

RUSSELL AND HUMEAN INFERENCES

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Abstract

Russell's The Problems of Philosophy tries to establish a new theory of induction, at the same time that Hume is there accused of an irrational "scepticism about induction". But a careful analysis of the theory of knowledge explicitly acknowledged by Hume reveals that, contrary to the standard interpretation in the XXth century, possibly influenced by Russell, Hume deals exclusively with causal inference (which he never classifies as "causal induction", although now we are entitled to do so), never with inductive inference in general, mainly generalisations about sensible qualities of objects (whether, e.g., "all crows are black" or not is not among Hume's concerns). Russell's theories are thus only false alternatives to Hume's, in (1912) or in his (1948).

I

Russell's *Problems of Philosophy* present a conception of induction that is strongly and clearly inspired by Hume's epistemology.¹ "Frequent repetition" and "habit" are, according to Russell in this book, the origins of our expectation, in the future, of the same uniform successions or coexistences that we have experienced in the past — echoing Section V of Hume's first *Enquiry*,² or of Part iii of Book I of the earlier *Treatise of Human Nature*.³ And in *An Outline of Philosophy*, Russell includes a chapter with the title "Inference as a Habit", where he also accepts the same distinction of two kinds of inference, "one typified by induction, the other by mathematical reasoning",⁴ that we find in the famous Humean dichotomy between inferences about "matters of fact" and inferences about "relations of ideas" (EHU 4.1.1 e 2, p. 108).

© *Principia*, 5(1–2) (2001), pp. 55–72. Published by NEL — Epistemology and Logic Research Group, Federal University of Santa Catarina (UFSC), Brazil.

Russell was not the first to attribute to Hume the discovery of the celebrated “problem of induction”,⁵ but he certainly was one of the foremost to do so in the 20th Century — followed, of course, by scores of other philosophers and scholars. Nonetheless, it has often been pointed out that Hume’s rarely used the term “induction”. But more relevant than this is perhaps that, in fact, Hume’s theory is an attempt to explain only strictly *causal* inferences, not to account for *inductive* inferences in general. Many examples of inductive inferences in the literature, of the type “all crows are black”, are not causal in character; and, as we shall presently see, Hume is not concerned with that type of induction.

In his *History of Western Philosophy*, Russell correctly discusses Hume’s theory of causation in terms of relations between causes and effects⁶ — correctly, because all of Hume’s examples and illustrations appeal to that kind of relation, not to other relations, like that between, say, natural kinds and their sensible qualities. Not only are all the examples of causal relations, but besides this the *Treatise* distinctly says that “the only connexion or relation of objects which can lead us beyond the immediate impressions of our memory and senses is that of cause and effect, and that because it is the only one on which we can found a just inference from one object to another” (THN 1.3.6.7, p. 63). This implies that the relation between an object and its sensible qualities, not being a causal relation, is not part of Hume problem.

That must be why typical examples of the conclusions of Humean inferences are like “all fire causes heat”, not like “all swans are white”. What Hume is discussing, at least *directly*, are *causal dispositions*, like the disposition of snow to cause cold, not sensible qualities, like the fluidity of water (EHU 4.1.6, p. 110) or the consistence of bread (EHU 4.2.16, p. 113). Let’s read Hume about the latter: “Our senses inform us of the colour, weight, and consistence of bread; but neither sense nor reason can ever inform us of those qualities which fit it for the nourishment and support of a human body” (*ibid.*).

Which means that Hume only discusses one form of inductive inference, namely, *causal* inference. Questions like “how do we know that all water is fluid?” or “how do we know that bread has a certain average weight?”, or “how do we know that all swans are white?”

(I don't know whether he would have raised the latter, more popular question. . . ⁷) simply are not included in the scope of his epistemology, either in the *Enquiry* or in the earlier *Treatise*. It is as if no general problem of induction existed for Hume, but only what we may call "the problem of causation" — or perhaps "the narrow problem of induction"; that is, I suggest, the problem of causal inference taken as one among other forms of inductive inference. It seems thus unjustified that Russell adds to his correct analysis of Hume's theory, discussing relations between causes and effects, the assertion that one of Hume's doctrines is that "induction by simple enumeration is not a valid form or argument", and also that admitting these doctrines commits us to the conclusion that "the rejection of induction makes all expectation as to the future irrational".⁸ For Hume never discussed induction as such, only, as we have seen, causal inference — and also causal belief, on which we shall comment below.

