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Paper for explaining falsifiable solution to the Demarcation Problem

Falsifications give their proposed solution to the Demarcation Problem that a theory or hypothesis is a scientific statement if and only if it is falsifiable. In this paper, I will attempt to explain this conclusion and make some arguments with this conclusion. I support this opinion and after my explanation, I will also a suggest plausible response to this objection and argue it with positivism.

So, first of all, since I want to explain their argument, I need to clarify the meaning, or a basic understanding on what is falsifiable. According to Popper, falsifiable is testable. In my personal view, falsifiable means a conclusion (explanation, prediction) derived from a theory or hypothesis must logically or in principle have the possibility of conflict with one or a group of observation statements. After explaining the word, let me refocus on the solution itself. This solution has a clear explanation that a theory can be considered as a scientific statement if and only if I can find at least one method to verify whether it conflicts with my observation or not. It seems not too difficult to understand because it is a common knowledge that every scientific theory needs to be tested; and during this process, it shows that it is falsifiable.

What can we get from this solution? It offers the perspective that in proving a theory, instead of trying to test it is correct, we try to prove that this theory has no falsification. It is really common that in the process of understanding the objective truth, we will inevitably make many mistakes, although some mistakes are beyond our knowledge. We may not realize the mistakes but they are still there. At this point, I want to say that all science is just a guess and a hypothesis or to describe it more accurately. All scientific theories have the possibilities to be falsified at any time. Moreover, we can assume that they will not finally confirm. A very good and powerful example is the Laws of Newton mechanics. Over several hundred years after they were first formulated, no one casted any doubts on Newton’s findings; however, Einstein’s Relativity Theory showed that Newton mechanics were not 100% correct, it is wrong when an object is moving at a rate close to the speed of light in a vacuum.

However, Positivists, who support positivism, contain a different thinking from Falsificationism. The main, and also the most important claim that Positivists hold is that all scientific knowledge must be based on empirical facts from observations and experiments, and experience is the only 2

source and foundation of knowledge. Here I mention the Positivism’s solution because it can serve as a classic and powerful objection to Falsificationism. Since I want to support an objection to Falsificationism, it is necessary for this objection to support a different argument on how to solve demarcation problems. However, according to Popper, the expression of scientific theory is generally the full name judgment. In addition, we also know that the object of experience is always subjective. Therefore, personal experience is not applicable to general theories. Giving the simplest example, I will never get a conclusion that all sheep are white whatever the amount of the white sheep, because given one black sheep, I can simply prove that all sheep are white is wrong. in this regard, Falsificationism provides a clearer way to the Demarcation Problem.

Another classic object is from Lakatos. he proposed a unique scientific research program methodology and believed that not only all theories were wrong, but the empirical basis of the theories was also wrong. No individual theory can be verified by experience, nor can it be verified falsely as Popper said. Therefore, Lakatos believed that the basic units and evaluation objects in science should not be isolated theories, but should be a research program composed of a series of theories in a period. However, I want to make an argument to Lakatos and suggest a plausible response to his objection. First, I want to argue that the empirical basis can not be false, instead, I consider that the process of deriving scientific theories based on experience in which we follow can be wrong. So, thinking about this if the experiences are false, then the basic rules of the world which we live in will never followed, and we do not have to infer the scientific theories anymore; what we need to do is to find the new empirical basis in order to restart the discussions of demarcation problems; however, we do not try to correct our empirical basis, we just provide demarcation problems and make arguments that how do we get solutions. so all the prerequisites for our arguments are that we must acknowledge the fact that the empirical basis of the theories are correct.

By following this conclusion, I want to continue arguing with Lakatos’ another objection that he supports that we can not verify an individual theory through experience, nor falsify it as Popper said. I should admit that Lakatos’ conclusion is true for me, but I just want to suggest that research program composed of a series of theories in a period is not the necessary condition for us to get solution for demarcation problems. A statement can still falsifiable by experience, for example, we can easily to falsify that lead can not turn to the gold, and we also can verify whether a statement is correct or not through experiments which is also a kind of experience.