August Fenk, Klagenfurt, Österreich

Hume's problem, Occam's razor, and Wittgenstein's standpoint of common sense

Abstract: Wittgenstein was a critic of scepticism and wanted to teach us (§464) "to turn a piece of unclear nonsense into clear nonsense". Is Hume's problem such a piece of unclear nonsense? Hume argues that a hitherto ever so regular course of nature alone, "without some new argument or inference", does not prove that "it will continue so". Two counter-arguments:
(a) Epistemologically relevant changes in the "course of nature" are an elusive idea, and any respective inference would presuppose the validity of the very same inductive principles questioned by Hume.
(b) The following "reversal" of Hume's argument can be justified by using Occam's razor: Without some new argument or inference it is vain to speculate that the course of nature would *not* continue so.
Both counter-arguments are related to other pragmatic dissolutions of Hume's problem, to Wittgenstein's standpoint of common sense, and to the evolution of knowledge systems in general.

1. Introduction

This paper aims at a rather simple and general version of a pragmatic dissolution of Hume's (1777) problem(s) of induction. (Singular or plural, depending on whether or not the problem of generalization is separated from the problem about the future; cf. Hacking 2006:176). It can be shown that this dissolution is justifiable in terms of Occam's principle of parsimony and that it is arguably in line with Wittgenstein's "standpoint of common sense".

Kripke points out some analogies between Wittgenstein's "scepticism about the determination of future usage by the past contents" of mind and Hume's "scepticism about the determination of the future by the past (causally and inferentially)", and further analogies regarding these authors' convictions that the "paradox can be resolved only by a 'sceptical solution of these doubts', in Hume's classical sense." (Kripke 1982:107f). But a "*sceptical* solution of a sceptical philosophical problem", says Kripke, begins by conceding that the sceptical argument is unanswerable. "Nevertheless our ordinary practice or believe is justified because /…/ it need not require the justification the sceptic has shown to be untenable." (Kripke 1982:66) Furthermore he compares Wittgenstein's appeal for "common sense" with Hume's "strain, dominant in some of his moods", not to question ordinary believes (p.63). But he admits that Wittgenstein was most concerned to attack Humean ideas and that he most probably would not accept the label "sceptic".

Stern (1995) also extensively discusses Wittgenstein's standpoint of "common sense" and of "healthy human understanding" (p.28) and recalls "Hume's inclination to dispel scepticism by returning to social life". But he is even more decided than Kripke regarding the differences between Hume and Wittgenstein: "As in the Tractatus and the early 1930s, Wittgenstein holds that what a sceptic or idealist wants to say is, strictly speaking, senseless." (Stern 1995:25)

Concerning such senseless constructions, Wittgenstein wants to teach us "to pass from a piece of disguised nonsense to something that is patent nonsense" (2006, §464), or, in an older

edition, "to turn a piece of unclear nonsense into clear nonsense". But how to turn Hume's problem into a piece of clear nonsense?

Starting point of our attempts (in Section 2) are Hume's sceptical arguments – preferably in his own words because of some critical remarks regarding his sophisticated formulations that seem to camouflage a problem of his problem, i.e., the principle of the asymmetry in our opportunities to experience. In Section 3 follows the main attack on Hume's sceptical argument, actually a "reversal" of his arguments that can be justified in terms of Occam's razor. In the Discussion (Section 4) the results are related to other pragmatic dissolutions of Hume's problem and to the question whether the development of the knowledge inherent in "common sense", "healthy human understanding", and "ordinary language" was again guided by the principle of parsimony.

2. Hume's sceptical arguments and some inconsistencies

The core of Hume's problem in Hume's (1777) own words:

> "If there be any suspicion, that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance. Let the course of things be allowed hitherto ever so regular; that alone, without some new argument or inference, proves not, that, for the future, it will continue so." (Hume 1993:24).

To anticipate my personal answer (in Section 3) to his last argument: "Without some new argument or inference" it is vain to speculate that it would *not* continue so!