Of course, Hume's celebrated argument, in his essay on "Sceptical Doubts concerning the Operations of the Understanding", about the impossibility of deriving causal inferences from reason, also applies to other kinds of inductive inferences. But his is quite different from what is asserted by commentators like, e.g., Penelhum, in whose first book on Hume a chapter on "Causation and Induction" asserts that, in Hume's philosophy, "general questions about causation set the framework for his investigation of induction; but his answers to those questions presuppose theses about the justification and origin of inductive inference".⁹ But in the rest of Penelhum's exposition there is no quotation from Hume about induction, by this or by another name — simply because the subject is entirely absent from Hume's texts; there are no possible quotations to support that kind of interpretation; and there is nothing to support the contention that Hume's questions about causation *presuppose* anything about the justification of induction. We must agree that Hume's arguments about causal inference also apply to induction by enumeration in general. But this was the (indeed correct) conclusion of his posterity, and it simply is not true that Hume consciously investigated induction as such.

The set of all causal inferences may be conceived as a smaller circle within the larger circle formed by the set of all inductive in-

ferences, and we may perhaps say that Hume, when he discovered that causal inferences may not be derived from reason, in contrast with deductive conclusions, like that the sum of the internal angles of a triangle is 180 degrees, also unveiled the hidden problem that induction in general cannot be derived from reason. But nothing allows us to suppose that he had the intention to question induction in such general terms, because, as we must insist, his intention was only, first, to question the smaller circle of causal inferences, and then to present his own theory about custom or habit and repeated experience as the sources of causal inference.

Besides, if we pay close attention to the character of Hume's examples of causal inference and belief, we see that not only those examples draw a narrower circle than that of the whole set of inductive inferences, but that they also draw an even narrower circle within the circle of causal inferences: the circle of causal relations that are independent of the uncertainties of behaviour, animal or human, individual or social. Let's look at the examples in the first part of Section 4 of the first *Enquiry*, which prepare and sustain Hume's famous "negative argument" about causation. 1) *The sun will rise tomorrow* (p. 108) ; 2) *A man finding a watch or any other machine in a desert island would conclude that there had once been men on that island*; 3) *The hearing of an articulate voice and rational discourse in the dark assures us of the presence of some person*; 4) *Heat and light are collateral effects of fire* (p. 109) ; 5) *Water (...) would suffocate (Adam, in this example) and fire would consume him*; 6) *Two smooth pieces of marble (...) will adhere together in such a manner as to require great force to separate them in a direct line, while they make small resistance to lateral pressure*; 7) *The explosion of gunpowder*; 8) *The attraction of a loadstone*; 9) *Bread is proper nourishment for man, not for lions or tigers*; 10) *One billiard-ball would communicate motion to another upon impulse* (p. 110); 11) *A stone or piece of metal raised into the air, and left without any support, immediately falls* (p. 111); 12) *Elasticity, gravity, cohesion of parts and communication of motion by impulse are probably the ultimate causes and principles we shall ever discover in nature*; 13) *The moment or force of any body in motion is in the compound ratio or proportion of its solid content and its velocity* (p. 112); 14) *Crystal is the effect of heat, and ice of cold* (p. 113). The common feature of these examples may

be found in p. 110: they are all examples either of *laws of nature* or of *operations of bodies*. Not even one is an example, say, of a sensation causing an emotion, or of a menace causing a certain behaviour, or any of the more *uncertain* causal relations, such as those which in Section VI will be called “probabilities”, in contrast with those Hume calls “proofs” —like that *all men must die*, or the already mentioned *that the sun will rise tomorrow* (p. 131, note). And, of course, there is among them not even one example of relations between objects and their sensible qualities.

So that what we may call “Humean inferences” consists in a restricted set of inductive inferences, all of them causal, and typically about physical causal relations. On the contrary, Russellian inferences cover the whole field of inductive inferences — coupled with a frankly hostile attitude towards causal inferences and the very concept of cause. As he famously wrote: “The law of causality (...) is a relic of a bygone age, surviving, like the monarchy, only because it is erroneously supposed to do no harm”.¹⁰ Thus for Russell those problems about induction in general discussed in works like Stuart Mill’s *System of Logic*, in spite of the importance accorded by the latter to several problems about causation, have a full significance quite unlike what could have appeared to an imaginary David Hume responding to Mill’s or Russell’s theories of induction.

