of the sentence “ $E$  is (in English) about  $C$ ”, where “ $C$ ” is a record of a construction, is entirely analogous to the logical analysis of “The meaning of  $E$  (in English) is  $C$ ” which is suggested and explained in Raclavský (2010).

<sup>8</sup> The difference between empirical and non-empirical expressions has been stressed by Materna on a number of places (including Duží – Jespersen – Materna 2010); Tichý himself did not terminologically discriminate between denotation and reference.

by Tichý (1988, 222), belief sentences express constructions in such a way that an agent is related towards a construction  $C$  of a certain proposition where  $C$  is the meaning of the respective embedded sentence. To illustrate, the sentence

“Xenia believes that  $1+1=2$ ”

expresses the construction

$\lambda w \lambda t [\text{Believe}_{wt} \text{Xenia} {}^0 \lambda w \lambda t [= [+ 1 1] 2]]$

( ${}^0 C$  constructs  $C$  in a trivial one-step manner; if  $X$  in  ${}^0 X$  is not a construction, we write “ $X$ ” instead of “ ${}^0 X$ ”).

In our subsequent considerations, it is necessary to be aware of the difference between empirical and non-empirical expressions and also the fact that constructions are suggested to be meanings of expressions, while intensions or extensions constructed by those constructions are considered to be only denotata of those expressions.

In the next section, I will introduce the early DA by Tichý. Then, in Section 3, I present DA by Duží and Materna. I will argue against DA in Section 4, though I will offer some additional arguments in Section 5. Section 5 is devoted mainly to the exposition of CA.

## 2. Tichý’s denotational conception of aboutness

As noted above, DA has it that expressions are about denotata, i.e. intensions or extensions. In contrast to it, CA considers meanings of expressions to be their subject matter. To propagate this or that conception of aboutness is to promote a certain picture of our language and meanings.

From another viewpoint, a conception of aboutness is a formulation of a certain methodological position which should guide our philosophical and logical analyses of natural language. Just in this sense, a certain theory of aboutness was formulated by Frege and Carnap, and then also by Tichý and Duží with Materna.

The problem of an accuracy of a conception of aboutness is only divided into a denotational and constructional version because the semantic theory adopted in TIL has two levels, viz. the meaning and the denotational one.

Of course, a decision in favour of this or that conception amounts to the enforcement of this or that line of explanation of language matters.

Our brief survey of declarations of DA starts with the Principle of Subject Matter by Rudolf Carnap, which was explicitly recalled by Tichý:<sup>9</sup>

A sentence is about (deals with, includes in its subject matter) the nominata of the names occurring in it. (Carnap 1947/1956, 98)

Materna – Duží (2005) identify as Carnap's predecessor none other than Gottlob Frege:<sup>10</sup>

Ueberhaupt ist es *unmöglich*, von einem Gegenstande zu sprechen, ohne ihn irgendwie zu bezeichnen oder zu benennen. (Frege 1884, 60)

As regards just this idea, Carnap did not mention Frege's possible influence on him. Anyway, both Frege and Carnap seem to take the principle to be a guide for our logical analyses of linguistic expressions – to insert entities which are not mentioned in the expressions into logical analyses is methodologically undesirable.

Tichý first introduced his Principle of Aboutness in his unpublished book "Introduction to Intensional Logic":

An object *X* is said to be *mentioned in* an expression *A*, if at least one component of *A* is a name of *X*. (Tichý 1976, §22.13)

A sentence is said to be *about* an object *X* just in case *X* is mentioned in that sentence. In other words, a sentence is about *X* if it contains a name of *X*. (Tichý 1976, §22.16)

He précised this formulation in his paper "The Logic of Temporal Discourse":

An expression depicting a closed, proper construction is called a *name* of the object constructed by the construction; and the object is called the *nominatum* of the name.

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<sup>9</sup> Tichý quoted Carnap twice, cf. Tichý (1976, §22.16) and Tichý (1978, 15).

<sup>10</sup> Carnap's relation of naming seems to be the same relation as our relation of denotation.

A sentence is *about* an object just in case it contains a name of that object; which is to say just in case the construction depicted by the sentence contains a closed construction of that object. (Tichý 1980a, 351)

DA was once more exposed by Tichý in his prime book *The Foundations of Frege's Logic*. But he explicitly announced it there *provisionally*:<sup>11</sup>

an expression is a *name* just in case the construction it expresses is closed. An expression is about whatever objects are named by itself and its parts. (Tichý 1988, 208)

With the help of this provisional conception, Tichý examined Frege's logic and he repeatedly said that sentences are about determiners, whereas determiners are intensions denoted by them (cf. Tichý 1988, 207-208).

### 3. Duží and Materna's denotational conception of aboutness

The problem of aboutness was recently popularized, with a reference to Tichý, by Materna – Duží (2005)<sup>12</sup> under the name *Parmenides Principle*. But the term “Parmenides Principle” has already been occasionally used in metaphysics for an ontological claim that anything thinkable exists:

What is there to be said and thought must needs be: for it is there for being, but nothing is not. (Parmenides, 293)<sup>13</sup>

It is rather some other, adjacent claim by Parmenides which is close to the principle advanced by Duží and Materna:

For you would not understand what is not (that cannot be done), nor would you utter it. (Parmenides, 291)

Duží and Materna seem to choose the term “Parmenides Principle” because of Tichý's remark in his unpublished book (1976) where he evoked a cer-

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<sup>11</sup> “Let us provisionally adopt this theory” (Tichý 1988, 208).

<sup>12</sup> Without substantial changes in Duží – Jespersen – Materna (2010, 133-135).

<sup>13</sup> Quoted from Kirk, G.S. – Raven, J.E. – Schofield, M. (1983): *The Presocratic Philosophers: A Critical History with a Selection of Texts*. 2nd edition. Cambridge University Press, p. 247 (and then 245). Thanks to my colleague Josef Petrželka for his help.

tain connection of the Principle of Aboutness and the just exposed Parmenides' statement was cited by Tichý as:

Thou canst not be acquainted with what is not, nor indicate it in speech. (Tichý 1976, §22.16)

Note that Parmenides' statement, pointing at the fact that the non-existent cannot be talked about, has only a small relevance to the problem of aboutness. The Principle of Aboutness says that a sentence is about what it speaks about – and it is not about anything it does not speak about. That it cannot speak about a non-existent object, as Parmenides claimed, is in principle another question. (Tichý 1976, §22.19, did not suggest that he expected more.<sup>14</sup>)

When discussing aboutness, Materna – Duží (2005) refer to Tichý's unnamed manuscript; arguably, they mean Tichý (1976). They do not, however, refer to aboutness mentioned in Tichý (1980a). Quite surprisingly, they do not discuss aboutness from Tichý (1988).

Duží and Materna explicitly understood the naming relation as identical with the relation of denotation, thus they hold that expressions are about their denotata. In other words, they consider the relations of denotation and talking about to be identical (cf. Materna – Duží 2005, 156, 161).

They explicitly follow Tichý's opinion from his paper "What Do We Talk About":<sup>15</sup>

intensions figure prominently among the entities we commonly talk about. (Tichý 1975, 81)

and claim that empirical expressions are about intensions:<sup>16</sup>

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<sup>14</sup> For Tichý, a language  $L$  is defined over a particular base of objects; if there is no object from the ontology of objects generated over the base which would be denoted by an expression  $E$  of  $L$ ,  $E$  speaks about nothing. This is, on Tichý's opinion, what Parmenides intended to say. (Tichý's main idea may remind us of Wittgenstein's famous "Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt"; Wittgenstein 1918/1964, 5.6.)

<sup>15</sup> Similarly as in Tichý (1980b), Tichý defends intensional semantics as a suitable explanation of expressions' meanings. He criticized writers such as N. Goodman, H. Putnam and G.H. Merrill who maintained that empirical expressions speak about extensions.

<sup>16</sup> The original emphasis is suppressed; similarly for the next quotation.

An empirical expression *E* talks about all and only those objects that are denoted by some (sub)expressions *SE* of *E*. (Materna – Duží 2005, 162)

Now there is only one step to the generalization, mentioned few pages later in their text:

Expressions talk about just those objects that are denoted by them and by their (meaningful) components. (Materna – Duží 2005, 167)

Their certain reluctance to adopt this unrestricted general version of the Denotational Principle of Aboutness has an obvious root in their divergent opinions on the aboutness of the non-empirical expressions. Materna think that they are not about their denotata but about the constructions expressed by them. Duží, however, proposes that we also speak by means of these expressions about denotata and that using true mathematical sentences we “learn to speak” about the truth value *T* (cf. Materna – Duží 2005, 177-178).

#### 4. Against the denotational conception of aboutness

There is Tichý’s early formulation of the Principle of Aboutness which seems to contradict DA:<sup>17</sup>

A sentence to the effect that the result of performing a certain operation has a certain property is not about whatever item is the result, but about the operation itself. (Tichý 1994, 33, 2004, 715)

... we say what sort of entity one obtains by performing an operation, while leaving it unspecified what particular entity it is, i.e. without referring to that entity, not mentioning it. (Tichý 1994, 34, 2004, 715)

But these statements cannot be understood as proclamations of CA because, by an operation, Tichý did not mean a construction but an intension. At that time, e.g. in Tichý (1971), he identified intensions with equivalence classes of procedures. Procedures modelled as certain Turing machines (see Tichý 1969) are predecessors of constructions. The meanings of expressions were procedures, not those intensions.

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<sup>17</sup> I utilize the English translation of Tichý’s paper in Tichý (2004).

Tichý's only argument against DA is thus the following.<sup>18</sup> Tichý used it within his criticism of the view that empirical and non-empirical sentences speak about the truth-value T:

[the provisional] theory [of aboutness] ... portrays the [maths] teacher as never mentioning the item which is at the heart of the matter [i.e. mathematics] and which he is anxious to bring to the pupil's attentions. It does not impute the teacher the reference to the *truth-value* determined by the proposition constructed by  $\lambda w \lambda t.=[+ 1 1]2$ , but to the *proposition itself*. But the trivial proposition (the unique proposition which is true in all worlds at all times) is no more the subject matter of ['One plus one makes two'] than it is the truth-value T. The real subject matter that the sentence treats of – namely the construction  $\lambda w \lambda t.=[+ 1 1]2$  – goes on my own modification of Frege's theory [of reference], unnoticed. (Tichý 1988, 223-224)

We can note that Tichý had rejected the aboutness of non-empirical sentences proposed by Duží. Moreover, his argument also adverts to the information worthlessness of the constantly true proposition denoted by all true mathematical (and logical) sentences.<sup>19</sup>

I will elaborate on Tichý's criticism of DA as follows. The view that mathematical sentences are expressions denoting the truth-value T or F is problematic when we face quite meaningful sentences such as

" $3 \div 0 = 0$ ".

At first sight, Materna's construal of aboutness of mathematical sentences is immune to such criticism because for him sentences such  $3 \div 0 = 0$  are about the constructions expressed by them. But there is a price to be paid: an undesirable methodological dualism which results from it. For it is strange to maintain that the (mathematical) sentences

" $1+1=2$ "

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<sup>18</sup> A similar argument can be found already in Tichý (1986, 528).

<sup>19</sup> "Propositions (construed as functions from world/times to truth-values) are thus too coarse-grained, and sentences too fine-grained to serve as objects of mathematical beliefs. We obviously need a category of objects which falls between these two extremes" (Tichý 1988, 222).



and

“ $1+1=2$  and  $\forall x\forall y\forall z\forall n ((x^n+y^n=z^n) \rightarrow (n<3))$ ”

have distinct subject matter,<sup>20</sup> while the (empirical) sentences

“It rains in New York”

and

“It rains in New York and  $\forall x\forall y\forall z\forall n ((x^n+y^n=z^n) \rightarrow (n<3))$ ”

– a couple of sentences isomorphic to the preceding one – have one and the same subject matter.

Of course, such a criticism can be avoided if we are ready to claim that mathematical and other non-empirical sentences each denote one of the three trivial (constant) propositions: the proposition which is either constantly true, or constantly false, or constantly undefined.

Now I come up with a more forceful argument and claim that

There are meaningful (non-empirical) expressions which do not denote anything, thus they cannot speak about their denotata.

My example is not “the greatest prime” which expresses a construction constructing nothing (there is no greatest prime number). This is because one may perhaps explain such an expression as expressing a construction constructing a constant intension which is undefined; the intension would be the denotatum of that expression.

My example is thus, rather,

“ $3\div 0$ ”.<sup>21</sup>

This meaningful expression expresses the abortive, improper construction consisting in dividing 3 by 0, thus it denotes nothing. There is no good reason to explain this expression as denoting a constantly undefined intension – the expression is a paradigmatic example of an expression lacking denotatum.

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<sup>20</sup> The formula with four general quantifiers is Fermat’s Last Theorem, an analytical truth.

<sup>21</sup> In ordinary English, “three divided by naught”.

Note that DA portrays anybody who says (e.g.) “ $3 \div 0$  is undefined” as somebody who ascribes something to nothing whatsoever, i.e. as making a void claim.<sup>22</sup> But this contradicts our intuition about meaningfulness of such a piece of mathematical discourse.

The case of non-empirical expressions, and also of empirical expressions containing such expressions, thus enforces the adoption of aboutness which treats such expressions as dealing with, speaking about, what they express, i.e. CA.<sup>23</sup>

Now, let us think a bit about the aboutness of empirical expressions. We have seen that DA of non-empirical expressions can only be preserved if there is a possibility to replace the absencing denotatum by a constantly undefined intension. DA thus cannot be preserved if there are genuine cases of expressions not denoting such intensions. This gives us a hint that DA of empirical expressions cannot be criticized by means of an argument similar to the one I have mentioned above because all empirical expressions already denote an intension.

For that reason, my argument against DA of empirical expressions will be of a different kind. Recall that empirical expressions denote non-trivial (i.e. non-constant) intensions and that every intension is a function from possible worlds and moments of time. There is an infinite number of possible worlds and moments of time (which stand in 1-1 fashion correspondence with real numbers). To identify any intension is to enumerate (uncountably) infinite many  $\langle\langle$ a possible world, a moment of time $\rangle, \text{value}\rangle$  couples. (Do not confuse it with that one can find, in a given world and time, a value of a proposition.) Since human intellectual resources are always bound to finite items only, it follows that humans are not really capable to identify any intension at all.<sup>24; 25</sup>

<sup>22</sup> As noted already by Pavel Cmorej in Cmorej (2000, 246).

