

Evaluate Russells' account of the problem of induction

Induction can be defined as, "knowledge which, on a basis of experience, tells us something about what is not experienced". The problem with induction is that, when you experience one thing of a set, how can you know that all of that set is the same, unless you experience that whole set.

Russell asks how valid induction is, because, induction is Russell's key concept for acquiring knowledge, other than through acquaintances. He has established so far that we are acquainted with our sense datum and our memories of past sense datum [and probably also with ourselves]. To extend our understanding beyond the range of immediate experience, we draw inferences. In this way we approach things outside our realm of acquaintance, like physical objects, matter, other people, a past before individual consciousness, things we could not know otherwise. Inferences depend on general principles. In order to draw an inference, it must be known that "some one sort of thing 'A', is a sign of the existence of some other sort of thing, 'B'." Russell gives the example; the existence of thunder usually signifies that lightning has come just before. Russell believes that inferential judgments happen every day and, though they cannot be proven to be accurate, provide a useful extension of knowledge beyond our private experience.

For Russell, the case of whether not the sun will rise tomorrow is a crucial one. Russell believes this is crucial, because such a belief never comes under any suspicion, or doubt, but is this belief a reasonable one? When asked why we believe this, we reply, "Because it has always risen every day." We expect future futures to be like past futures, or, we could look to the laws of motion, surely, these laws are permanent. Russell rephrases the initial question, and asks, what reason we have to believe that the laws of motion will be sustained from one time to the next.

The laws of motion, are just a belief, exactly the same as we believe in the sun rising. We believe this because in the past these laws have always been consistent, however can we base a belief on consistency? "Do any number of cases of a law being fulfilled in the past afford evidence that it will be fulfilled in the future?" These laws are also simply describing what is going on, and not actually *dictating* what is going to happen, so there is no reason not to believe that these laws will be broken. Uncertainty about the expectations by which we live our daily lives, such as the expectation that we will not be poisoned by the bread at our next meal, or for the chicken, being slaughtered, is an unattractive possibility. Therefore, instead of saying that it is true that these expectations will be fulfilled, Russell says that it is probable that they will be fulfilled, and he tries to find evidence for this.

"Uniform succession or coexistence has been a *cause* of our expecting the same succession or coexistence on the next occasion." Experience shows that we associate repeated sensations with a certain outcome by habit. By *habit* we expect that sun to rise, and these instincts seem to be correct. But there is still a question, as to whether these habits/instincts are *actually* correct, or have "reasonable ground" to be believed. Why should we believe in these patterns that are merely consistent? Russell proposes that we instinctually assume "the uniformity of nature." We believe that "everything that has happened or will happen is an instance of some general law to which there are *no* exceptions." This attitude is also seen [or perhaps mimicked] in scientific investigations. It is a frequent premise in science that, "general rules that have exceptions can be replaced by general rules which have no exceptions." Laws of motion and laws of gravitation came to account for balloons and airplanes replacing the old rule, "unsupported bodies in air fall," which counted balloons and airplanes as exceptions. Science isolates uniformities that hold as uniform as far as our experience extends. Yet, the uniformity of nature is an assumption that cannot be proven. It holds for all instances in the past, but there is no way of knowing if it will remain constant in the future. Despite many repetitions, an outcome could change even at the last instance and thus "probability is all we ought to seek."

This means that, the only certainty that we can have of the future is that, that if 'A' leads to 'B' then this is more probable in the future. This can lead to the *hope* the more frequently that 'A' occurs than

'B' is tantamount to almost certainty. Russell expresses these observations in two parts, outlining the 'principle of induction'.

Firstly, he says that, When a thing of certain sort 'A' is found to be associated with a certain thing of sort 'B', and has never been found disassociated from it, and the greater the number of associations, the greater the probability that they will be associated in a fresh case. For example, if whiteness has always been associated with swans, and the number of cases of this is very high, the greater the probability is, that, a new swan that will be observed will also be white.

Secondly, under the same circumstances, a sufficient number of cases of association will make the probability of a fresh association nearly a certainty and will make it approach certainty. For example, if one million white swans have been seen, then it is *almost* certain that the next swan to be observed will also be white.

This principle applies to a confirmation of expectation in an isolated instance, that 'A' and 'B' "will be associated in a fresh case." With regard to the desire for a general law in favour of 'A' and 'B' coexisting, the principle may be restated as follows: that the more 'A' is found to be associated with B, "the more probable it is (if no cases of failure of association are known) that 'A' is *always* associated with 'B'." And a "sufficient number" of instances will make it almost "certain that 'A' is *always* associated with 'B'." If a general law is true, then particular cases must follow. Yet, particular cases may be true without the general law being true. Thus, the truth of a particular case is more probable than the truth of a general law.

In my opinion Russell's theory that, the more 'A' is associated with 'B' and the more that that occurs the more certain it becomes, is a good one. But there are some flaws with it, what if, I'm not seeing a different swan, or flock of swans, but I am seeing the exact same ones, in different locations because they are following me? However this does not disprove his theory, because, The location I am in could be thing 'A' and the swans following me could be thing 'B', but, there is a misconception that thing 'A' is the whiteness and thing 'B' is swans.

We can imagine a man who had seen many white swans during his life and only *white* swans. Based on his data from his experience, he could argue that all swans are white. The fact that some are black is not an impediment to his argument because his account could be the case even though some information renders it improbable. The fact that this man's expectation (to only encounter white swans) might not be fulfilled does not mean that his "expectation will not *probably* be fulfilled in a given case or a given class of cases." Thus, an induction cannot be *disproved* by appealing to experience, i.e that these 'experiences' are anomalies and should be ignored. With this, I do not agree with Russell, in some cases [a scientific experiment] were a prediction can be made, and if that prediction comes true for all cases but one, we can assume that that one case was a fault of the person performing the experiment. But if a single person observes the only black swan, and proves it beyond reasonable doubt, then we can assume that a single black swan existed, even if it is never seen again. Even if the swan was painted black, it was temporarily given the property of reflecting no light, which makes it black, because black is the name associated with that property, so its tautological. Even if we give the proposition that 'All swans are white' when the swan is painted black, the proposition has to change, because, just like 'laws' [law of motion] this proposition is just a description and not a dictation.