Take Mill’s contrast between certain “complete inductions” founded on only one fact,¹¹ as is possible in chemistry, and the possible case of some reliable witness reporting that she had found a grey crow, in spite of all the myriads of proofs we have that all crows are black.¹² The inference “refuted” in this fanciful example would of course have been an inference about a sensible quality, the colour of crows, and for Russell it would have been as significant of the fallibility of induction in general as the discovery of black swans in Australia, proving that, after all, the inductive conclusion that “all swans are white” was simply false. But this kind of fallibility has no significance in the framework of Hume epistemology, which entirely ignores any problems about induction outside the field of Humean, causal inferences. Strictly speaking, and with all due precaution, one might even risk saying that for Hume ... there is no problem about induction *in general*.

On the other hand, if we compare Mill's grey crow to the conclusion of any Humean inference, we must at least intuitively feel that in the latter kind of inferences any exception would be rightly considered impossible, whereas Mill's imaginary exception to his example of inductive inference, that all crows are black, would at most be deemed improbable. This corresponds to Mill's own attitude, which seems to me perfectly reasonable. The grey crow, we must admit, does *not* correspond to Hume's "probabilities" (bracketing here its non-causal character), contrasted with his "proofs", because Humean probabilities in this sense, as we have seen, are founded in mere frequent conjunctions, not on constant conjunctions, and for Mill and everybody else the belief that all crows are black is founded on what Hume would have called a constant conjunction, had he taken an interest in non-causal inductive inferences.

One difficult problem, to which I'm afraid we shall never have a definite answer, is whether Hume was conscious of the difference between the relative uncertainty of inductive inferences about the sensible qualities of objects, in contrast with the much higher certainty of inferences concerning the causal dispositions of the same objects. It would be difficult to determine whether this was why he never discussed induction in general, restricting himself to the narrower and firmer ground of causal reasoning. It might have occurred to him that, after all, Francis Bacon was perfectly right in the aphorism where he declared induction by simple enumeration to be "childish" and precarious, that is, eminently fallible and uncertain.¹³ But this is true only if we look at the whole field of induction, which includes a variety of inferences and kinds of inferences, about which any inductive generalisation is itself risky and complex. Bacon had a deep insight concerning the character of the whole operation. Hume preferred to confine his enquiries to the firmer sector of physical causal inference, later extending them (but very carefully) to the realm of causation derived from the principles of human nature — which would now be called "mental causation".

It is true that Hume took as the central model of his own causal/theoretical explanation of causal inference a new principle, to which he gave the old names of custom and habit, avoiding any mention of the also quite old principle of induction by simple enumeration

— thus setting aside any danger of epistemological “childishness”, and making it very difficult to argue for any kind of plausible precariousness of non-demonstrative inference. Of course, no metaphysical certainty is to be hoped for, in complete contrast with the domain of mathematics, governed by deductive reason — after all, this difference was one of Hume’s most important tenets — but still Humean inferences have a solidity, and a kind of rationality, much superior to what Bacon saw in induction by simple enumeration, and also to what Russell supposed to be held in Hume’s own theory about induction.

In many of his works, Russell presents his own principle of induction as “an *a priori* logical law”, a principle that applies indifferently to all generalisations from repetition, whether concerning sensible qualities, like the colours of birds, or causal powers, like the disposition of a moving body to move another body. But in *Our Knowledge of the External World*, surprisingly enough, Russell says that the principle of induction “if it is true, will warrant the inference that *causal laws* probably hold at all times, future as well as past”.¹⁴ We seem to have here the same restriction to the relatively solid cluster of physical causal inferences, exactly as in Hume. That “all crows are black” is not a causal law — and not even the famous example of Russell’s hopeful chicken, finding one day that, after a “constant conjunction” of someone feeding it with corn, the same person one day cuts its throat, although trivially causal, is really not an example of a causal law properly so called. But Russell concentrates on causal laws as what the principle of induction validates, leaving aside non-causal inductions — why? Perhaps because he feels a difficulty of going beyond that? Or perhaps, as Nicholas Griffin has suggested to me, simply because causal laws was what he was mainly interested in?