<sup>23</sup> Consequently, one cannot reduce logical analysis to the analysis of denoting expressions only, as proposed by Materna – Duží (2005, 162).

<sup>24</sup> My claim will be probably challenged: aren't mathematicians capable to mentally grasp infinite, uncountable quantities? In the sense of “identify” used above, they are not. Their minds relate exclusively to finite, identifiable entities, namely to constructions of such infinite quantities.

<sup>25</sup> Cf. Cmorej's opinions on the identification of set-theoretical objects in Cmorej (2001).

Let us look at the problem from another side. Consider the sentence “It rains in New York”. If we ascertain that what the sentence says about raining in New York is the case, we achieve knowledge that a possible world proposition related to the sentence assigns for the present moment of time, and the possible world we understand as the actual world, the truth-value T. Unfortunately, there are infinitely many such possible world propositions and we do not know which one is denoted by the sentence in question. By knowing the state of world in some other moment of time, we surely move towards our goal to select the denoted proposition, but only by a small step. To fully determine the proposition, one needs an infinite amount of steps, which is beyond human capabilities.

Analogical considerations apply to expressions denoting other kinds of intensions. This yields my second argument:

In the case of empirical expressions, DA treats speaker as somebody who has no chance to know what exactly (which intension) he is talking about.

Now we are facing the topic I mention above as ‘further connections in the investigation of meanings’. Note that DA introduces a principle which contradicts another important principle used in logical analysis of natural language and philosophy of language, viz. the principle articulated by Tichý as the Principle of Acquaintance with the Content of One’s Own Claims.<sup>26</sup> I formulate it as follows:

*The Principle of Acquaintance with the Content of One’s Own Claims: If a competent user<sup>27</sup> of a language L asserts an empirical or non-empirical expression E of that language L, she is capable to know what she is talking about and what she ascribes to it.*

This principle is interlocked with that conception of aboutness which treats expressions as speaking about constructions expressed by them, viz.

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<sup>26</sup> “Normally one can be trusted to know what one is talking about and what one is saying about it” (Tichý 1994, 214, 2004, 735).

<sup>27</sup> See the analysis of the notion *ideal speaker* by Marián Zouhar in Zouhar (2010) and relevant comments in the first chapter of Raclavský (2009).

with CA.<sup>28</sup> Constructions constructing intensions are finite; thus, they can be comfortably captured by intellects of speakers, i.e. also identified.<sup>29</sup>

### 5. The constructional conception of aboutness

Tichý introduced his *revised* conception of aboutness, i.e. CA, in his (1988, Sec. 43, called “Constructional attitudes: aboutness revisited”). He explicitly talked about its application to mathematical expressions:

Mathematics *is* about constructions. It is not concerned with facts or states of affairs; it is concerned with calculations. ... It is ... construction which is of cognitive value, not the trivial proposition it constructs. The purpose of mathematics is to bring out to attention various noteworthy ways in which this single trivial proposition can be constructed. (Tichý 1988, 222)

The real subject matter that the sentence [“One plus one makes two”] treats of—namely the construction  $\lambda w\lambda t.[+ 1 1] 2$ . (Tichý 1988, 224)

He had already proclaimed such conception in his paper “Constructions”:

Thus the only viable way of construing mathematical expressions is as names of constructions. (Tichý 1986, 531)

Since the aboutness of mathematical expressions was discussed by Tichý in his (1988) book as a reason for a revision of aboutness in general, the following two Tichý’s claims have to be unambiguously understood as speaking about an aboutness of both non-empirical and empirical expressions:

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<sup>28</sup> Čmurej (2000, 261–262), for instance, stated a similar claim: our intensional attitudes often concern constructions expressed by expressions, not the objects possibly constructed by them.

<sup>29</sup> Constructions are ideal procedures, they need not to be actually executed, cf. Tichý (1986, 526). One could perhaps object that some constructions construct (even in a direct, trivial way) infinite objects; I oppose that this does not make the constructions infinite and thus not identifiable.

Constructions must be what we talk *about* and what expressions through which we communicate *stand for*. ... An expression is simply a name of the construction depicted by it. (Tichý 1988, 224)

Analogously to the thought connections of CA in Tichý's writings (cf. Tichý 1994), I view CA as justified also by its interweaving with further methodological principles. For instance, compare CA with the Principle of Understanding:

*The Principle of Understanding: To understand empirical or non-empirical expression E amounts to be capable to determine its meaning by a competent user of a language L of which E is a meaningful part.*<sup>30</sup>

Somebody who is familiar with the paradigmatic ideas of the contemporary philosophy of language would perhaps oppose my claims by the well-known slogan "understanding a sentence amounts to the ability to determine its truth-conditions".<sup>31</sup> What worries me as regards such an objection concerns the appropriateness of a reduction of knowledge of truth-conditions to the knowledge of a (possible world) proposition. We have seen that in principle it is impossible to fully identify a proposition. (We identify only parts of propositions.) Fortunately, the intuition about knowing truth-conditions can be captured in another way, namely by focusing not on the denotation of sentences but on their meaning, i.e. constructions. To understand a sentence is then to know the way how to determine the truth-value of the sentence; in other words, it amounts to knowing rather the construction (which determines a proposition which is the truth-condition of the sentence).<sup>32</sup>

In the light of the above considerations, we can formulate the Principle of Aboutness as follows:

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<sup>30</sup> Tichý writes: "To *understand* the expression  $9 - 2$  is clearly to know which particular construction it expresses, rather than which number it stands for" (Tichý 1986, 515).

<sup>31</sup> But there is a question, what would be analogical to this in the case of non-sentential expressions? One possible solution accessible to the paradigm is a kind of semantic holism: an expression is understandable only in context of sentences; however, this contradicts our intuition that we can understand the expressions even outside the sentential contexts.

<sup>32</sup> Cf. also Tichý (1969, 7-9).

*The Principle of Aboutness: An empirical or non-empirical expression E of a language L is about its meaning in that language L, i.e. a construction C which is expressed by E in L.*

## 6. Conclusions

After an introduction of DA by Tichý, Duží and Materna, and also other writers, I have offered two principal arguments against it. According to the first one, there are meaningful non-empirical expressions such as “three divided by zero” which are explained by DA as lacking any subject matter. According to the second one, the conception wrongly treats empirical expressions, too, because it implies that speakers are not capable to know what they are talking about. I have also discussed this second argument in relation to CA, which can avoid both kinds of criticism.

Moreover, CA gives rise to further and more general observations concerning meanings and logical analysis. For instance, that there are deeper reasons for abandoning a set-theoretical or, rather, intensional semantic paradigm of explication of meanings than the usually mentioned ones, such as failure of substitutivity in hyperintensional contexts. One example of such a reason is the possibility to be acquainted with the content of one’s own claims, which is preserved only by CA. There are also further interesting relations with use other methodological principles when providing logico-semantic explications of meanings, but this is an issue for another paper.<sup>33</sup>

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<sup>33</sup> The first draft of this paper was written in 2005. I also discuss the related problems in the first chapter of my book Raclavský (2009); there I distinguish, *inter alia*, the Principle of Logical Analysis from the Principle of Aboutness (cf. also Raclavský 2012b), though the two principles seem to be one and the same. The author is indebted especially to P. Cmorej and D. Glavaničová for discussions of this paper; his thanks belong also to an anonymous reviewer.

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## Some Notes on Instrumental Realism

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### 1. Introduction

This paper deals with some problems of instrumental realism, a position held by Ladislav Kvasz as it was presented in his papers *Mathematics and Experience* (2009) and *Mathematics and Reality* (2011). The main objective is to analyse the way instrumental realism provides justification for belief in realism about mathematical entities and to question whether this way of justification is sufficient for instrumental realism to be considered a form of realism.

Realism is often characterised as a position based on the existence thesis and on the independence thesis, or in other words: “[R]ealism [is] a claim about what entities exist and a claim about their independent nature” (Devitt 1997, 14). The aim of this paper is to examine the specific character of the existence and the independence dimensions of instrumental realism and to show that rules internal to the body of mathematics play a fundamental role for both of them. I will argue that there are significant similarities between instrumental realism and internal realism proposed by Hilary Putnam and therefore similar objections can be raised against realistic character of both of them. I hope this paper will contribute to the debate about the character of instrumental realism, as discussed by L. Kvasz (see Kvasz 2009; 2011), J. Peregrin (Peregrin 2010; 2012) and P. Labuda (Labuda 2013). I agree with Peregrin and Labuda that the position held by Kvasz contains theses that are much closer to anti-realism than to realism and I will attempt to provide some more arguments in support of this view.

## 2. Justification of instrumental realism as a form of realism

Search for patterns in the development of mathematics has been the main focus of work by Ladislav Kvasz. He has elaborated models that provide an explanation of mechanism of change from one developmental stage of language of mathematics to another. These comprehensive models provide valuable tools for understanding of history of mathematics. They are based on hierarchical order of instruments of representation (or mathematical languages) with the most basic and oldest ones (elementary arithmetic and synthetic geometry) at the bottom and the most complex and latest ones at the top (Set Theory, Theory of Algorithms) (see for instance Kvasz 2009, 153). Relations between successive levels, or transitions from one instrument of representation to the next one, take place in three steps and express three different roles of each language (descriptive, constitutive and foundational):

At first, each instrument of representation serves as a tool of description of objects, which have their existence warranted by a different instrument. Afterwards, it brings about its own objects that enrich mathematics, and at the end it might take up a role of an ontological basis for another discipline. (Kvasz 2011, 317)

The rules concerning the development of new linguistic frameworks give an account of relations internal to the body of mathematics, however, for a realistic position one would expect also some solutions to the problem of how mathematics is anchored in the external world, or in Carnap's words, to answer the external questions. Kvasz offers several possible answers to this question. I will, though, focus on two of them, which I think are quite fundamental: relation to the natural world (it seems to refer to something real in the natural world) and historicity (long history and cumulative character of mathematics should count as an evidence for realism). The analysis of these bases for arguments in favour of realism about mathematical entities should provide us with a better understanding of the existence and the independence dimensions as they are present in instrumental realism.

### *2.1. Relation to the natural world*

It is possible to interpret instrumental realism and the way it is connected to the world in at least three different ways – platonistic, naturalistic and through the use of conceptual/linguistic frameworks.

There are passages of text (both in Kvasz 2009; and 2011) that seem to support Platonistic view, claiming that there is an independent world of mathematical entities, which is being discovered by mathematicians (for an in-depth analysis of Platonistic as well as anti-realist tendencies of instrumental realism of L. Kvasz see Peregrin 2010). On the other hand, Kvasz is also in favour of naturalistic explanation of the origin of mathematics, as he agrees with P. Maddy and her approach and considers her explanation of cognition of small sets as a suitable foundation for our knowledge of arithmetic (Kvasz 2011, 326). It means that the basic mathematical instruments such as subitizing, perceptual grouping and shape recognition provide an ontological basis – enable an ontological language – for the two most fundamental mathematical linguistic frameworks of basic arithmetic and synthetic geometry, on which the whole body of mathematics is built. Mathematics then seems to be connected to the world by these tools with apparently modular character.

However, I am going to argue that it is possible to interpret instrumental realism and the way it attempts to connect mathematics to the world in a yet different way – as a position similar to internal realism of H. Putnam. The reason why I think this comparison is feasible is based on the statements (which can be found in texts by both Kvasz and Putnam) about “cutting the world” in order to construct and constitute objects:

There is an infinite number of ways how to cut up reality and to pronounce certain blocks as being existent. Out of all the possible ways of how the reality can be cut, a language picks out one, which becomes ontologized. I use the term ‘constitution’ for the process of cutting up and ontologizing. I do not deny that what there is (in our world) really exists; my point is that it becomes real only as a result of the process of cutting up and positing of entities. (Kvasz 2011, 314)

Also for Putnam “Objects’ do not exist independently of conceptual schemes. We cut up the world into objects when we introduce one or another scheme of description” (Putnam 1981, 52).

As we can see, both Kvasz and Putnam use the same thesis of ‘cut up, construct and constitute.’ The point that it is possible to obtain objects in different ways can be demonstrated by the following example presented by Putnam, which shows that the kind of objects we get depends on the way we cut the reality, or on a specific conceptual framework, which brings a possibility to discriminate new entities.

Consider a world with the following individuals:  $x_1$ ,  $x_2$ ,  $x_3$ . How many objects are there in this world?

World 1

$x_1$ ,  $x_2$ ,  $x_3$

[A world *à la* Carnap]  
(Putnam 2008, 597)

World 2

$x_1$ ,  $x_2$ ,  $x_3$ ,

$x_1+x_2$ ,  $x_1+x_3$ ,  $x_2+x_3$ ,

$x_1+x_2+x_3$ ,

[A world *à la* Polish logician].

The consequence of the cookie cutter metaphor is that there might be two sentences, which contradict each other (such as “There are three objects” and “There are seven objects”), and yet each be true within their conceptual framework. Ontology becomes relative to the rules we choose for the ontological language. And since the ontological language provides the foundation for the whole system it seems that the whole structure is subject to relativism.

Putnam’s cookie cutter metaphor stands in contrast to Plato’s metaphor of carving nature at its joints (Plato 1925, Phaedrus 265e). The metaphor of “joints” is based on the idea of natural distinctions, which can be captured by language, while the pattern we get by cutting the “formless dough” depends on an instrument (“cookie cutter”) we are using. However, it seems that the cookie cutter metaphor might be more acceptable for a mathematician than for a scientist who is in search of natural kinds. On the one hand the cookie cutter metaphor allows a set of two elements to contain any two elements, e.g., the two electrons someone has just detected, but also the egg and the fish in my fridge, or the egg and the Andromeda Galaxy. On the other hand the “butcher” metaphor wouldn’t allow an object such as the last one, because it is not a product of cutting nature at any joint. I assume that this could be the reason why Kvasz, as a philosopher of mathematics, does not need to embrace the concept of pre-structured reality and, perhaps, this could be the answer to the question raised by Labuda (2013, 73) about what brings Kvasz to reject language independent structure of the world. Mathematics does not depend on the ‘natural structure of the world’ in terms of the way the world consists of natural kinds or distinctions. The ability to imagine and to do operations on sets containing random objects is a very basic one and independent from methodological evaluation and comparison of characteristic properties of the elements involved. For example we can consider a sentence such as

“Imagine a group consisting of a whale and a mouse,” in a mathematical way as a group (one object) consisting of two elements; or in a biological way as an example of two instances of a natural kind (mammals). It is evident that different rules apply to the use of mathematical and scientific instruments in the process of cutting the reality.