But let me start with an "internal" inconsistency. The term "suspicion" in the first sentence in Hume's paragraph can not really denote a suspicion or doubt inferred from concrete arguments or events. *This is because assuming that a certain cause or event could possibly indicate a change in "the course of nature" or in "the course of things" would presuppose the validity of the very same inductive principles questioned by Hume.* This problem is camouflaged by the word "therefore" (embedded in the second sentence quoted above) which does not refer to any possible reason for questioning the future success of inductive reasoning. It insinuates a deductive inference although there is nothing but a paraphrase of the preceding sceptical statements regarding the predictability of our world and the possibility of a rational foundation of inductive inference.

But so far, our principles of induction are successful, and predictive success is still improving, even in meteorology and psychology. We detect more and more of the redundancy in the organism, its environment, and in the interactions between organism and environment. Such arguments concerning "practical" success in science or in everyday life are anticipated – and rejected – by Hume (1993:24). As an agent he claims being quite satisfied in that point; but as a philosopher he wants "to learn the foundation of this inference":

> "It is certain, that the most ignorant and stupid peasants, nay infants, nay even brute beasts, improve by experience, and learn the qualities of natural objects, by observing the effects, which result from them. When a child has felt the sensation of pain from touching the flame of a candle, he will be careful not to put his hand near any candle; but will expect a similar effect from a cause, which is similar in its sensible qualities and appearance. If you assert, therefore, that the understanding of the child is led into this conclusion by any process of argument

or ratiocination, I may justly require you to produce that argument" (Hume 1993:25).

He anticipates that we would not be able to produce that argument and must, after all, "confess, that it is not reasoning which engages us to suppose the past resembling the future, and to expect similar effects from causes, which are, to appearance, similar." (Hume 1993:25). If it is not reasoning, he says in the next section, then there must be "some other principle" guiding this kind of behavior and thinking:

> "This principle is CUSTOM or HABIT. /…/ This hypothesis seems even the only one, which explains the difficulty, why we draw, from a thousand instances, an inference, which we are not able to draw from one instance, that is, in no respect, different from them. /.../ But no man, having seen only one body move after being impelled by another, could infer, that every other body will move after a like impulse." (Hume 1993:28).

Another internal inconsistency? Hume's example of the child experiencing the heat of the flame is (meanwhile) accepted as a typical instance of learning from the first such experience, i.e., from only one, though very impressive, coincidence of a fascinating visual sensation with a painful sensation. Hume's first mention of that example (p.25) is well compatible with such a learning from the first experience. But now, in the context of "CUSTOM or HABIT" (p.28), there is talk about a "constant conjunction of two objects, heat and flame", and of inferences drawn "from a thousand instances /.../ which we are not able to draw from one instance". These arguments on p.28 are at least more restrictive than those on p.25, and they are clearly inconsistent with empirical facts, i.e., at any rate a case of "external" inconsistency: Learning from only one experience is also functional in those "brute beasts" mentioned by Hume (p.25). If, for instance, a rat gets an intestinal illness within a few hours after drinking and/or eating something, the rat will avoid anything with a similar smell in the future (cf. Garcia et al. 1966). Cases of learning from one experience may be rather exceptional and be restricted to situations endangering the organism's health. But in the face of such cases we cannot simply reduce learning to custom and habit.

3. Shaving off Hume's problem with Occam's razor

Hume argues, as quoted above, that a hitherto ever so regular course of nature alone, "without some new argument or inference", does not prove that "it will continue so". Let me contrast that with what I consider to be a dissolution of Hume's problem: "Without some new argument or inference" it is vain to speculate that the course of nature would *not* continue so. Apart from Hume's problem and in search for a simple and general principle „that is applicable to all kinds of reasoning under uncertainty, including inductive inference" (Grünwald 2000:133), a corresponding prescription was suggested elsewhere (Fenk 2008:90): "Do without the assumption of a change as long as you can't make out any indication or reason for such an assumption!"