II

Far from implying the rejection of induction, or making “all expectations to the future irrational”, Hume’s theory of causal inference and reasoning is part of his own theory of rationality. The latter term, like the similar terms “rationalism” and “rationalise”, only appeared

in the 19th century. Maybe Hume could have called it a theory of wisdom, or of reasonableness, if these expressions weren't too awkward for those times. But his assertion in the essay on miracles that "a wise man proportions his belief to the evidence" (EHU 10.1.4, p. 170) only makes sense as part of a theory of evidence. When Hume says that it is not *reasonable* to jump to a causal conclusion "merely (from) one instance" (*ibid.*, 5.1.3, p. 120), what else could his suggestion be, but that the repetition of conjunctions of experience is a reasonable source for causal inferences? We may even assert that rationality about matters of fact, for Hume, depended in part on repetition of experiences — and on the principle of human nature that makes us sensitive to that kind of repetition.

Proportioning belief to evidence only makes sense within a framework in which custom or habit, among other things, is *also* a principle of rationality, in those cases where it influences our imagination about experiences of *conjunctions* of objects or events. Hume refers to "other habits" in the *Treatise*, where *only one* idea (not two conjoined ones) is "infix'd in the imagination" by its "frequent repetition", mainly in the kind of education of children that Hume ironically compares to *lies* (THN 1.3.9, pp. 80–1). But when acting upon conjunctions of perceptions, habit is a source of rational discovery — the discovery of regularities in nature. And the rationality of these discoveries depends on the knowing subject always keeping a sense of proportion in all her inferences and conclusions.

Thus, evidence about matters of fact is, first, a sufficient number of repetitions of conjunctions of perceptions, which in turn correspond to objects or events. It is to this number that evidence is, and ought to be proportioned. Wisdom, or rationality, consists in adequately weighing that indefinable amount. When discussing the design argument, section 11 in EHU makes it very clear that when "knowledge of the cause (is) derived only from the effect, they must be exactly adjusted to each other" (11.14, p. 191): "the cause must be proportioned to the effect" (11.13, p. 190). This is another use of the criterion of proportion, in cases where a proper conjunction between the cause and the effect is missing. I must leave the implications of this to our final discussion. But we must note that here also wisdom and repetition go together, in an argument whose rational conclusion

is that “almost everything is regulated by principles and maxims very different from ours” (11.27, p. 196), that is, by other principles than design and intention. As Hume might have put it: a wise man does not believe in a particular providence conceived as a Designer of the world — a conclusion, as is well known, that Hume vastly developed in his *Dialogues concerning Natural Religion*.

But in the realm of visible causes there remains a problem in Hume’s philosophy, a problem concerning the possible role of proportion and evidence in causal conclusions from “single experiments”, as they are called in the *Treatise* (1.3.12.3, p. 90). Sometimes “we may attain the knowledge of a particular cause merely by one experiment, provided it be made with judgement” (1.3.8.14, p. 73). That is, sometimes one conjunction of two objects or events may be enough to conclude that one is the cause, and the other the effect. To my knowledge, Hume never offered any concrete examples of this kind of “causal shortcut”, but he insists on it in EHU (9.5, note, p. 167). And for once here Thomas Reid comes to the rescue of David Hume. Reid concurs that “sometimes a single experiment is thought sufficient to establish a general conclusion”, and gives us an example: a single observation of quicksilver under extreme cold becoming a hard metal is good reason to believe “that the same degree of cold will always produce this effect, to the end of the world”.¹⁵

Setting aside the epistemological differences between the two philosophers, let us restrict ourselves to the obvious recognition that the Reidean example would probably have been accepted by Hume, not only as an example of valid reasoning, but also as a legitimate case of causal inference made following a single experiment. But in this case, where no constant conjunction is ever observed, how could a wise man “proportion his belief to the evidence”? Well, I think he would have to examine the “background knowledge” of that inference, to see whether “the experiment has been made accurately, and free from all foreign circumstances” (EHU *ibid.*; cf. THN 1.3.8.14, p. 73). This would have to include an examination of the proportion between the causal background and the scope of the final conclusion. How exactly this could be measured is something that Hume, unfortunately, never told us.