There are several reasons why H. Putnam abandoned the position of metaphysical realism in the late 1970's and embraced internal realism, but probably the main one was the untenability of the correspondence theory. He argued that it is not possible to find a viewpoint from which we can compare the world as it is (independent of any description) and our theories; it is not possible to find the one and only function that provides correct mapping of the world by our theories, because we cannot step outside of our frameworks and look at the correspondence between the two domains. Therefore, it is impossible to find “one true and complete description of ‘the way the world is’” (Putnam 1981, 49). If we abandon the idea of ‘The Correspondence’ and ‘The Theory’, then we are left with a number of frameworks instead of just one. The consequence of this thesis is that since we cannot expect to discover ‘The Correct Description’, we have to give up the idea of a fixed ontology and we are left with ontology, which depends on a framework we choose, just like in the case of Carnap’s World and the World of Polish Logician. As a result: “...the logical primitives themselves, and in particular the notions of object and existence, have a multitude of different uses rather than one absolute ‘meaning’” (Putnam 2008, 597). Consequently, Putnam’s position is quite often considered to be a form of anti-realism due to existence being dependent on a given theory or a conceptual framework (Brock – Mares 2007, 72). I assume that the same could be said also about instrumental realism. I agree with Labuda, who considers the strategy of cutting the unstructured reality as a “standard for anti-realist” views and therefore regards the position held by Kvasz as a form of anti-realism (cf. Labuda 2013, 72).

Curtis Brown (1988) draws a conclusion that in case of internal realism we are dealing with a form of idealism, since from its perspective the concepts of ‘existence’ and ‘object’ depend on the framework we choose, and it is one of the main theses of idealism, that “what there is depends on our own mental structure and activity” (Brown 1988, 145). This claim is supported also by Putnam’s “‘objects’ themselves are as much [...] products of our conceptual invention as of the ‘objective’ factor in experience” (Putnam 1981, 54). I presume that Kvasz would give a similar answer to the question

whether the distinctions are discovered or invented, as he claims the following:

On the one hand the instruments have to be “sharp” enough to enable certain way of cutting; on the other hand, posited entities have to correspond with experience, which is acquired through the use of the instruments. (Kvasz 2011, 314)

And also that “the experiential dimension of mathematics is the ability to develop an instrument, which enables a new type of experience to emerge” (Kvasz 2009, 164). It seems that the distinctions that are enabled by instruments have to correspond with experience, while the experience itself is enabled by the structuring power of instruments. Labuda disagrees with this view and finds the reasoning circular (Labuda 2013, 75). One could perhaps escape the apparent circularity by an additional note that the correspondence was meant to be between the distinctions of a new mathematical language and the experience acquired through the use of instruments of lower order. However, the problem still remains at the level of ontological language, which provides the basis for the whole structure, since at the bottom level it would just have to correspond with its own distinctions.

As mentioned above, the problem of correspondence led Putnam to abandon metaphysical realism. One of the consequences was that “other languages, and the world itself, can only be interpreted from the standpoint of some language” (Brock – Mares 2007, 76). I assume that this applies to instrumental realism as well, since instead of answering the question about the world-language correspondence it deals with the language-language relationship:

Our task is to assess the extent to which there are objects in the world that correspond to the expressions of a language. Instead of following this idea I will try to present a view that also the world inhabited by elephants and bacteria is a world of a certain language. Therefore my aim is to consider realism as a relation between two languages instead of a relation between a language and the world. (Kvasz 2011, 314)

Apart from Putnam and Kvasz, similar way of reasoning was followed also by Carnap in his *Empiricism, Semantics and Ontology* (see Carnap 1950/1991), where he states that: “To accept the thing world means nothing more than to accept a certain form of language” (Carnap 1950/1991,

87). There is also another reason why I consider the comparison with Carnap's approach relevant in this context and it is the concept of linguistic framework, which is fundamental to his as well as to Kvasz's approach. I believe that the comparison of these two conceptions might be productive. According to Kvasz (2011, 314) entities "become real only as a result of the process of cutting up the reality" by the use of some instrument of representation and subsequent constitution and ontologization. For Carnap "[t]o be real [is] to be an element of the system" (Carnap 1950/1991, 86). In both statements the status of posited, constituted entities depends on a chosen framework. For Carnap there are two kinds of questions concerning the existence of entities: internal questions about the existence of entities within the framework and external questions concerning "the existence of the system of entities as a whole" (Carnap 1950/1991, 86). Since the reality of an entity depends on its being a part of the system, Carnap considers only the internal questions as proper ontological questions. The 'criterion of reality' cannot be applied externally to the system itself and thus the external question can be answered only on the basis of practical decision. As we saw earlier, Kvasz avoided the 'external question' by replacing the problem of language-world correspondence with the language-(ontological) language relation, a strategy quite similar to the one followed by Carnap. The external question devoid of metaphysical character becomes a practical question of convenience – another point common to Kvasz, Carnap and Putnam. Kvasz claims that "[w]e do not need the ontological language to grasp the reality in an absolute and definite way. It is sufficient if it provides a convenient basis for the interpretation of a specific theoretical language" (Kvasz 2011, 315). For Putnam "the question is one of the choices of language. On some days it may be convenient to use [antimereological language]; . . . on other days it may be convenient to use [mereological] language" (Putnam 1987, 75). For Carnap the answer to the question "Shall we introduce such and such forms into our language?" depends on "Are our experiences such that the use of the linguistic forms in question will be expedient and fruitful?" (Carnap 1950/1991, 90). Carnap considered the problem of realism, or the external question about the status of the thing language (counterpart to Kvasz's ontological language), as a practical question. The problem of justification of framework itself does not rely on a quest for some special metaphysical link, it is based on a practical decision, considering advantages and disadvantages and looking for the most convenient tool. Nevertheless, if the foundation on which the whole system is built is

a matter of convenience, one might question sufficiency of such a basis for realism and argue that it is rather closer to anti-realist position.

## 2.2. *Historicity*

Historicity, another form of justification of realism, is based on a statement that growth and apparent cumulative character of one of the oldest disciplines should provide a firm basis for the argument justifying realism about mathematical entities. One could even say ‘it would be a miracle if mathematics did not refer to something real’. Rather than solving the ‘global’ problem of mathematics as a whole it is probably easier to start with a ‘local’ one. The questions then would be: ‘How does something become a “real” part of mathematics?’ As an answer to this, Kvasz offers the model of the process of ontologization. In the first stage a specific mathematical language works as an instrument of description of the entities that belong to a language of lower order, later on mathematicians start using it as a useful tool in order to constitute objects of a new kind, and finally after some period of time it takes on the role of a foundation for the language of the next level. The fact, that the founding instrument of representation had once had problematic character is somehow forgotten (Kvasz 2011, 317) as it becomes accepted as ontological language on which the next levels are built. As an example: “After a period of time we had become used to action at a distance to such an extent, that we started treating it as something real” (Kvasz 2011, 304). The same pattern could be applied to all the representational instruments of mathematics; the framework, which has proved useful and fruitful, gains reality. “Mathematical reality is composed of those parts of instrumental representations, which have become stable” (Kvasz 2011, 321). This seems to be in line with the thesis that the existence is justified by internal relations (an entity becomes a part of the system), while the external question is answered by means of practicality. The existence criterion seems to be synonymous with ‘something that mathematicians become used to.’ This view is close to Putnam’s and Carnap’s approach, as presented above. And yet, we need to question again if we find this criterion acceptable and suitable as a foundation of realism. While in the context of science it would be immediately confronted with the pessimistic meta-induction (in the history of science scientists have become used to a number of theories, which, as it turned out, do not refer, therefore, it is plausible to assume that also current theories will eventually face the same problem –



see for instance Laudan 1984), in mathematics the situation is different as it is not subject to falsification.

### 3. Conclusion

If we agree with the view that realism is a position based on the existence and independence thesis, and we want to characterise instrumental realism as a form of realism, then we need to examine the way the existence and independence theses are justified. In this paper I have focused especially on the arguments supporting realism by relation to the natural world and by historicity. I tried to argue that the relation to the natural world, the way linguistic frameworks or instruments refer to the world, is based on similar principles to those of internal realism and therefore the ontological language, which provides the basis for all the other instruments of representation, is subject to ontological relativity. Consequently even concepts such as ‘object’ and ‘existence’ depend on the framework, which is being used. Thus conceived position, based on the ‘cut up and constitute’ approach, does not seem to offer a firm basis for realism and is often labelled as anti-realist. This applies to internal as well as to instrumental realism. The main strength of instrumental realism is its historical approach. It offers a descriptive and explanatory model of development of mathematics through a succession of stages. The model is based on a small number of rules, which have helped to power the whole mechanism of change in the history of mathematics. It has already been mentioned that in this conception entities become considered real if mathematicians ‘get used’ to them ‘after a period of time,’ if they become stable part of the body of mathematics and become a foundation for a new language. In other words, they become real if they become an ‘element of the system,’ as Carnap put it. This position is in line with Carnap’s and Putnam’s views that ontology should be based on relations internal to the system and not on external questions, such as those that metaphysical realism is trying to answer. I suppose that this is the context in which the following statements could be considered as the expressions of existence and independence dimensions of instrumental realism:

Existence thesis – “therefore structuralism as well as set theoretic realism describe something real, something with foundations in mathematics” (Kvasz 2011, 327).

Independence thesis – “For example algebra truly describes a certain reality of numerical relations, which is independent from itself. Therefore, I speak about realism” (Kvasz 2011, 321).

These formulations seem to address both dimensions of realism and it looks like instrumental realism meets the criteria usually considered fundamental to any realist position. However, even though both of the theses are answered, they are answered as internal questions. They provide justification of reality and independence, but the meaning of both concepts is conceived as relative to the domain of mathematics. Emphasis on the internalist justification in the realism debate, however, often leads to a position, which is beyond the realism/anti-realism divide. Evidence for that can be found in works by Putnam, Carnap as well as Kvasz. For Putnam “internal realism is a position [...] both realists and antirealists could accept” (Putnam 1992, 352–353). Carnap in *Empiricism, Semantics and Ontology* proposed a form of framework relative realism. The problem of realism of the framework itself is a practical question, which depends on a decision about what is convenient. In this context one could mention also A. Fine (see Fine 1984), who adopted a position of non-realistic natural ontological attitude, which could be shared both by realists and antirealists, claiming that a realist does not add anything extra to the neutral position apart from: “They really exist!”

The question is whether instrumental realism is a form of realism. Does it add anything extra to a neutral account of pure mathematics, which could be accepted by both camps, apart from the word ‘realism’ in its name? Kvasz is quite explicit about his aim to bridge the realism/anti-realism divide and he even admits that what he “and Peregrin have in common is the position of moderate anti-realism” (Kvasz 2011, 306). But does it still make sense to call this position ‘realism’, even if it aims to neutralize the distinction between realism and anti-realism? An answer to this could be that ‘realism’ is a convenient and useful stance to mathematical entities that is shaped by the way mathematics is pursued. Perhaps the position of instrumental realism simply aims to reflect on the practice of mathematics and gives an account of working realism<sup>1</sup> in which mathematics comes first and that could be the reason why internal questions take priority over the external ones. But should we expect more than that?

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<sup>1</sup> The position of working realism is discussed for instance in Shapiro (1997).

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# Opäť o Goodmanovej novej záhade indukcie<sup>1</sup>

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O názoroch Nelsona Goodmana bolo napísaných veľa prác. Zaujmu sa tešili tak jeho postrehy z oblasti filozofie vedy, ako i jeho úvahy z filozofie umenia. Analýzam bol podrobený jeho nominalizmus, konštruktivizmus aj irealizmus. Jednou z najdiskutovanejších pritom ostáva tzv. Goodmanova nová záhada indukcie (NZI), ktorej sa týka i polemika na stránkach *Filozofie a Organonu F*.<sup>2</sup> Lukáš Bielik sa pustil do kritiky NZI, avšak hneď v prvom článku Bielik (2011) ju predstavil neadekvátne a i jeho ďalšie dva príspevky o tejto téme Bielik (2013a) a Bielik (2013b) obsahujú diskutabilné momenty. Ako postupne ukážem, jednak v nich nevhodne posúva kontext, v rámci ktorého Goodman formuloval svoj nový problém (časť 1) a navyše oponuje verzii nominalizmu, ktorú Goodman nezastáva (časť 2).

Na jednej strane Bielikovi ďakujem za spresnenie viacerých jeho pôvodných vyjadrení, za úsilie domysliť niektoré postrehy (príkladom je diskusia o vlastnosti *zedrý* – tú však treba považovať za relatívne samostatnú Bielikovu reakciu na Macove pripomienky, pretože Goodmanovi sú vlastnosti cudzie) i za kritiku, ktorú mi adresuje. Na druhej strane, v jeho odpovediach sa stále nachádza problematický výklad NZI. V tomto príspevku odhalím

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<sup>1</sup> Príspevok vznikol v rámci riešenia projektu č. 4/2012 z Fondu na podporu vedy FF KU v Ružomberku. Za pripomienky k predchádzajúcej verzii ďakujem L. Bielikovi a M. Drobnákovi. Neznamená to však, že súhlasia s mojimi názormi.

<sup>2</sup> Sériu článkov začal Lukáš Bielik svojou kritikou Goodmanovej záhady v práci Bielik (2011), na ktorú najskôr reagoval Róbert Maco (2012) a neskôr i ja v texte Zeleňák (2012). Na obe state Bielik publikoval osobitné odpovede Bielik (2013a) a Bielik (2013b) a medzičasom sa do diskusie zapojil i Matej Drobnák (2013).

niektoré nedostatky jeho úvah a pritom stručne poukážem na to, ako treba správne rozumieť Goodmanovým postrehom. Ak sa totiž čitateľ oboznámi s Goodmanovými názormi a s NZI práve cez optiku Bielikových textov, môže si vytvoriť chybnú predstavu nielen o danej záhade, ale tiež o iných názoroch Goodmana.<sup>3</sup>

## 1. Humov a Goodmanov problém indukcie

Bielik si vo svojej odpovedi Macovi stanovil ambiciózny cieľ. Chce totiž ukázať, že „buď Goodmanova záhada indukcie nie je *novým* problémom indukcie, alebo jeho problém nie je problémom *indukcie*“ (Bielik 2013a, 345). Začnime Bielikovou úvahou, podľa ktorej Goodman v podstate neformuluje nový, ale starý (Humov) problém indukcie. Zjednodušene povedané, autor prichádza s týmto záverom preto, lebo miestami posúva už samotný výklad Humovho problému. Keďže už Humov problém občas charakterizuje tak ako Goodman a početná výkladová literatúra charakterizujú až NZI, tak mu z toho vyplýva, že NZI nie je nový, ale starý (Humov) problém.