This objection is an application of Occam's razor: *It is vain to do with more what can be done with fewer.* Or: *Entities are not to be multiplied beyond necessity.* This principle of parsimony, also known as the virtue of economy or elegance, is a widely accepted criterion in the philosophy of science. Kelly describes it as a heuristic principle that keeps us on the straightest "path to the truth" (Kelly 2007 and "under review")[1]. Laszlo (1972) suggests applying such criteria not only to the sciences, but also to "metaphysical theories". Their

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[1] Interestingly, in the article "under review at *Synthese*", dated December 2, 2008 (downloaded December 8, 2009), Hume or Hume's problem respectively appears only in the title and nowhere else in the text.

selfreferential application to those meta-theories that have invented such criteria is also in line with the demand of a fully "reflexive" theory, i.e., a theory that has, in the words of Giere (1985:95), "itself as an instance".

If Occam's razor represents a rational heuristic principle, and if this principle also applies to epistemological questions, then the simple prescription suggested above is at the same time a rational and simple answer to Hume, i.e., a pragmatic dissolution that can be justified by using Occam's razor. Such a justification might apply to other pragmatic dissolutions as well. For instance the one outlined in Reichenbach (1938): "Hume demanded too much when he wanted for a justification of the inductive inference a proof that its conclusion is true." (p.356). He also thinks that Hume had put his problem the wrong way:

> "Hume believed that a justification of induction could not be given because *we do not know whether we shall have success;* the correct formulation, instead, would read that a justification of induction could not be given if *we knew that we should have no success*." (Reichenbach 1938:362).

A justification of that dissolution by using Occam's razor would also mean a refutation of Salmon's (1966:53, 89) criticism of Reichenbach's approach.

4. Discussion

The way Hume puts his problem can be viewed as an attempt to conceal that what he demands is an unreasonable reversal of the burden of proof. "Unreasonable" because of a principle that I call the *asymmetry in our opportunities to experience*, i.e., an asymmetry in favor of positive effects and regularities. All our knowledge and assumptions imply the positive existence of regularity and redundancy, and never the absence of redundancy. Because all our nomological, though principally hypothetical prior knowledge was induced by positive effects. Analogously, our statisticians' 0-hypothesis is nothing more than an artificial foil used to contrast with the positive finding. While the assumption of a positive effect can, with some reservation, be corroborated in a finite set of data, there is principally no equivalent possibility for a proof of the 0-hypothesis, for a demonstration of randomness, i.e., of the *absence* of any regularity and redundancy (Fenk 1992).

Our world as we know is not a world of isolated regularities. As cognitive subjects we are part of a system whose regularities are more or less directly interconnected, thus allowing for instance abductive inferences as well as "hypothetico-deductive inferences", but rendering it definitely impossible for one single law to change or disappear. And if such a regularity disappeared without "affecting" other regularities and the whole "course of nature", then we would – if we survived that change at all – still not recognize an event corresponding to Hume's scepticism but would try to explain the changes observed by new and/or higher-order regularities.

The mechanisms underlying the detection of a connection between two different sensations are phylogenetically old and are widespread in the recent world of organisms. They must have been, and certainly still are, a powerful selective advantage, because biological selection does not permit luxurious mechanisms. Occam's razor also in "phylogenetic learning"? Such mechanisms could, however, develop only in a world that allows some redundancy to be extracted! One may compare the natural selection of genes with the "natural selection of memes" (Dennett 2009) and assume that both these developmental processes are guided by economy principles. This would mean that the development of all the knowledge inherent in "common sense", in a "healthy human understanding", and in "ordinary language" is guided by Occam's razor. And with regard to (Humean) scepticism it would explain the convergence

of the "sceptical" arguments of cognitive science (e.g. Dennett 2009), of Wittgenstein's common sense philosophy, and of several pragmatic dissolutions of Hume's problem.

The arguments in Reichenbach and in the present paper amount to a simple "re-reversal" of Hume's unreasonable reversal of the burden of proof. This re-reversal hopefully is a case of what Wittgenstein calls a transformation "of unclear nonsense into clear nonsense".

> "Und so sieht die Lösung aller philosophischen Schwierigkeiten aus. Unsere Antworten müssen, wenn sie richtig sind, gewöhnliche und triviale sein. - Denn diese machen sich gleichsam über die Fragen lustig." (Wittgenstein 1979, §111)

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