Be that as it may, it seems clear that not only Hume, but also Reid,

could never accept that something like the Russellian principle of induction would make any kind of sense in connection with inferences from single experiments. Obviously, these being decided by only one conjunction of the cause with its effect, they must be taken as *definitely* decided at the very same moment, leaving no place for any kind of probability depending on frequencies. There may, indeed, be a problem about proportion in the formation of the proper background of such inferences. But these inferences themselves could never serve as examples of the Russellian probabilistic principle of induction. And Russell explicitly recognises that there are such inferences, although one of his examples of “inference as a habit” in *An Outline of Philosophy* is the following: “A child touches a knob that gives him a electric shock; after that, he avoids touching the knob. If he is old enough to speak, he may state that the knob hurts when it is touched; he has made an induction based on a single instance” (pp. 83–4).¹⁶

Hume’s assertion that wisdom and rationality depend on proportion between belief and evidence is part of a wider epistemological context, including inferences from single experiments and even hypotheses concerning causes that are known only by their effects. The *rationale* of Hume’s methodology of proportionality between evidence and conclusion, which may perhaps be seen as his particular application of Occam’s Razor, is presented in terms of his “paradigm case” of a knowing subject working only with repeated conjunctions.

The most relevant distinction here is the one between *proofs* and *probabilities*, already established in the critical note on Locke at the beginning of Section 6 of the first *Enquiry*, and now serving as a commentary on cognitive wisdom in the rest of the section on miracles. Here we have a simple kind of proportion, according to the number of repetitions of conjunctions of events, or between objects and events, to serve as a “scale” to weigh the relative value of arguments from testimony, in the case of miracles and in all kinds of historical arguments. But perhaps Hume’s remark also implies that a wise man should proportion his belief in an unobservable Designer to the evidence formed by visible instances of apparent design.¹⁷ On the other hand, that thought might also imply that inferences from single experiments should also be proportioned, if only tacitly (THN

1.3.8.14), to some feature of the background knowledge in such a way that we can dispense with newly observed repetitions. The belief about Reid's quicksilver, for example, should be proportioned to the background knowledge we possess concerning the regularity with which there occur changes of state in metals, e.g. from solid to liquid, because of changes in temperature.

In his book on Russell, Sainsbury¹⁸ quotes the saying of Hume about wisdom that is the center of this part of this paper, apparently as an alternative to Russell's solutions, adding that Strawson defends a similar position to Hume's in his *Logical Theory* (p. 182). Hume's "wisdom" is taken in the sense of "rationality, justified belief", and according to Sainsbury inductive arguments should be seen as *a priori* connected with this kind of rationality. In fact, Strawson says, among other things, against the inductive sceptics (and implicitly against those who think Hume was one of them) that "to ask whether it is reasonable to place reliance on inductive procedures is like asking whether it is reasonable to proportion the degree of one's convictions to the strength of the evidence. Doing this is what 'being reasonable' means in such a context".¹⁹ But Russell himself resents in one of his *Sceptical Essays* a definition of rationality that Hume could have subscribed, as "the habit of taking account of all relevant evidence in arriving at a belief".²⁰ "Taking account" implying proportionality, although the "habit" here mentioned by Russell belongs to common language and has no relevant connection to Hume's principle.

III

Russell interpreted Hume's theory of causation, not only as a theory of induction in general, but also as a sceptical and irrationalist theory of induction. Here I intend to show how deeply wrong Russell was on both counts — Hume's theory being strictly a theory of causal inference, and a theory purporting to show what the several circumstances are in which there is a special kind of reasonableness in that class of inferences, always differing from the rationality proper to deductive inference, but never in ways that would lead us to any kind of epistemological despair.