V skutočnosti je situácia trochu komplikovanejšia, pretože Bielik je pri opise Humovho problému minimálne dvojznačný. Niekedy sa správne odvolá na bežné chápanie daného problému a povie, že tu ide o otázku „či existuje ‚nejaký racionálny základ úsudku (inference) z pozorovaného na nepozorované‘“ (Bielik 2013a, 346, pozn. 3). Inokedy jeho vyjadrenia naznačujú, akoby pod Humovým problémom rozumel niečo, čo je výrazne bližšie Goodmanovmu problému. Bielik uvádza: „Ak má *Humov pôvodný problém* indukcie svoje *riešenie*, t. j. ak existuje zdôvodnenie aspoň niektorých induktívnych úsudkov určitého druhu ...“ (Bielik 2013a, 345). Naznačuje tu teda, akoby pri Humovom probléme nešlo o zdôvodnenie indukcie či induktívnych úsudkov vo všeobecnosti, ale akoby tu išlo o zdôvodnenie *aspoň niektorých* induktívnych úsudkov. Pozrime sa na to trochu detailnejšie. Dvojznačnosť Bielikovho chápania Humovho problému dokladá i nasledovný dlhší citát. Do hranatých zátvoriek som pritom vložil čísla, za ktorý-

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<sup>3</sup> Skutočnosť, že Goodmanove názory z rôznych oblastí filozofie sú navzájom úzko previazané, dokladajú Cohnitz – Rossberg (2006) a konštatuje to i Jeník (2011, 41). Napr. jeho vyjadrenia o úlohe zvyku či ukotvenosti (entrenchment) v súvislosti s vedecskými zákonmi – ide tu o kľúčovú vec pre jeho riešenie NZI – majú obdobu i v jeho postrehoch o indoktrinácii a realizme pri jeho analýze symbolov a umenia (pozri Hrkút 2012).

mi nasleduje vyjadrenie formulujúce prvé, resp. druhé chápanie Humovho problému:

... ide o problém [1] „zdôvodnenia induktívnych úsudkov“, presnejšie, ... ide o otázku, [2] „... či existuje kritérium alebo princíp, ktorý by nás oprávňoval spoliehať sa na niektoré induktívne úsudky či odvodenia a ktorý by odlišil ‚oprávnené‘ induktívne inferencie od tých nespoľahlivých“. [Bielik 2011, 746, pozn. 3] Vo všeobecnosti teda možno Humov pôvodný problém formulovať ako otázku, či [1] sme oprávnení usudzovať z premís o tom, čo pozorujeme, na záver vyjadrujúci to, čo sme nepozorovali. Ak by sme sa pozreli na Goodmanovo vymedzenie „starého problému indukcie“, narazili by sme na podobnú charakterizáciu problému (Bielik 2013a, 346).

Rozlíšme teda dva výklady Humovho problému. Podľa chápania (1) tu ide o problém zdôvodnenia indukcie *vo všeobecnosti* či o problém oprávnenosti usudzovať z pozorovaného na nepozorované. Práve to je problém, ktorý sa v literatúre bežne považuje za problém indukcie alebo za Humov problém indukcie v jeho tradičnej formulácii (pozri napr. Popper 1983, 107; Cohnitz – Rossberg 2006, 30-31; Bonjour 2010, 638-639; Sankey 2008, 250). To je tiež problém, ktorý, ako v citáte i Bielik správne uvádza, Goodman považuje za Humov problém indukcie. Takže práve v reakcii na tento problém (a ďalšie postrehy o konfirmácii) Goodman rozvíja svoje úvahy a ukazuje, že existuje i *nový* problém, ktorý neskôr nazve „nová záhada indukcie“. Je však práve toto problém, ktorý Hume v skutočnosti rieši, a nie iba problém, ktorý sa mu bežne pripisuje? Poctivé zodpovedanie tejto otázky by si vyžadovalo detailnejší rozbor a odvolávky na Humove diela. Keďže ani Bielik nič také nerobí, i ja sa obmedzím na konštatovanie, že si myslím – kým mi niekto na základe textovej evidencie neukáže opak –, že práve to je problém, ktorému sa venuje i samotný Hume.<sup>4</sup>

<sup>4</sup> Okrem bežnej výkladovej literatúry hovorí v prospech tejto alternatívy viacero „vedľajších dôkazov“. Ako je známe, Hume veľmi úzko (až neoddeliteľne) prepája úvahy o usudzovaní z minulého na budúce a úvahy o príčinnosti. Zjednodušene, podľa Huma obe záležitosti zakladá opakovaná skúsenosť či zvyk. Voči Humovmu chápaniu príčinnosti sa však rozšírila výhrada, že nie všetky pravidelne združené dvojice sú v kauzálnom vzťahu (protipríkladom je noc a deň). I táto výhrada naznačuje, že Hume uvažoval zhruba nasledovne: Čo zakladá ideu príčinnosti (resp. usudzovanie z minulého na budúce)? Odpoveď: Pravidelné združenie. Hume teda *neuvažoval*: Čo robí z *niektorých* pravidelných následností (resp. z *niektorých* induktívnych inferencií) prípady príčinnosti (spo-

Naopak podľa chápania (2) je Humov problém indukcie o niečom inom. Podľa (2) tu nejde o zdôvodnenie indukcie vo všeobecnosti. Ide tu skôr o problém, ako rozdeliť triedu induktívnych inferencií na oprávnené/spoľahlivé a neoprávnené/nespoľahlivé. (Máme triedu induktívnych úsudkov. Ako z nich vyberieme *také*, ktoré sú zdôvodnené, oprávnené či spoľahlivé?) To je však v porovnaní s problémom (1) *nový* problém. Zhodou okolností, (2) je problém, ktorý má veľmi blízko tomu, čomu sa venuje Goodman. Zopakujem teda to, čo som uviedol už v predchádzajúcom texte Zelenák (2012, 530-532). Huma zaujíma, na základe čoho sme oprávnení z minulého usudzovať na budúce, resp. zo známeho na neznáme. Jeho odpoveď: Na základe zvyku získaného z opakovanej minulej skúsenosti. Goodman sa zaujíma o niečo *iné*: Ktoré zo všeobecných hypotéz sú zákonité, a teda konfirmovateľné? Hume teda odlišuje opakujúce sa od neopakujúceho sa. (Môžem z jedinej skúsenosti o tom, že po *A* nasledovalo *B* odvodiť, že ďalšie *A* bude *B*? Nie. Môžem na základe pravidelnej skúsenosti s tým, že po *A* vždy nasledovalo *B* odvodiť, že ďalšie *A* bude *B*? Áno.) Goodman však ukazuje, že tu vyvstáva *nový* problém, a to v rámci pravidelne sa opakujúcich následností. Niektoré z týchto pravidelných následností sú totiž zachytené zákonmi, ale iné nie. Niektoré zo všeobecných výrokov zachytávajúcich pravidelnú následnosť sú konfirmovateľné (a teda zákonité), ale iné nie sú konfirmovateľné. Vyjadrené v slovníku, ktorý je blízky Bielikovej formulácii problému (2): V prípadoch pravidelného združenia sú iba niektoré odvodenia z minulosti na budúcnosť oprávnené, ale iné nie.<sup>5</sup>

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fahlivé úsudky)? Veď tým by v podstate anticipoval uvedenú výhradu kritikov a kritici by mu nemali čo vyčítať!

<sup>5</sup> Existujú v rámci Goodmanovej diskusie o Humovi vyjadrenia, ktoré by mohli nepozorného čitateľa viesť k tomu, aby čítal Huma druhým (posunutým, Bielikovým) spôsobom? Možno. Na jednom mieste sa tu o Humovi hovorí, že rieši otázku „Prečo táto predikcia a nie iná?“ (Goodman 1983, 60). To môže pripomínať výklad (2), podľa ktorého Humovi ide o rozdelenie induktívnych úsudkov na dve skupiny. Domnievam sa, že uvedenú otázku treba vykladať v kontexte Humovej úvahy o tom, čo možno odvodiť z príčiny samej alebo z jedinej skúsenosti s nejakým javom (pozri napr. Hume 1996, 53 a nasl.). Napr. zo škrtnutia zápalkou o škatuľku možno odvodiť v podstate hocičo: zapáli sa škatuľka, zápalka ozelenie, zaznie hudba a pod. Hume sa práve v tomto kontexte pýta: Prečo teda predpovedáme jednu vec (zápalka sa zapáli) a nie inú (škatuľka sa zapáli)? Jeho riešenie: Až vďaka opakovanej skúsenosti a zvyku robíme prvú predpoveď. Aj tu teda ide Humovi o odlišenie opakujúceho sa od neopakujúceho a *nie* o odlišenie *v rámci* skupiny opakujúcich sa javov – to je až Goodmanov problém.

Bielik teda neuvážene mieša dva rôzne výklady Humovho problému indukcie. Podstatné je však to, že pre svoj záver využíva nekorektné, druhé chápanie Huma. Keďže v jeho podaní je už Humov problém predstavený ako Goodmanov problém, automaticky mu vychádza, že Goodman sa stále pohybuje „vo vodách“ Humovho problému a nepredkladá *nový* problém. V skutočnosti však chybu nerobí Goodman, ale Bielik. NZI neopakuje Humov pôvodný problém, ale Bielik podáva posunutý výklad Huma.

Venujme sa teraz Bielikovmu názoru, že NZI v skutočnosti nie je problémom *indukcie*. Držme sa pritom jeho formulácie, ktorá hovorí o induktívnych úsudkoch. Situácia je nasledovná. Máme triedu induktívnych úsudkov, avšak len časť daných úsudkov je taká, že ich premisy potvrdzujú ich príslušné závery. Autor dodáva:

Kľúč k odlišeniu induktívnych úsudkov, ktorých závery sú *potvrdivé*, od úsudkov, ktorých závery *potvrdivé nie sú*, spočíva podľa Goodmana v tom, že *závery tých prvých reprezentujú zákony, zatiaľ čo závery druhých nie sú reprezentované zákonmi*. Goodman však konštatuje, že kritérium odlišujúce zákony od náhodných generalizácií k dispozícii nemáme, a preto nevieme odlišiť induktívne úsudky, využiteľné v prospech teórie potvrdenia, od ostatných induktívnych úsudkov, ktorých záver nie je premisami potvrdený.

Všimnime si, že takto vymedzený problém nie je vlastne *problémom indukcie*, ale skôr *problémom odlišenia zákonov od náhodných, pravidelne sa opakujúcich javov*, resp. že ide o *problém odlišenia výrokov*, ktoré reprezentujú zákony, od tých, ktoré zastupujú len náhodné pravidelnosti. ... Jadro problému teda *nespočíva v indukcii*, ale v *odlišení zákonov od náhodných generalizácií*. Tento aspekt vymedzenia novej záhady indukcie neušiel len mojej pozornosti [Bielik 2011], ale aj Macovi a Zeleňákovi, ktorí ma upozorňovali na toto všeobecnejšie vymedzenie Goodmanovho problému (Bielik 2013a, 345).<sup>6</sup>

Je to stručný a nejasný „argument“, ktorý si vyžaduje dopracovanie. Po prvé, keďže autor tvrdí, že NZI nie je problém indukcie, musíme si ujasniť, čo vlastne podľa neho *je*, resp. *by bol* problém indukcie. Obávam sa, že v rámci tejto svojej úvahy to nehovorí – len opakuje, že NZI nie je problém

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<sup>6</sup> Na margo poslednej vety musím dodať, že jeden z *hlavných* bodov Macovej a mojej reakcie bolo upozornenie Bielika, že NZI je v skutočnosti problém odlišenia zákonov od náhodných generalizácií.



indukcie – a v iných častiach svojho článku, ako som sa pokúsil doložiť vyššie, predkladá rôzne výklady problému indukcie. Musím sa teda, žiaľ, pohybovať na tenkom ľade. Z kontextu práce sa domnievam, že Bielik problému indukcie rozumie dvojako (občas sa zdá, že pre neho ide dokonca o jednu vec): Ide o problém zdôvodnenia indukcie, prípadne o problém odlíšenia induktívnych úsudkov, v ktorých sú premisy schopné potvrdiť záver od ostatných. Po druhé, raz to vyzerá tak, že Bielik zakladá svoj argument na zdôraznení toho, že uvedené dve odlíšenia (dva problémy, t. j. problém indukcie a NZI) sú *iné* odlíšenia (problémy), a preto NZI nie je problém indukcie. Inokedy sa zdá, že chce podčiarknuť, že v prvom prípade ide o odlíšenie *úsudkov*, zatiaľ čo pri NZI ide o odlíšenie *výrokov*, a preto tu nejde o problém indukcie. Zvážim obe možnosti a predložím i pozitívny výklad toho, prečo je NZI problémom indukcie. Pripomínam, že v oboch prípadoch – keďže sám autor argument jasne neformuluje – musím viacero vecí tvorivo domysliť.