Russell's own despair with what he was able to see in Hume's philosophy led him, as is well known, to adopt Keynes's theory of induction, and to remain faithful to this theory at least from 1912, in *The Problems of Philosophy*, to 1948 in his *Human Knowledge*.²¹ According to Sainsbury, Russell wanted to close the gap between the world of sense and the world of science, and he believed that to do this he had to solve the problem of induction, that is, "the problem of what, if anything, justifies our reasoning from what we have experienced to what we have not".²²

But we may ask whether Russell's theory of induction makes sense, conceived as an adequate response to Hume's "inductive scepticism". There are two principal versions of Russell's theory of induction, the first in *The Problems of Philosophy* and the last in *Human Knowledge*. The first version proposes a positive "principle of induction", divided into parts of which the most significant is perhaps the second, stating that "a sufficient number of cases of association [of two sorts of things] will make the probability of a fresh association nearly a certainty, and will make it approach certainty without limit" (p. 103). This has been interpreted as an *a priori* principle of induction (Sainsbury), rightly so I suppose; but for now I would like to restrict myself to the discussion of Russell's theory as a reply, which it clearly purports to be, to Hume's supposed "scepticism about induction".

Russell is quite explicit in his *History*: "Hume's scepticism rests entirely upon his rejection of the principle of induction" (p. 699), a principle without which "science is impossible" (p. 700). What Hume really rejects is the idea that the principle behind *causal inferences* (not inductive inferences *in general*) could ever be derived from reason. He never rejected, though neither did he accept, any general principle of induction. On the other hand, Hume's own concept of probability could never be put to the uses claimed by Russell, because probability, at least in the definitive version of Hume's epistemology in Section 6 of first *Enquiry*, only makes sense in cases of merely *frequent*, not *constant* conjunction — or association, in Russell's vocabulary.

Experimental arguments starting from observation of constant conjunctions are, as we have seen, called *proofs*, as distinguished from

probabilities, and are all in fact, although not in principle, proofs of, as we may also call them, *causal powers*, not proofs of universal possession of any *sensible quality* by any kind of class of objects. Hume's analysis of the discovery of causal dispositions or powers has nothing to do with probability in any sense (although in the *Treatise* the Lockean sense, as opposed to knowledge, still appears). Whenever the number of repeated conjunctions is sufficient to fire the innate principle called habit, the knowing subject immediately expects the effect of the observed cause, and the idea of the expected effect receives some liveliness from the impression of the present cause, thus becoming a causal belief. This could never, indeed, be called a "principle of induction", but it certainly is a "principle of causation", with a double aspect: inference and belief. It is a principle that amounts to a natural instinct, which is "infallible in its operations", and which, according to Hume, is in deep harmony with the causal order of the world, and is one of our main instruments of survival. And it certainly is, for our philosopher, one of the main aspects of human rationality, together with deductive reason and mathematical intuition.

If, on the one hand, Hume's epistemology is not about "the problem of induction" in general, ignoring whether one may or may not assert that all crows are black, all swans are white or all bread has average weight α , on the other hand he does accept, within the narrow field of causal inferences, or, if one prefers a shorter expression, of "causal induction", something that may legitimately be called a "principle of causal induction", and is not derived from experience. Contrary to Russell's (or Keynes's) principle of induction, it has nothing to do with probability; neither is it logical in character; but in an important sense it is *a priori*, as well as a source of reliable and rational belief.

If we want to find in Hume an *a posteriori* principle, we must look for something like his "fourth rule of logic" in the *Treatise*, that the same causes always produce the same effects (THN 1.3.15.6, pp. 116–7) — a rule derived from "many millions of examples" (and of course of Newtonian inspiration). Thomas Reid considered this an *a priori* principle,²³ and in contrast with this Hume's position certainly appears as that of an empiricist. But the principle of causal

inference he calls "habit" is not empirically derived — "habits" of course are derived from experience, but habit itself (or custom itself) is a causal innate principle, antecedent to any experience.

Hume calls his principle "custom or habit", but these are only names.²⁴ The concept of this principle is clearly delineated in the first *Enquiry*: it is a disposition to be affected by repeated conjunctions of phenomena, such that after a certain number of repetitions, when one more of these phenomena presents itself, the idea of the other comes to mind and receives the vivacity of the present impression, thus becoming the particular kind of enlivened idea that constitutes causal belief. And if according to Hume, for a subject who never had any experience, single conjunctions are not enough — it is not reasonable "to conclude, merely because one event, in one instance, precedes another, that therefore the one is the cause, the other the effect", because this single conjunction "may be arbitrary and casual" (EHU 5.1.3, p. 120) — we must conclude, as I have already suggested, that for him, after a sufficient repetition of conjunctions, it becomes reasonable to conclude that this particular conjunction is not arbitrary and casual (or a chance event, as we would say), and will go on occurring in the world.

There is no suggestion that, once a causal belief sets in, other cases of repetition of the same causation will make it approach certainty, or something of the kind. Russell's ideas would do nothing to "improve" on Hume's principle. When I throw a dice dozens of times, and the result is always an even number, after a certain amount of experience of the same kind I become convinced that the dice are loaded and that they will always behave in the same way. Russell's apriorism, although in a different form, adds nothing to Hume's "sceptical solution" of the problem of causal induction, and his probabilism is of no use — so that the supposed "Hume's problem" is far from solved, or even in any way clarified.

In 1948, Russell's *Human Knowledge* tried a different approach, after a clear rejection of the views on the principle of induction he held in *The Problems of Philosophy*. He replaced that principle by what he now called "empirical postulates".²⁵ Among these postulates, there is one that, according to Sainsbury, "captures the flavour of them all".²⁶ This is Russell's "postulate of quasi-permanence": "Given any

event A, it happens very frequently that, at any neighbouring time, there is at some neighbouring place an event very similar to A".²⁷

Sainsbury denies that these postulates have any acceptable epistemological status. In the case of quasi-permanence, there is an equivalence with the postulate that there are enduring things, and, says Sainsbury (p. 176), "it is intolerable to suppose, as Russell does, that this 'cannot even be made probable by arguments from experience'" (p. 436 of). But one may perhaps argue that the most salient aspect in this postulate is that it is even more inadequate as a solution to Hume's problem than was the case with the Russellian principle of induction of 1912.

That there are enduring things may be considered, in the Humean version of the problem, something that we must take as a kind of postulate. If we admit, as I believe we should, that "enduring things" in Hume are, or are at least, *bodies*, then we may have in our philosophy a postulate about the existence of physical bodies. Discussing scepticism in the *Treatise* Hume argues: "We may well ask, *What causes induce us to believe in the existence of body?* but it is in vain to ask, *Whether there be body or not?* That is a point, which we must take for granted in all our reasonings" (THN 1.4.2.1, p. 125).

On the other hand, we have seen that Humean "probabilities", as contrasted with his "proofs", are interpreted by Hume himself in statistical terms. In his example that senna is purgative, probability is proportional (another example of the centrality of proportion) to the number of times senna had that effect in our experience, compared to the number of times in which nothing happened. Humean "probability of causes" is like "probability of chances" (both in the *Treatise* and the *Enquiry*), and one might perhaps say that the more senna purges the more close to certainty it becomes that it will purge in the future. But this is not what Russell wants, concerned as he is with his own solution to the problem of induction from *constant* experiences. It thus looks as if Hume and Russell can never meet on common ground, because the first only accepts probabilistic arguments in a domain unsuited for the aims of the second, and the latter pretends to defend a probabilistic solution in a domain where such a solution does not make sense in Humean terms.

But isn't it possible that the realm of induction in general, not

restricted to Hume's solid core of causal laws, is amenable to a Russellian solution? After all, Hume ignored any problem of induction about sensible qualities, leaving that subject to posterity, and in this posterity we do find less solid fields, where we are able to find Millian grey crows (although only possible ones) and Russellian black swans (real ones, but the difference is secondary). Could a probabilistic Russellian view of empirical postulates, although Hume's causal core is impenetrable to them, be a solution for *non-causal* inductions, regarding sensible qualities like the colours of bird feathers — and of course much more than this?

For this to make sense, it would have to be *prima facie* possible, at least, to establish an analogy between Humean probabilities and non-causal induction — and this is more than uncertain. Non-soporific doses of opium (to switch to another of Hume's favourite examples) are well known and undoubtedly existent, like black swans now are, but grey crows may simply not exist at all. How are we to unify this heteroclitic cognitive field? I believe the only honest answer is simply that we don't know — thus leaving Hume and Russell in the irreconcilable camps where they always have been. Maybe this is just as well.