1. Prijmeme na chvíľu Bielikovo predstavenie situácie. Ak tomu správne rozumiem, autor tvrdí, že jedným problémom je odlíšenie dvoch druhov induktívnych úsudkov (v tomto kontexte zrejme práve to považuje za problém indukcie), ale iným problémom je odlíšenie zákonov od náhodných generalizácií. Autor síce otvorene vyhlasuje, že u Goodmana je to druhé „kľúčom“ k tomu prvému, lenže podľa neho ani to zrejme neznamená, že ak sa niekto venuje druhému, t. j. „kľúču“, tak sa venuje i problému indukcie.<sup>7</sup> Rozšírime takúto úvahu i na iné oblasti filozofie. Napr. priaznivci kontrafaktuálnej teórie príčinnosti ako David Lewis navrhujú, aby sme príčinnosť vymedzili cez kontrafaktuály (pozri Lewis 1973). Takýto projekt čelí mnohým úlohám: Tie „správne“ kontrafaktuály treba odlíšiť od nesprávnych, ďalej treba vyriešiť problém ich pravdivostných podmienok, pričom „kľúčom“ je objasnenie podobnosti medzi možnými svetmi atď. Zvyčajne sa všetky tieto a ďalšie súvisiace problémy vykladajú ako súčasť Lewisovho riešenia *problému príčinnosti*. Ako sa však dozvedáme, možno ide o omyl. Hneď ako sa Lewis zaoberá problémom kontrafaktuálov, zrejme sa už nevenuje problému príčinnosti. Hneď ako sa zaoberá podobnosťou možných svetov, nerieši už problém kontrafaktuálov, ani problém príčinnosti. Na jednej strane uznávam, že v určitých kontextoch sa javí byť zmysluplné spresniť rozdiely me-

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<sup>7</sup> Oponent by možno namietal, že debatu miestami posúvam z roviny *problém* do roviny *venovať sa problému*. Tieto dve roviny sú však úzko prepojené a celá úvaha v jednej sa dá formulovať v tej druhej rovine.

dzi problémom *A* a problémom *B* a pod. Na druhej strane je bizarné tvrdiť, že hoci sa niekto odvoláva na problém *B* pri riešení problému *A*, len čo rieši *B*, už nerieši *A*. Ak by sme prijali takýto pohľad, z filozofie by sa stala atomizovaná disciplína s nespočítateľným množstvom údajne odlišných problémov: Ak riešite problém zdôvodnenia alebo pravdy, neriešite problém poznania. Ak riešite problém intencie, neriešite problém konania. Ak riešite problém slobodnej vôle, neriešite problém zodpovednosti. Aký dopad by to malo na časť analytickej filozofie? Ak riešite problém pravdivostných podmienok „S vie, že p“, neriešite problém poznania. Ak riešite logickú formu výrokov o činoch, nevenujete sa problému konania.

Domnievam sa, že práve prepájanie, či dokonca akýsi „preklad“ problémov, sa stal veľmi plodnou súčasťou filozofie. Lewis napríklad navrhuje, aby bol „kľúčom“ k problému príčinnosti problém kontrafaktuálov. Pozor, je zrejme, že iný autor môže oponovať a navrhnúť, aby sa problém príčinnosti neriešil takto, ale povedzme cez problém manipulácií alebo cez problém pravdepodobnosti. Analogicky, samozrejme, môže Goodmana kritizovať i Bielik. Môže vyhlásiť, že problém odlišenia dvoch druhov induktívnych úsudkov sa nemá riešiť cez odlišenie zákonov od náhodných generalizácií, ale nejakou inou. Bielik však robí niečo iné. Jednoducho rozlíši dva problémy a povie, že ten druhý nie je prvým.

Nakoniec zväzme, čo by ostalo z prvého problému, ak by sa od neho „oddělil“ druhý a keby sme odmietli i akýkoľvek iný návrh prepojiť ho s alternatívnym „druhým“ problémom. Čo by ostalo z problému príčinnosti (nie keby ho napr. priaznivec regularitnej teórie odmietol vykladať ako problém kontrafaktuálov a navrhol vykladať inak, ale), keby ho niekto odmietol vykladať s odvolaním na čokoľvek iné? Ostalo by z neho vôbec niečo? Nevyprázdnil by sa natoľko, že by sme o ňom mohli povedať len niečo nanajvýš triviálne, ako „Ide o problém vymedzenia príčinnosti“? Veď ak sa na veci pozrieme bielikovskou optikou, čo sa stane s Humovým problémom indukcie (upozorňujem však, že *tu* mám na mysli problém zdôvodnenia indukcie všeobecne a nie odlišovanie dvoch tried induktívnych úsudkov)? Predsa Hume, napr. pri Goodmanovom výklade, považuje za „kľúč“ k problému usudzovania z minulého na budúce skúsenosť s pravidelným združením, resp. zvyk. Ak to takto vidí Hume, nemali by sme potom povedať, že len čo sa venuje problému pravidelného združenia či zvyku, nevenuje sa problému indukcie? Nemal by bielikovský záver znieť, že problém usudzovania na základe zvyku *nie* je problémom indukcie? Je zrejme, že takéto striktné oddeľovanie problémov nás vedie k absurdnostiam.

2. V skutočnosti je však situácia iná, ako ju formuluje Bielik. Vyššie som zvažil možnosť, že v Goodmanových úvahách o NZI odlišenie dvoch druhov induktívnych úsudkov figuruje ako jeden a odlišenie zákonov od náhodných generalizácií ako iný problém. (Naznačuje to aspoň časť Bielikových vyjadrení.) Po nahliadnutí do Goodmanovej práce zistíme, že to tak nie je. Podľa Goodmana ide v istom zmysle o ten istý problém. Podľa neho odlišenie medzi zákonmi a náhodnými generalizáciami nie je *klúčom* k akémusi inému problému odlišenia dvoch typov induktívnych úsudkov. V skutočnosti ide o *ten istý problém*, je to len jeho iná formulácia. Goodman to jasne hovorí vo viacerých pasážach, napr. keď formuluje jadro NZI v podobe otázok „[Č]o odlišuje zákonité alebo confirmovateľné hypotézy od náhodných alebo neconfirmovateľných hypotéz?“ (Goodman 1983, 80) alebo „Ktoré hypotézy sú potvrdzované svojimi pozitívnymi prípadmi?“ (Goodman 1983, 81). Pre Goodmana je problém odlišenia zákonov od náhodných generalizácií problémom odlišenia confirmovateľných všeobecných hypotéz od neconfirmovateľných hypotéz. Čo to znamená, ak to preložíme do Bielikom preferovaného slovníka odvolávajúceho sa na úsudky? (Pripomeňme si, že pri confirmácii ide o potvrdenie záverov úsudkov ich premisami.) To, že pri NZI ide o problém odlišenia confirmovateľných od neconfirmovateľných hypotéz, možno jednoducho vyjadriť ako problém odlišenia úsudkov, ktorých záverom sú hypotézy prvého druhu, od úsudkov, ktorých záverom sú hypotézy druhého druhu. Z Bielikových vyjadrení sa zdá, že druhú záležitosť považuje za problém *indukcie*,<sup>8</sup> preto by mal uznať, že i NZI je problém *indukcie*.<sup>9</sup>

3. Stačí len trochu ústretové čítanie Goodmana, aby sa ukázalo, prečo je celkom výstižné nazvať jeho problém „novou záhadou *indukcie*“. Predovšetkým je jasné, že Goodman sa netvári, že on predkladá ten jediný pravý problém indukcie. Veď predsa otvorene uznáva, že existuje Humov problém indukcie a jeho vlastný problém indukcie je *nový* problém. Ak by teda niekto zastával názor, že Humov problém je ten jediný pravý problém indukcie a nič iné nemožno považovať za problém indukcie, tak, samozrejme, disku-

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<sup>8</sup> Pozri napr. prvú vetu z uvedeného dlhšieho citátu, ktorá začína slovom „*klúč*“.

<sup>9</sup> Mimochodom, ešte vo svojom prvom texte o NZI (hoci tam Goodmanovu záhadu chápe príliš úzko) ju sám Bielik predstavuje i s využitím dvoch druhov induktívnych úsudkov (I1) a (I2) (pozri Bielik 2011, 749). Odrazu je takýto preklad NZI nemožný? Teraz – ak tomu správne rozumiem – sa problém týkajúci sa dištinkcie medzi výrokmi *nedá* formulovať ako problém odlišenia medzi úsudkami?

sia skončila. Takýmto manévrom zabráni tomu, aby čokoľvek iné bolo považované za problém indukcie.

Goodmanov problém treba považovať za problém indukcie v inom zmysle. Ponúka sa tu viacero výkladov. Stručne spomeniem aspoň dva. Po prvé, Goodmanov problém možno formulovať v nadväznosti na diskusiu o Humovom probléme. Goodman v podstate odhaľuje to, čo si Hume pri riešení svojho problému indukcie nevšimol. Inak povedané, i keby sme ako Goodman uznali, že Hume vyriešil pôvodný problém indukcie, ostala tu minimálne jedna *súvisiaca* záležitosť, ktorej sa Humovo riešenie nedotýka. Ako Goodmanov problém súvisí s Humovým problémom? Zopakujem to ešte raz. Hume sa zaujíma o to, čo zdôvodňuje naše usudzovanie z minulého na budúce. (Prečo očakávam, že i ďalší kus kovu bude viesť elektrický prúd?) Podľa Huma je to zvyk založený na minulej skúsenosti. V tejto situácii však Goodman upozorňuje. Môžem teda vždy na základe opakovanej minulej skúsenosti usudzovať, že budúcnosť bude rovnaká? (Zrejme môžem na základe minulej skúsenosti usudzovať, že i ďalší kus kovu bude viesť elektrický prúd. Môžem však na základe minulej skúsenosti s tým, že všetci ľudia v tejto miestnosti mali vo vrecku mince usúdiť, že aj v budúcnosti to bude rovnako? Nie.) Goodman teda našiel nové úskalie, ktoré si Hume nevšimol (pre neho totiž niet rozdielu medzi spomenutým usudzovaním ohľadom vodivosti a mincí). Goodman teda poukazuje na *nový* (nejde mu totiž o zdôvodnenie indukcie vo všeobecnosti, ale o to, že treba rozlišovať medzi zákonmi a náhodnými generalizáciami), ale *súvisiaci* problém – stačí sa ešte raz zamerať na ich otázky uvedené v zátvorkách. Ak sa Humova otázka týka indukcie, ako je možné tvrdiť, že Goodmanova sa indukcie netýka?

Po druhé, stačí sa pozrieť do literatúry z filozofie vedy, aby sme zistili, že téma konfirmácie je úzko spätá s indukciou.<sup>10</sup> Ako sa NZI týka konfirmácie? Nezabúdajme, že Goodman formuluje NZI v rámci rozboru Huma a *problému konfirmácie*. Goodman vlastne ukazuje, že nie každá všeobecná hypotéza je *potvrdivá*. Inak povedané, NZI možno sformulovať do otázky „Ktoré hypotézy sú potvrdzované svojimi pozitívnymi prípadmi?“ (Goodman

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<sup>10</sup> Čitateľovi odporúčam pozrieť niektorú z mnohých učebníc či príručiek filozofie vedy (pozri napr. Taliga – Schmidt 2013, kap. 2). Mimochodom, upozorňuje na to i Goodman: „induktívna logika, ako ju chápe Hempel, sa primárne zaoberá porovnateľným vzťahom konfirmácie medzi výrokmi“ (Goodman 1983, 67).

1983, 81) Goodmanovi teda ide o problém, ktorý vyvstáva pre konfirmáciu, a teda i v tomto zmysle je jeho NZI problém indukcie.<sup>11</sup>

## 2. Goodmanov nominalizmus

Bielik uznáva, že pri diskusii o NZI prehliadol Goodmanov nominalizmus. V konečnom dôsledku však tvrdí, že ak sa dané stanovisko zoberie do úvahy, tak Goodman sa ocitne v ešte väčších problémoch: „Goodman nemôže z nominalistického hľadiska ani len zmysluplne sformulovať svoj nový problém“ (Bielik 2013b, 257). Bielikov („schematicky naznačený“) argument v prospech tohto záveru treba hľadať v jeho úvahe o nominalizme (pozri Bielik 2013b, 260). Stručne ju zhrniem. Bielik sa pýta: Môže nominalista, ktorý popiera existenciu vlastností a nutností vo svete, odlišiť predikát „zelený“ od predikátu „zedrý“ a zákon od náhodnej generalizácie? Zrejme nie. Veď oba predikáty, zdá sa, označujú rovnakú triedu objektov, a teda to vyzerá, že medzi nimi niet zmysluplný rozdiel. Navyše, keďže podľa nominalistu neexistuje žiadna prírodná nutnosť, o ktorej by vypovedal zákon, neexistuje zrejme nič, čo by fundovalo rozdiel medzi zákonom a náhodnou generalizáciou. Preto pre nominalistu nedáva zmysel pýtať sa na ich rozdiel. Hoci Bielik tu nehovorí priamo o Goodmanovi, ale skôr o akomsi nekonkrétnom nominalistovi, predsa miestami akoby toto stanovisko pripisoval Goodmanovi. Domnievam sa preto, že nebude nekorektné čítať to tak, že túto pozíciu pripisuje Goodmanovi. Je to totiž jediná Bielikova úvaha použiteľná na „dôkaz“ vyššie citovaného záveru, že Goodman nemôže svoj problém zmysluplne formulovať.

Lenže Bielik tu v skutočnosti nepredstavuje Goodmanovu pozíciu. Stačí pritom siahnuť po jeho krátkych článkoch Goodman (1949), (1953) a dozvieme sa o jeho názoroch na význam takých výrazov ako „zelený“ alebo „zedrý“ alebo prečítať si kapitolu vo *Fact, Fiction, and Forecast*, ktorá nasleduje hneď po kapitole venovanej NZI, a dozvieme sa o tom, v čom podľa neho spočíva rozdiel medzi zákonom a náhodnou generalizáciou.

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<sup>11</sup> Výstižne to formuluje i M. Vondrášek: „Zákonitá hypotéza, tj. hypotéza, ktorá má charakter jakéhosi prírodného zákona, je takové obecné tvrzenie, ktoré je schopné prijímať podporu od svých instancí a je tedy také *promítnutelné* na neznámé či budoucí případy. Nahodilé zobecnění by těmito vlastnostmi disponovat nemělo.“ (Vondrášek 2012, 29-30) Pri NZI je jasná spojitosť medzi konfirmáciou („prijímať podporu“) a induktívnym usudzovaním („*promítnutelné* na neznámé či budoucí případy“).

Mimochodom, Goodmanovmu odlišeniu zákonov od náhodných generalizácií (t. j. jeho riešeniu NZI) som sa už stručne venoval vo svojej reakcii Zelenák (2012, 538–539) a podrobnejšie sa tejto téme venuje vo svojom článku Drobňák (2013). Preto len pripomeniem, že rozdiel tu podľa Goodmanu je, avšak aby sme ho vôbec zaregistrovali, museli by sme sa pokúsiť aspoň o trochu ústretové čítanie jeho názorov. Rozdiel totiž súvisí s jeho pojmom *ukotvenia* (entrenchment) a s našou jazykovou praxou a nie s nejakou prírodnou nutnosťou, na ktorú by sa zrejme odvolával bežný realista.