As an attempt to solve the problems of scientific and common knowledge, and the further problem of the gap between them, Russell's inductivism is generally looked upon as a failure. Popperian falsificationism and Quinean holism have fared better in the battlefields of epistemological opinion, at least so far — and no one can know what the future of philosophy will bring. Mainly because none of these two great philosophies has succeeded in granting a proper place for authentic Humean inferences, as I tried to characterise them in this paper.²⁸

Keywords

induction; causation; inference; scepticism; reasoning

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Notes

- ¹ Bertrand Russell, *The Problems of Philosophy*, Williams and Norgate, London, 1912, pp. 96 ff.
- ² David Hume, *An Enquiry concerning Human Understanding* (EHU), Tom L. Beauchamp, ed., Oxford University Press, Oxford, 1999.
- ³ David Hume, *A Treatise of Human Nature* (THN), David Fate Norton & Mary J. Norton, eds., Oxford University Press, Oxford, 2000.
- ⁴ Bertrand Russell, *An Outline of Philosophy*, George Allen & Unwin, London, 1927, p. 86.
- ⁵ One of the first, if not the first, was Thomas Reid, who, after declaring his agreement with Hume, that belief is not derived from reason, takes “inductive reasoning” as the source of belief, adding that the principle whence this reasoning derives should be called “the inductive principle” — a notion that Hume has never entertained. See Thomas Reid, *An Enquiry into the Human Mind on the Principle of Common Sense* [1764], Lincoln-Rembrandt Publishing, undated, pp. 263, 264.
- ⁶ Bertrand Russell, *A History of Western Philosophy*, George Allen & Unwin, London, 1946, pp. 692 ff.
- ⁷ It is one of Russell’s examples of induction; see *The Problems of Philosophy*, p. 105.
- ⁸ *A History of Western Philosophy*, p. 693.
- ⁹ Terence Penelhum, *Hume*, Macmillan, London, 1975, p. 38; the same perspective is adopted by Penelhum in his 1992 *David Hume*, Purdue University Press, West Lafayette, pp. 197 ff. — as indeed it is by most commentators.
- ¹⁰ Bertrand Russell, *Mysticism and Logic and Other Essays*, Unwin Books, London, (1917) 1963, p. 132.
- ¹¹ The importance of this kind of inference in Hume’s own philosophy is discussed in my “Hume on Singular Experiences” (translated by Michael Wrigley), *Manuscrito*, Vol. XX, N° 2, Campinas, 1997 and “Hume, Induction and Single Experiments”, Vol. 56, *Grazer Philosophische Studien*, Graz, 1999.
- ¹² John Stuart Mill, *A System of Logic, Ratiocinative and Inductive*, III, iii, 7th. Ed., Longmans, Green, Reader, and Dyer, London, 1968, p. 350.
- ¹³ Francis Bacon, *The New Organon*, Book I, CV, Bobbs-Merrill, N. York, 1960, p. 98.
- ¹⁴ Bertrand Russell, *Our Knowledge of the External World*, George Allen & Unwin, London, 1922 [1914], p. 222.
- ¹⁵ Thomas Reid, *Essays on the Intellectual Powers of Man*, M. I. T. Press, Cambridge, Ma., and London, 1969, p. 642.

¹⁶ Compare with Hume's similar example of a child burning itself in a candle, EHU 4.2.13, p. 118.

¹⁷ See my "Hume, Induction, and Natural Selection," *McGill Hume Studies*, Austin Hill Press, San Diego, 1979.

¹⁸ Mark Sainsbury, *Russell*, Routledge & Kegan Paul, London, 1979, p. 182.

¹⁹ P. F. Strawson, *Introduction to Logical Theory*, Methuen, London, (1952), 1977, p. 257.

²⁰ Bertrand Russell, *Sceptical Essays*, Routledge, London and New York, (1928), 1991, p. 36.

²¹ Bertrand Russell, *Human Knowledge, its Scope and Limits*, Routledge, London, (1948) 1992.

²² Mark Sainsbury, *Russell*, pp. 162, 163.

²³ *Essays on the Intellectual Powers of Man*, pp. 641, 643.

²⁴ See my "Hume's Principle", *Principia*, Vol. 3, N° 2, Florianópolis, 1999.

²⁵ *Human Knowledge*, pp. 240ff; see Mark Sainsbury, *Russell*, pp. 173ff.

²⁶ *Russell*, p. 175.

²⁷ *Human Knowledge*, p. 507.

²⁸ I am grateful to Susan Haack and Nicholas Griffin for their helpful suggestions and corrections.