Môže teda Goodman zmysluplne formulovať svoj príklad s predikátom „zedrý“? Existuje v rámci jeho stanoviska nejaký rozdiel medzi „zelený“ a „zedrý“? Obmedzím sa na stručné a zjednodušené objasnenie pozitívnych odpovedí na uvedené otázky. Goodman tvrdí, že výrazy majú nielen *primárnu*, ale aj *sekundárnu* extenziu, preto dva termíny majú rovnaký význam, iba ak majú rovnaké obe extenzie (Goodman 1949, 5). Pod primárnu extenziu predikátu „zelený“ patria všetky zelené a predikátu „zedrý“ zasa všetky zedré veci. Pod sekundárnu extenziu patria všetky objekty spadajúce pod tzv. zloženiny (compounds) vytvorené z daných predikátov. Pod sekundárnu extenziu predikátu „zelený“ teda patria objekty označené zloženinou „zeleného-symbol“, konkrétnejšie napr. zloženinou „zeleného-opis“, „zeleného-obraz“ a i. Viem, že takéto zloženiny môžu vyzerat’ nezvyčajne. Podstatné je však uvedomiť si, že pod ne spadajú konkrétne objekty/symboly (opisy, obrazy a pod.), napríklad tie, ktoré označujú zelené objekty. Pod zloženinu „zeleného-opis“ spadá teda výraz „zelený“, pretože tento výraz označuje zelené objekty. Analogicky, pod zloženinu „zeleného-obraz“ patria zelené obrazy. Ak teda medzi predikátom „zelený“ a „zedrý“ existuje rozdiel v sekundárnej extenzii, je medzi nimi rozdiel vo význame a Bielikova úvaha stojí na chybnom predpoklade. V čom sa líši sekundárna extenzia predikátov „zelený“ a „zedrý“? Napríklad v tom, že pod zloženinu „zedrého-opis“ spadá výraz „zedrý“, ale nie výraz „zelený“. Vyplýva z toho, že predikát „zedrý“ sa líši od predikátu „zelený“ a Goodman je schopný zmysluplne formulovať svoj príklad.

Goodmanove názory v tejto oblasti sú kontroverzné a boli i predmetom kritiky. Neprekvapí ma preto, ak s nimi oponent nebude súhlasiť. Dôležité je však to, aby vo svojej kritickej analýze rozoberal *Goodmanove* a nie nejaké iné názory, inak sa jeho námietky nedotýkajú Goodmanu ani NZI.

### 3. Záver

Môže to vyzerať zvláštne, že sa v reakcii venujem skôr Bielikovej odpovedi Macovi, ako výhradám, ktoré adresuje mne. Rozhodol som sa však uprednostniť diskusiu o samotnom Goodmanovom probléme, lebo to považujem za dôležitejšie a plodnejšie, ako spresňovanie jeho vyjadrení na moju adresu a mojich vyjadrení na jeho adresu.<sup>12</sup> V príspevku som sa pokúsil spochybniť jeho opätovnú kritiku NZI. Upozornil som, že Bielik predstavuje Humov problém indukcie dvojznačne. Jedna z jeho formulácií navyše Huma vykladá tak, akoby sa už on venoval Goodmanovmu problému. Preto Bielik dokáže odvodiť (chybný) záver, že NZI nie je nový, ale starý (Humov) problém. Okrem toho som kritizoval jeho výhrady voči tomu, že NZI nie je problém indukcie a uviedol som, v akom zmysle ju možno považovať za problém indukcie. Nakoniec som upozornil, že Bielik svoju kritiku zakladá na verzii nominalizmu, ktorá nie je Goodmanova.

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<sup>12</sup> Uznávam, že hlavne v prípade dištinkcie medzi observačným a teoretickým som sa púšťal do zbytočného „domýšľania“ Bielikových názorov. Na druhej strane stále nerozumiem jeho rôznym vyjadreniam ohľadom (ne)pozorovateľnosti zedrosti: „To, že nerozumiem tomu, čo to znamená pozorovať zedrosť, ešte neznamená, že by som popieral možnosť, že ide o pozorovateľnú vlastnosť“ (Bielik 2013b, 258); „Dôvod, pre ktorý odmietam tvrdiť, že nejaký objekt (napríklad smaragd) pozorujem ako zedrý, je prostý“ (Bielik 2013b, 258).

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Peter P. Icke: *Frank Ankersmit's Lost Historical Cause: A Journey  
from Language to Experience*  
New York: Routledge 2012, 198 pages

Although Peter Icke's book is probably the first book-length treatment of the views of Frank Ankersmit published in English, it does not offer a comprehensive interpretation of his works. It rather attempts to explain and criticize one specific aspect of Ankersmit's development – his route from narrativism to the topic of sublime historical experience (his move or “journey from language to experience”). However, even this evolution is presented from a very specific perspective. The result is a strange book. On the one hand, I must admit that it occasionally contains compelling analyses, interesting points and criticisms. Therefore, the reader will not read this work in vain if she is interested in perplexing issues discussed in contemporary philosophy of history. On the other hand, the main argument of the book is, to put it mildly, unbelievable. During more critical moments I would even say it is bizarre. But let me try to avoid a strong rhetoric – by the way, a notable feature of Icke's writing – and make my point in a more constructive manner. After a few introductory and selective remarks about Ankersmit and Icke's book I focus on the main argument provided by Icke. I try to show that his so-called secondary explanation of Ankersmit's route is misguided and incoherent with what Icke himself says in some other places of the book. Moreover, his primary explanation is shallow and not illuminating at all.

Frank Ankersmit is a Dutch theorist of history, one of the most original and prolific authors in this discipline. He is usually associated with the so-called narrativism or narrativist philosophy of history defending a constructivist or antirealist account of history (the discipline, not the past). Narrativism opposes the view that historical works provide straightforward depictions of past events: it rather underlines that they are complicated constructions determined by various factors. Some narrativists emphasize the role of linguistic or conceptual tools, others point to the inescapability of literary dimension, narrative structure, ideological influence or, in general, a historian's point of view. Ankersmit presented his narrativist claims in many books and papers. His main points could be found in his *Narrative Logic* (1983), but similar views are developed also in his later works *History and Tropology* (1994), *Historical Repre-*

sentation (2001) and in his most recent *Meaning, Truth, and Reference in Historical Representation* (2012).

An interesting thing happened when Ankersmit, usually emphasizing the indirect and constructed nature of historical knowledge, started to write about some kind of direct experience with the past, most notably in his *Sublime Historical Experience* (2005). This route from *Narrative Logic* (putting forward narrativist or constructivist views) to *Sublime Historical Experience* (supposedly presenting ideas incompatible with narrativism) is the main topic of Peter Icke's book. Obviously, this is a surprising development worth of attention and explanation. Should the views about sublime historical experience be understood as supplementing his previous narrativism? Or should they be conceived as replacing and opposing constructivism about historical work? This is the context of Icke's attempt to explain *why* Ankersmit makes a move – in fact, by Icke's lights a wrong move – from narrativism to the notion of sublime historical experience.

*Frank Ankersmit's Lost Historical Cause* is a revised version of Icke's dissertation supervised by Keith Jenkins, a well-known advocate of postmodern philosophy of history.<sup>1</sup> Icke similarly favors postmodernism and thus, not surprisingly, he concurs with the narrativist conclusions of Ankersmit, which may be utilized in some way also for the goals of postmodernism, and disapproves of Ankersmit's views about sublime historical experience, which go against what is so dear for postmodernists.<sup>2</sup>

The book itself is divided into an introduction, four chapters and a conclusion. The first chapter, "The Good Ankersmit", provides an insightful analysis of the main pillars of *Narrative Logic* accompanied with a short discussion of its reception. Nevertheless, after this quite favorable account of Ankersmit's conclusions Icke formulates his objections. In the second and the third chapter, "A Moment of Hesitation" and "Ankersmit in Transition", the author outlines certain doubts about some features of Ankersmit's work, he introduces the claim that Ankersmit misinterprets Hayden White (the key figure of narrativism) and the author presents his main argument. The last chapter, "Sublime

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<sup>1</sup> Actually, Jenkins played an important role in presenting Ankersmit of *Narrative Logic* and "Six Theses on Narrativist Philosophy of History" as a prominent postmodern philosopher of history. Not necessarily a helpful step for his reputation among those who either did not really read his work, interpreted it in a radical way, or read only some of his papers from the late 1980s and the early 1990s discussing postmodernism.

<sup>2</sup> For more on Icke's postmodernism, see the review of the book written by Adam Timmins (Timmins 2012).

Historical Experience”, concentrates on a detailed exposition and critique of the issue of experience.

In this review I am not going to discuss all notable points Icke makes about history or Ankersmit. I have to admit that the first chapter contains a clear and pertinent summary of Ankersmit’s narrativism and, generally, the book raises a couple of interesting questions and criticisms (e.g., regarding the relation of language and history or language and experience). However, Icke’s main argument is highly unsettling and this is why I focus on the core of the book (mainly chapters two and three) providing the alleged explanation of Ankersmit’s route from narrativism (language) to sublime historical experience.

So how should we understand Ankersmit’s somewhat surprising move? In a nutshell, Icke gives the following story. In 1960s and 1970s Hayden White presents the crucial tenets of the narrativist critique of history. Thus, when Ankersmit publishes his *Narrative Logic* in 1983, the important part of narrativism has already been formulated. Ankersmit may merely repeat what has already been written or develop some minor points. Realizing this, Ankersmit begins to dissociate himself from White by misinterpreting White’s position. This enables him to criticize White and to articulate his own new points about history. Finally, the topic of sublime historical experience helps Ankersmit to distance himself from White, narrativism and to obtain a stature of an original theorist of history.

This is a simplified version of Icke’s account, seemingly explaining why Ankersmit makes a journey from *narrativism* to *sublime*. In fact, Icke’s argument is a bit more complicated and it is much more rhetorically loaded; he speaks of Ankersmit’s paranoia, of his being haunted by White, etc. However, I believe that the above story states the core of Icke’s account and I may document it by several quotes. For instance, at the end of chapter two the author writes:

Could Ankersmit’s misreadings [of White], the irregularities in his arguments and so on, be symptomatic of a kind of paranoia, an all-consuming desire to separate himself from White or, perhaps one might even say, ‘the *spectre* of White’? Well, I think that it probably could, and this theme of detachment... will run as a continuous thread into and right through my next “bridging” chapter. (pp. 64-65)

And he points in the same direction on several occasions in the third chapter:

Long before Ankersmit’s intervention in the field of historical theory, White’s language-informed style of historical theory was largely com-

pleted and comprehensively “wrapped up” to the extent that there was little space left for any improvements on it. ... hence, Ankersmit found himself unable to make any significant and original contributions to narrativist historical theory during a *crucial* stage in its development. All he could do was to develop and promote what was already there and that, it could be argued, was not enough for him. (p. 101)

... Ankersmit found himself compelled (psychologically) to leave [White] behind. ... Accordingly, perhaps sub-consciously, this resolute dismissal of White affected/effected Ankersmit’s description/redescription of White’s position such that it might fall to his own arguments. On this reading White becomes Ankersmit’s *bête noire* or haunting which he is driven to exorcise by whatever means he can find. (pp. 101-102)

I put forward the proposition that the developing “shape” of Ankersmit’s new position might be seen to be driven by a kind of paranoia, a compulsion to detach and distance his own work from that of the *spectral* Hayden White. ... And indeed, as I have already argued, in terms of substantial theory Ankersmit had little new to offer at that time... It is, therefore, not surprising that Ankersmit’s aspiration to improve on White’s position by actually grasping the past “plain” (unmediated) [via the notion of experience] involved a move away from “Whi-tean” theory which, it seems to me, denied the viability of such an exercise. (pp. 75-76)

To be fair, I must note that at the end of chapter three Icke says that it is “a rather speculative secondary explanation” (p. 101). However, I regard it as the actual core of his explanation because he *repeatedly* alludes to it and it seems, in fact, that *this* (and not what he calls “primary explanation”) is the base of his account. Moreover, his so-called “primary explanation” is just too shallow to explain anything (more on this later).

What is wrong with Icke’s (secondary) explanation? First of all, he seems to give us a very simplistic and vulgar sort of explanation alluding to mental states. In other words, he constructs his account in such a way that the mental states of Ankersmit are assigned the decisive explanatory role. Sometimes it looks the author refers to explicit intentions (Ankersmit’s “*desire* to separate himself from White”; for Ankersmit it is “not enough” to develop the points of others), but he also seems to make use of sub-conscious mental states (Ankersmit “found himself compelled... perhaps sub-consciously”; he was driven by

a “compulsion”). Personally, I am very skeptical about the plausibility of explanations referring to mental states in such a crude fashion. How was the author able to uncover the alleged intentions or even sub-conscious mental states of Ankersmit? Icke does not indicate any methodology to clarify how to discover a person’s real mental states.<sup>3</sup> He simply seems to declare “out of the blue” that Ankersmit is “driven by a kind of paranoia” or by “an all-consuming desire to separate himself from White”. What is more, Icke’s (secondary) explanation is a bit insulting. For it does not focus on a larger context of Ankersmit’s route to sublime experience, it does not concentrate on the issues the move attempted to deal with. It rather reaches for some of the most simplistic motives one can imagine in the scholarly world and proclaims them to clarify a puzzling move in the thought of one of the most prominent philosophers of history of our time.<sup>4</sup>

Second, Icke’s (secondary) explanation is undermined or even contradicted by other things he says in the book. Two of Icke’s main premises seem to be: (1) Ankersmit is not an original narrator but he is merely following White. (2) Ankersmit wants to distance himself from White (narrativism) in order to formulate something original (sublime historical experience). Only based on these assumptions, the author is able to conclude that Ankersmit moves from narrativism to experience. I am not sure what Icke considers to be an original, new or significant contribution to the theory of history, yet it is obvious from the book that he takes White to be an original author. I am not going to dispute this claim, because I believe White’s points are very interesting and they made a significant impact in the discipline. Still, I must ask: Was he the *first* to claim certain constructedness of historical knowledge or the *first* to point to literary aspects of historical works? What about some of the authors from the 19<sup>th</sup> century White himself likes to discuss or such philosophers as Arthur

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<sup>3</sup> Moreover, this discovery of real mental states does not seem to fit well with Icke’s postmodern stance. He writes: “Now, because on this view our so-called *knowledge* of the world has no ultimate reach beyond the metaphors that we use to describe it, it must follow that this presumed knowledge is of a rhetorical and not of an empirical kind – *all of it*” (p. 42). Hence, should we read Icke as simply giving us his own metaphor, his personal rhetorical exercise? If so, why doesn’t he say it openly but rather pretends to be able to see right into Ankersmit’s mind or even into his sub-consciousness?

<sup>4</sup> I wonder what would be a reception of the book arguing that to explain, for instance, Wittgenstein’s route from *Tractatus* to *Philosophical Investigations* we should not focus on the issues Wittgenstein attempted to solve but rather on his mental states (e.g., on his desire to be famous or original).

Danto (narrative sentences) or Louis O. Mink (“stories are not lived but told”)? I think it is clear the issue of significance or originality is not the issue of who was the *first* to point to constructedness or literary dimension with respect to history. Therefore, White is rather significant in the sense that he comes up with ingenious points, notions, proposals or arguments developing these proposals. However, in this sense, also Ankersmit (with his notion of narrative substance, his distinctions between narratio and individual statement or representation and description, etc.) is an original philosopher with a remarkable impact on the discipline.<sup>5</sup> And the important thing for my critique is that, contrary to his assumption (1), Icke, now and then, seems to admit it:

For while Ankersmit’s early arguments, broadly speaking, carried him toward some of the same general conclusions as those expressed by White..., he has nevertheless always been and undeniably remains original and complex in his own right. (p. 9; see also pp. 94-95, 103)

In addition, the author openly contradicts his assumption (1) when he offers the following reading of Ankersmit’s interpretation of White and his relation to Kantianism. As Icke reads it, Ankersmit acknowledges that he is following White in one aspect of his theory. Yet, Icke does not agree and he replies with a rather general claim (not indicating that it is limited to this one aspect!):

For broadly speaking I take the view that very little common ground has existed between the theoretical positions of Ankersmit and White since Ankersmit’s earlier development of his notion of the *narrative substance* and, hence, the idea that Ankersmit was really following White, is unconvincing. (p. 87)

So Icke himself undermines the “pillar” of his explanation when he claims there has been “very little common ground” between these two authors “since Ankersmit’s earlier development of his notion of the *narrative substance*”. How could Ankersmit repeat White’s points if there has been “very little common ground” between them?

The situation gets even worse for Icke with respect to his assumption (2). At one place the author says:

Pulling all these arguments together, one can perhaps now make out a certain direction in them. For it rather looks as if Ankersmit first pro-

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<sup>5</sup> Of course, one does not have to agree with his conclusions nor arguments, but this is a different thing.

jected onto White's theoretical position a duplicate of his own evolving position – that is, his own movement from *language* to the *sublime*, sanctioned through the rejection of *tropology* – and that having done so he was then able to retrieve that same reading from White's texts as if it truly represented White's own position. (p. 92)

Recall that Icke's explanation presupposes and emphasizes that Ankersmit strives to be original and wants to distance himself from White. But now, when Ankersmit, according to Icke, approaches originality with the topic of sublime experience, he allegedly "projects it onto White's theoretical position". This does not make any sense. Why would a person who, according to Icke, is eager to come up with a new contribution first attribute it to somebody else? In sum, I do not even need to analyze the work of Ankersmit and White to discredit Icke's implausible secondary explanation: Icke's own claims ruin his argument.

Finally, what is Icke's primary explanation of Ankersmit's move from language to experience? Icke repeatedly informs us that Ankersmit "has always harboured a deep-seated need to retrieve the past in some real, authentic form" (p. 102); "he desperately wanted and needed some form of authentic access to the past" (p. 103). Yet, since the path through history (narrativism) is blocked, Ankersmit has to take a different route – via experience. To put it briefly, Icke's primary explanation tells us that Ankersmit turns to the topic of experience and direct relation with the past because he *wants* and *needs* such a direct access. But this is a very shallow type of explanation. Following this pattern, one would explain any "Why X?" by responding: "Because she or he *wants* and *needs* X?" or, to use a more picturesque but just as uninformative language: "Because of his 'personal drive to satisfy his central and compelling need' (p. 104) for X".

I realize that Icke's book offers more than just the primary and secondary explanation of Ankersmit's journey from language to experience. Therefore, those who are interested in contemporary philosophy of history (more specifically, in the views of Ankersmit or in the relation between language and the past or language and experience) should read it. Nevertheless, they should scrutinize very carefully the main point of the work, the alleged explanations of Ankersmit's move. In my opinion, the primary explanation is too shallow and the other one – besides being misguided – does not even fit some of Icke's own claims in the book.

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### Timothy Williamson: *Modal Logic as Metaphysics* Oxford University Press 2013, 464 pages

What there is, what there might be and what there cannot be? Are some things merely possible, could events in the world be otherwise, do past and future situations exist in the same manner as those present do? Questions like these have been bothering philosophers for ages and still stand in the very core of metaphysical debates. However, purely metaphysical considerations like the above ones very often terminated in conceptual confusions. They turned out to be more confusing than elucidating, more obscure than clear, and sadly, more pseudophilosophical than philosophical. In his new book, Timothy Williamson breaks the barriers. His *Modal Logic as Metaphysics* gives some precise connections between the model theory and the metaphysics and aims to put metaphysics on the same level as science.

In eight chapters (Contingentism and Necessitism; The Barcan Formula and its Converse: Early Developments; Possible Worlds Model Theory; Predication and Modality; From First-Order to Higher-Order Modal Logic; Intensional Comprehension Principles and Metaphysics; Mappings between Contingentist and Necessitist Discourse; Consequences of Necessitism and Methodological Afterword) Williamson argues for the claim that one of the roles of quantified modal logic is to supply a central structural core to theories of modal metaphysics. Williamson provides various highly technical arguments, all of which are based on strong modal logic as the arbiter in theory choice. He proposes to look at metaphysical problems through the prism of normal scientific standards, namely through the strongest and systematic logical theories. It is



due to the fact that formally developed metaphysics and science have a lot of in common. Both of them use formal methods and pursue theories with the most theoretical benefits at the least theoretical costs. Moreover, metaphysics as well as science do reject a part of common sense for the sake of simplicity, explanatory power, elegance, and economy in principle.

As far as I can see, Williamson's strategy is (at least) a four-step enterprise. Firstly, we should find a sufficiently strong logic interpreted by an appropriate semantics. Secondly, some sufficiently universal theorems should be provable in the logic. Thirdly, the logic have to be sound as well as complete for metaphysical universality, meaning that "propositional modal logic, S, is sound for metaphysical universality if and only if every theorem of S is metaphysically universal; [and] is complete for metaphysical universality if and only if every metaphysically universal formula of the language is a theorem of S" (p. 95). Finally, it is the appropriately interpreted logical system that forms the structural core of the most feasible metaphysical theory. According to Williamson, metaphysical theories of modality are best formulated in a precise formal language. In particular, Williamson has for it that it is quantified modal logic – higher-order S5 with the classical rules of inference, identity and plural quantification – that is the most prominent guide in theoretical philosophizing.

Given the formal requirements mentioned above, *Modal Logic as Metaphysics* argues on behalf of necessitism standing against contingentism. Necessitism is a thesis according to which necessarily everything is such that necessarily it is identical with something. Put more briefly, necessarily everything is necessarily something (p. 2). So, according to necessitism, there could *not* have been more things than there actually are, there could *not* even be fewer things than there actually are. What there (unrestrictedly) exists is not contingent. What is contingent, on the other side, is the distribution of properties and relations on what exists.

Undeniably, a man on the street would object immediately since, as common sense dictates, at least some things are contingent. Ordinary objects like dogs, cars, chairs and tables would not exist were the actual circumstances be otherwise. Similarly, it seems rather odd to say that Kripke's (possible) seventh son necessarily exists. Since actuality says he doesn't and given that actuality implies possibility, it is a perfectly respectable possibility that Kripke's seventh son does not exist, full stop.

As controversial and counterintuitive as the thesis of necessitism might seem, Williamson takes it as a preferable alternative, nonetheless. In the book, he adduces a large number of claims, arguments and comments on various objections against his stance. For example, it is argued that although all individuals actually exist *and* are necessary beings, not all of them are necessar-

ily *concrete*. Some of them – those traditionally and pre-theoretically conceived as contingent – are only contingently concrete. He thus dismisses common sense as the ultimate guide in metaphysics. Since common sense has limited authority, various claims about contingency and necessity can properly be evaluated by theoretical enquiry only.

Next, several up-to-time debates are according to Williamson desperately unclear. He explicitly mentions the one between actualism and possibilism, arguing that the actualist principle is supposed to claim something like ‘Everything is actual’. Since whatever is is, whatever is actually is: if there is something, then there actually is such a thing. So on this understanding it turns out to be utterly trivial in modal logic. Consequently, actualism is trivially true and possibilism trivially false. Williamson warns us that unless we resort to another reading of ‘actual’ than the one well understood in modal logic the debates reach a deadlock.

For Williamson, one way of keeping the modal discourse under control is to abandon the distinction as hopelessly muddled, and to get on with the clearer necessitism-contingentism debate. Such a reorientation of modal metaphysics debate around the necessitism-contingentism suggests that unless the actualist provides another reading of ‘actual’ the (traditional) notion of actuality as contrasted with possibility does not bring any theoretical advantages. Since the notion ‘actual’ plays an indispensable role in defining possibilism, without an appropriate grasp of it possibilism is not a feasible alternative.

One might, however, worry as to what exactly “actuality”, or “the actual world” means in that context. In fact, there are (at least) two notions of the world that should not be confused and, consequently, two quite different actualist/possibilist distinctions at issue. And although Williamson gives us a clue when he asks what actuality is and why it is contrasted with possibility rather than with possibility-cum-impossibility, it is still not clear what is the notion of “actual” Williamson denies.

In the possibility-cum-impossibility debates, it has been argued that there is no cogent reason to presuppose an ontological difference between merely possible worlds and impossible worlds (Priest 1997, 581). Vander Laan’s worries go in a similar vein as, he says, we lack such a principle of ontology that would justify our construing these similar parts of our modal language in such dissimilar ways (Vander Laan 1997, 599).

Now, the question is whether we should be willing to admit such arbitrariness in the actual-cum-possible distinction too. After all, even the so-called *ersatzers*, qua actualists, are happy to admit two different senses of the term “world”. On one side, there is the real world, the spatio-temporal concrete universe that we as concrete individuals occupy. There are chairs, people, planets,

pugs and all the things we experience. On the other side, they're happy to admit that it is the abstract representation rather than concrete bunch of stuff that deserves the name "world". Given this understanding the term "world" picks out an entity ontologically different from the concrete sum of individuals. Rather, it picks out some *ersatz* representation of a way the world might have been.

It seems that an analogous confusion has infected the meaning of "actual" too. For, notions like "the actual world", or "actuality" may be used by actualists as meaning different things. They mean either a thesis

- (1) Everything is actual (terminological actualism)

or a thesis

- (2) Actuality consists of everything that is spatiotemporally related to us, and nothing more. It is not vastly bigger, or less unified, than we are accustomed to think (Lewis 1986, 100).

In the former, the reference of "actual" concerns trivial analytic truth; yet, in the latter it doesn't (Lewis 1986, 99). Naturally, Williamson recognizes the two meanings of "actual" while he adds that the difference between (1) and (2) is not something that is at stake here. But that does not have to be the case. For, as far as we disambiguate the use of "actual" in such a way that we a) indicate its different uses and b) explicitly grasp the philosophically appealing one, triviality of actualism and, *a fortiori*, impossibility of possibilism, disappears. Namely, taken (1) as leading in the actualism-possibilism debate, it makes sense to derive from the fact a) that there is a talking donkey and the fact that b) whatever is actually is that there actually is a talking donkey. But if we consider actuality non-trivially, as a restricted quantification, the inference is blocked. And an introducing an actuality operator that shifts its extension from world to world can do the job (see also Yagisawa 2013).

There is, undeniably, much more to be said about the arguments and comments Williamson makes throughout the whole book. But everybody who had a chance to read it must admit that it is a unique and precise philosophical enterprise. Beside the fact that it demonstrates how powerful the connection between logic and metaphysics is, the book makes a clear case that metaphysical reasoning is meaningful only when backed up by its decent and strong logical counterpart.

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Huw Price: *Expressivism, Pragmatism and Representationalism*  
Cambridge: Cambridge University Press, 2013, xii + 204 pages

Naturalism is usually understood as a matter of letting natural science decide the question of what there is. What natural science tells us there is, there is; and what it tells us there is not, is not. Of course, an entity *prima facie* not recognized by natural science may, after investigation, turn out to be a naturalistically respectable entity after all, but just viewed from an unusual angle, or a conglomerate of naturalistically respectable entities, or perhaps a correlate of our odd way of speaking about naturalistically respectable entities – therefore we need something as “philosophical analysis” to tell us which entities are only *prima facie* incompatible with naturalism, and which are really at odds with it (and hence do not qualify as entities at all). If something does not survive such a scrutiny, the naturalist is at liberty to dismiss it as just a phantasm of a confused human mind.

Quine (1969, 26) takes pains to stress a different aspect of naturalism: “knowledge, mind, and meaning”, he claims, “are part of the same world that they have to do with, and ... they are to be studied in the same empirical spirit that animates natural science.” This might seem to be just a special case of the general tenet: if everything that there is is to be sanctioned by natural science, then surely “knowledge, mind, and meaning” are. Huw Price, in the book under review, argues that the Quinean urge marks a *specific variety* of naturalism – which Price calls *subject naturalism*. And he goes on to argue that this variety of naturalism must *precede* the seemingly more general *object naturalism* that grants science the right to arbitrate ontology.

According to Price, the reason for distinguishing between subject naturalism and object naturalism is connected to the fact that our theories of the world, especially scientific theories, are inevitably couched in language. Hence, to let science sanction the existence of an  $X$ , we must assume that the word we

use to talk about *X* does really refer to *X*. Thus, object naturalism presupposes a certain substantial theory of reference and hence a theory of how our language works. But to have such a theory, we must study the ways we, human subjects, use language and the ways our usage of language bestows meanings upon our words; and this is an investigation that falls into the province of *subject* naturalism.

When we consider how our language works, we may well come to the conclusion that many forms of our discourse seemingly describing the world and referring to its objects are not really doing this. We may conclude that many such seeming descriptions are actually doing something else – typically expressing, or giving vent to, what our own attitudes are. (Thus, for example, we may conclude that moral claims do not describe moral facts, but rather express our affirmative or negative attitudes to what people do.) This immediately compromises object naturalism. (For to apply object naturalism straightforwardly, we would have to distinguish between those theories which do refer to objects of the world and those which do not, which necessitates prior subject-naturalistic studies.) But moreover, Price argues, this state of affairs puts a question mark over seeing *any* kind of discourse or theory as literally descriptive – and he suggests we should go for *global expressivism*, accepting that any kind of discourse primarily expresses the attitudes of the speakers.

This approach would reduce the load we usually put on semantic concepts, concepts like *reference*, *truth*, or *representation*. (The point is that if we accept global expressivism, these concepts are no longer needed to constitute the link between language and reality). Therefore, we could settle for some kind of minimalist or deflationist account of these concepts: the concept of reference, for example, might be thought of as exhaustively characterized by the schema “*X* refers to *Y*”, where *X* is the name of a nominal phrase, and *Y* is the nominal phrase itself.

Price recommends distinguishing between two notions of representation: we should, he claims, differentiate between “e-representation”, which has to do with “environment-tracking” and with co-variances of linguistic items and objects of the extralinguistic world, and “i-representation”, which is a matter of “internal functional roles” or representations. Price urges that these two notions should be kept strictly apart, because they belong to very different projects. And if our project is semantics, then the notion of “e-representation” is completely useless and the only notion that we may usefully take into account is that of “i-representation”.

These proposals are thought-provoking and in the book under review they are carefully scrutinized by highly competent opponents: Simon Blackburn, who was one of the pioneers of expressivism, Paul Horwich, one of the found-

ing fathers of modern deflationism, Bob Brandom, whose inferentialism has affinities with Price's subject naturalism and global expressivism, and Michael Williams, whose anti-foundationalist approach to epistemology is also in some respects close to Price's standpoint.

Let me classify the various different possible strands of objection to Price's standpoint which I see in the following way:

*i) The objection to subject naturalism*

One such strand concerns his detaching of subject naturalism from object naturalism. A principal attraction of naturalism is that it dispenses with the Cartesian picture of the human subject standing in contraposition to the objective world (see the quotation from Quine at the beginning of this review). Yet it would seem that Price's step is now flirting with a return to the vicinity of Cartesianism. The point is that we can read the doctrine of subject naturalism in two ways. One reading would indeed make it a reincarnation of the *prima philosophia* of Descartes or the *pursuit of meaning* of the logical empiricists – something that must be carried out *before* we can even think about exploring the world, or about the *pursuit of truth*. But precisely the abandonment of this was what Quine was convinced naturalism amounts to. Also, I am sure this is *not* what Price is intending.

The other reading of subject naturalism would construe the human subject as an inextricable part of nature – hence subject naturalism is simply a part of object naturalism. But if this is the case, then any scruples which we may have with respect to object naturalism carry over to subject naturalism. Thus, if the problem is that object naturalism presupposes a substantial theory of reference, then so does subject naturalism (albeit perhaps restricted to a narrowed domain).

*ii) The objection to global expressivism*

Another strand of objection pertains to the issue of global expressivism, which would seem to intertwine two ideas that should rather be kept apart. First, there is the idea that describing is nothing like a simple matching of linguistic items with extralinguistic objects. This is a motif Price strongly urges and one to which I myself also wholeheartedly subscribe. Describing is a matter of a complicated language game, and to clarify what we are really doing when we describe is extremely nontrivial. (It is the basic error of many theories of the language-world relationship to think that this relation is as transparent as putting a label on an exhibit and hence is suited to be used as an unexplained explainer.) But then there is a second motif, namely that there is no substantial gap between describing and doing other things with language – no gap which would substantiate our contrasting describing with expressing. About this motif, I have doubts. To me it seems that, once we accept the non-transparency

of the linguistic activity we call describing (and accept that we cannot dispose of it by assimilating it to labeling), it is very natural to take it as a baseline against which to plot other language games.

Hence I am not sure that our realization that describing, far from being transparent picturing, mirroring, or mapping, is a complicating linguistic practice, should lead us to the conclusion that expressivism can only be global (because our speech acts cannot be classified as picturing vs. non-picturing), and not rather to the conclusion that now we can work with the distinction between describing and expressing without fear of falling in with a naive semantics or cumbersome metaphysics. As Rorty (1991, 109), puts it, “holism takes the curse off naturalism” – once we free ourselves from the conviction that naturalism goes hand in hand with an atomistic picture theory of language, we need no longer fear to be naturalists, and nor need we fear to recognize describing as a baseline activity.

*iii) The objection to global anti-representationalism*

Then there is the fact that Price’s global expressivism is also a global anti-representationalism. Again, I wholeheartedly agree that the concept of *representation* cannot be used to underpin semantics in the sense that it is acceptable to use it as an unexplained explainer, but not everything Price says about representations seems to me should be accepted without hesitation. In particular, his contrast between e-representations and i-representations seems to invite a basic confusion. Modeling the distinction between semantically useless and semantically useful notions of representation on the distinction between the external and the internal would seem to lead us astray; for once we conclude that the only representational dimension of language is internal, our language games take on the glint of self-contained enterprises unconstrained by the extralinguistic world. (And McDowellian worries about “frictionless spinning in the void” are forthcoming ...) I think that a more useful distinction would be not between being constrained vs. being unconstrained by the extralinguistic world, but rather between being constrained in an atomistic vs. holistic way. The notion of representation which we want to avoid is the notion of it acting directly as a semantic relation, linking items of language to items of the external world; whereas an unproblematic notion would be one which sees the external world wielding its “friction” on the level of the whole language games, so that the relations of representation as applied to items of language are at most artifacts of our effort to repack the friction so that it is distributed to the individual atoms.

Blackburn’s objection to Price’s program can be seen as a combination of the objection to subject naturalism and the objection to global expressivism. He writes (pp. 78-79):

[E]ven genealogical and anthropological stories have to start somewhere. There are things that even pragmatists need to rely upon, as they produce what they regard as their better understandings of the functions of pieces of discourse. ... Such genealogical stories start with a common-sense background of us, and a world of physical objects, with distinct locations, changing only according to distinct regularities with a distinct speed limit. ... It may be that we take an Aristotelian, or perhaps Wittgensteinian, line on the priority of the everyday. There is simply no place for 'first philosophy' to stand behind the *endoxa*, the given in our common-sense situation. This attitude would be that of *quietism*, or the rejection altogether of at least some external questions. If we insisted instead on posing the Carnapian external-sounding question: how come that we go in for descriptions of the world in terms of surrounding middle-sized dry goods?—then the answer is only going to be the flat-footed stutter or self-pat on the back: it is because we are indeed surrounded by middle sized dry goods. That answer, obviously, draws on the referential resources of the object language, and according to the account in front of us, amounts to a victory for representationalism over pragmatism. It is because it is no better than a stutter that I call it flat-footed representationalism.

Blackburn's point thus is that pragmatist explanations are, in effect, stories about subjects acting in an external environment and trying to cope with it in accordance with their needs, and that to formulate these stories, one needs a language, and notably a language with words referring to all the things that come up in the story. Thus, a pragmatic explanation of language presupposes a representational language.

Blackburn disagrees with Price's global expressivism and global pragmatism, but he would accept what he calls "rolling pragmatism". According to him, we can give pragmatist and expressivist treatment to any part of language, any form of discourse, but we cannot do it with the whole language at once. To give a part of language the pragmatist treatment, we need another part to lean on and hence to take non-pragmatically, at face value (though subsequently we might accept a pragmatist treatment of the latter part, while leaning on some further part).

Brandom is mostly sympathetic with Price's approach; this is not surprising as Price's global expressivism has much in common with Brandom's own inferentialism. However, he is slightly uneasy about Price's sweeping anti-representationalism. Brandom's claim is that, though the notion of representa-



tion has no *explanatory* role to play (in particular it cannot underlie a theory of language as an unexplained explainer), it plays a vital *expressive* role.

Paul Horwich disagrees with Price; what he criticizes most vigorously is Price's kind of the linguistic turn that goes hand in hand with his subject naturalism and global expressivism. Like the pioneers of the turn, Price, in Horwich's words, insists that metaphysical questions "can be answered only, and merely, by attention to our linguistic and conceptual practices" (p. 113), and this is something Horwich disputes. Here, for example, is Horwich's argument against the idea that metaphysical facts and our knowledge of them can be explained away as products of our implicit definitions (pp. 118-119):

How could the fact that sentence 'p' is a definition *ever* entail the fact that 'p'? Consider 'The bachelors are unmarried men', and let's suppose for the sake of argument that it provides the definition of 'bachelor'. What this supposition amounts to is that we treat that sentence in a special way: we regard it as certainly true, we aren't prepared to count anything as evidence against it, and we take it to hold in all *possible* scenarios. But there's no valid route from the fact that we do all these things with the sentence to the conclusion that it *is* true – and, thereby, via the disquotational truth schema, to the former conclusion that bachelors are men. Granted, we cannot do those things without being sure that bachelors are unmarried men. But such a conviction, no matter how strongly and rigidly it is maintained, could nonetheless be false – our being absolutely certain *that p* does not entail *that p*.

I must say I am left taking side with Price over this, for I do not find Horwich's arguments fully intelligible. It seems to me that if we suppose that 'Bachelors are unmarried men' is the definition of 'bachelor', then we have two possibilities: either we deny that definitions are truth-apt (and deny that it makes sense to see them as expressing facts); or we admit this, but then, it would seem to me, we must accept that it is true, for to be a definition is to be *made* true.

Take an Austinian performative: "Hereby I open the conference." Either I may deny that this sentence has a truth value (for unlike assertion, it is not the kind of speech act that would be truth-evaluable), or I may say that by making the speech act, I make – *inter alia* – the sentence true. In either case it does not make sense to say that the sentence may be false – it makes no sense to say that though I may believe that the sentence is true, it is not. And definitions, as far as I can see, can be seen as something like "collective performatives" – we may deny them the truth value true in favor of denying their truth-

evaluability, but we may not deny them the truth value in favor of the assumption that they are false. Hence it makes no sense to me to say that though we are sure that it is true, it may, in fact, be false.

Like Brandom, Williams is largely sympathetic with Price's undertaking. But his sympathy is flavored by a version of the objection to global expressivism – he is convinced that once we cease to construe the descriptive/non-descriptive dichotomy as the representational/non-representational one, there is no reason to deny the local expressivists the significance of this boundary. He insists that “pragmatists can draw lines more or less where expressivists want to draw them, for reasons bearing at least some relation to those that expressivists give” and that “global anti-representativism is compatible with a form of functional pluralism that respects expressivist intuitions” (p. 132).

Williams tries to throw some of his own light on Price's standpoint, through an analysis of his version of the use theory of meaning, or “explanation of meaning in terms of use (EMU)”, as he calls it. He provides a very useful analysis of such theories. He claims that an EMU generally consists of three components. The first is “a *material-inferential* (intra-linguistic) component”. (In the case of the term *true*, for example, this component fixes the inference akin to that from *Snow is white* to *It is true that snow is white* etc.; in the case of the term *red* it fixes inferences akin to those from *This is red* to *This is not green* or *This is colored* etc.) The second is “an *epistemological* component”. (In the case of *true* this component merely states that the inferences of the previous components are “*primitively* acceptable (*a priori*)”, that they “are ‘free’ moves in the discursive game”; in the case of *red* it states that in addition to the “free” moves of the first component, red has also a “reporting” use based on the “reliable discriminative reporting disposition” of the user.) The third is “a *functional* component”. (In the case of *true* this component states that truth “is important exclusively as a generalizing device”, while in the case of *red* it states that “tokens of ‘x is red’ ... function as language entry transitions and thereby play a distinguished role in securing/undermining ‘theoretical’ entitlements”. The point of these differentiations is that while the first two components characterize “*how* a word is used”, the third one articulates “*what* a word is used to do, what it is good for” (p. 135).

Williams then goes on to argue that we can draw the same line local expressivists want to draw by means of distinguishing between “minimalist” EMUs and those EMUs that are not “minimalist”. The “minimalist” EMUs, roughly, are those that do not involve the language-world relation essentially, where the involvement is “essential” if it is a matter of language entry transitions (like in the case of red), but not necessarily if it is a matter of language exit transitions.

Although I find Williams's approach illuminating, personally I would disagree with some of the details of his Sellarsian approach. Williams states that it is the first component alone that determines the content of a term; and that the second component already builds on the content. Thus, in the case of red, the content of the term would be completely "internal" to language, whereas the matter that it is correct to state 'x is red' in certain circumstances while incorrect in others would be a matter of the application of the content to the extralinguistic world. (Hence, this dividing line has affinities with the line between Price's i-representation and e-representation.) But I do not believe that this is viable; I think that the content of an empirical word like *red* must be constituted both by the intralinguistic inferences (akin to inferences from *This is red* to *This is not green*) and the rules that it is correct to assert *This is red* in certain (and not other) circumstances. I am convinced that if this interlinkedness with the world is not built into the content from the very beginning, we are never able to get it: in particular, no way of applying the 'narrow' content of *red* to the extralinguistic world is able to yield us the appropriate correctnesses of the usage of *This is red*.

But my objection here is orthogonal to what is crucial for the issue of Price's global expressivism, so perhaps it is better to leave it for now. What I find important is how Williams makes explicit the possibility of a non-representationalist construal of the *description/expression* gap.

Overall, I think that Price's book, and Price's approach in general, is a very interesting attempt to rethink and extend some basic tenets of pragmatism and expressivism. My impression is that at some point the extensions breach the boundary of the viable; however, even if this is true, the discussion about the limits that it fosters is useful. Pragmatism, in recent decades, has been a very influential current (and, I think, wholly deservedly) and expressivism has been developing into an increasingly attractive philosophical option – therefore to scrutinize the limits of these enterprises is something extremely desirable. From this viewpoint, Price's discussion with his opponents (and sympathizers) is pertinent for everybody interested in these philosophical currents.

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Oznámení o nadcházející konferenci

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