

On the Rejection of Reason by the Early Empiricist

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In his “On the Sects for Beginners,” Galen describes a debate between two primary sects of medicine in antiquity: the empiricist and the rationalist. According to Galen, “medicine is the science of what is healthy and what is unhealthy,” by virtue of which the doctor can prescribe the remedy (SB, 1).¹ In this sense, medical knowledge is essentially practical. But the empiricist and the rationalist disagree over the origin of such knowledge. The former claims that “experience alone” is sufficient in order to obtain it (ibid). We will call this *the empiricist claim*. Roughly speaking, by “experience,” the empiricist means perception and memory. There are three types of experience by which we can acquire medical knowledge: (i) “autopsia,” i.e., one’s own perception, (ii) “history,” i.e., one’s knowledge of the experiences of others, and (iii) “the transition to the similar” (SB, 3).² Here, (ii) and (iii) supplement (i) because firsthand experience is a limited capacity. The core of the empiricist claim is that, given the experience gained in these ways, we don’t need any other things for medical knowledge. For the empiricist, *X* is medical knowledge if *X* is obtained from and confirmed by experience.

On the contrary, the rationalist insists that, in addition to experience, the use of “reason” is necessary for medical knowledge (SB, 1). According to this school, the doctor needs theoretical knowledge obtained by reason in order to distinguish herself from the layman who knows some remedies just from experience. To this end, the rationalists appeal to the nature of matter, which is unobservable to us, as the cause of the observable symptoms when they explain what kind of remedy to prescribe.

For the discovery of this hidden real cause, they rely on *reasoning* from what is manifest to what is not manifest. For them, *X* is medical knowledge only if there is a justification for *X* from the theory concerning the unobservable nature of the body.

Now, there is a problem for the empiricist on its rejection of the use of reason. The problem is that even the empiricists seem to use a kind of reason when they form medical knowledge.³ According to them, after observing similar experiences sufficiently many times, we can form “a memory” such that *when we give a particular kind of remedy if we observe a particular kind of disease, this result will follow* (SB, 3). This memory is called a “theorem” and constitutes a crucial part of the medical art (ibid). Here, by grasping such a similarity, the empiricists must have a general belief that we can prescribe a remedy for this kind of disease. But to have such a belief, the empiricist seems to use a form of inference from particular cases.

But we should not rush to the judgment that the empiricist is therefore inconsistent. There are a couple of difficulties for interpreting what exactly the empiricists mean by the empiricist claim. First, we have to make explicit what they reject as “reason.” If the notion of reason that they reject is peculiar to the rationalist, then the reasoning which the empiricist seems to use may not fall within the scope of its rejection of “reason.” Second, we cannot regard empiricism as a unified doctrine. There are some differences in the attitude towards the use of reason among the empiricists. In this paper, we shall reconstruct the epistemology of one of the stronger positions of the empiricists, and examine whether it can maintain the empiricist claim consistently.

We should start by elucidating what the rationalist notion of “reason” is. Although there is no unity among the rationalists, essentially, the rationalist reason is a theoretical reasoning with regard to the unobservable. We can point out two kinds of this reasoning. First, “reason” is the deductive inference from the general proposition about the nature of bodies to the propositions about particular states of body and their remedies. The rationalist method for medical knowledge is to obtain necessary truths by the deduction of remedies from the causes of diseases such as “the nature of body,” “airs, waters, places, occupants, foods, drinks, and habits” (SB,

4). The rationalist calls the relationship between the observed symptom and its remedy “indication” (ibid, 5). Behind this indication, there underlies deductive inference from the theory of the nature of body. Second, “reason” covers inductive inference to go from the observable to the unobservable by forming the theory of the nature of body. For example, Galen reports that, for the discovery of the nature of bodies, the rationalists use “anatomy” in addition to “indication and logical theory” (ibid, 10). Anatomy requires the observation of the structure of dead bodies. From this observation, the rationalists analogically infer how our bodies work when they are alive.

All the empiricists show almost the same argument against the rationalist “reason.” Roughly speaking, however, we can distinguish two different attitudes of the empiricist towards a kind of reason. One is an early empiricist who denies *any* use of reason for the discovery of remedies. We shall call this position *strong empiricism (SE)*. The other is a later empiricist which is weaker in the sense that it admits the use of reason with regard to what is observable (OE, 88). This type of reasoning is called “epilogism” (ibid, 133). Epilogism is “an inference common and universally used by the whole of mankind, and wherein men are unanimous,” and it refers to visible things alone (ibid).⁴ Let’s call this second position *weak empiricism (WE)*.

Both *SE* and *WE* reject the rationalist “reason” for an epistemological reason. As we have seen, the rationalist uses inference from and to what is unobservable. *SE* emerged as a reaction to this trend. It claims that the rationalist is wrong because we cannot obtain true theoretical knowledge. *SE* is dogmatic in that it claims the unknowability of the unobservable. Sextus says that the empiricists before the emergence of Pyrrhonism are not skeptical but dogmatic in that they affirm “the inapprehensibility of unclear matters.”⁵ From the chronological viewpoint, this type of empiricism should contain *SE*. For *SE*, what we can know is restricted to the observable (SB, 14). Thus, the rationalist use of inference is wrong because there is no epistemological guarantee for the reasoning concerning the unobservable. Any theoretical knowledge is not “true” however “plausible” it may be (ibid, 10). As its

evidence, despite the claim that the true causal account was required for knowledge, there was no agreement on what such knowledge would be among the rationalists.⁶ *WE* also denies the use of theoretical reasoning because it is concerned with what is unobservable. But *WE* is not dogmatic like *SE*, rather skeptical in the sense that it claims the suspension of judgment concerning what is unobservable (ME, p. 136). Thus, the *WE* doctor doesn't commit herself to the investigation of the nature of bodies. She only admits inference from what is observable to what is unobservable "temporarily" (SB, 11).⁷

SE and *WE* differ in the fact that the former denies even the inference just concerning what is observable while the latter admits it. *SE* holds that perception and memory will sufficiently provide medical knowledge (OE, 87). On the contrary, *WE* admits that the process that we engage in to know which remedy to prescribe is an "inference," i.e., epilogism (ME, 133). In ME, Galen compares the rationalist to *WE* concerning how to obtain remedies. While the rationalist appeals to the deductive inference from the causes of disease in order to derive them, the *WE* doctor knows the same remedies in terms of inference from the belief obtained by the similar experiences (ibid, 136-9). According to Galen, epilogism is introduced by Menodotus, a *WE* doctor, as "something third" in addition to perception and memory (OE, 88). The context in which Galen mentions him is discussing whether we really don't need any use of logical reasoning for knowledge, and Galen criticizes *SE* by saying that perception and memory are not sufficient (ibid, 86-90). Thus, it is natural to regard epilogism as something logical compared to memory and perception. Although we cannot obtain necessary truths from epilogism (because it just relies on empirically generalized theorems), each step of it is logical in the sense that we derive the conclusion from general beliefs as premises and a particular observation. But *SE* never admits that we have to use such an inference for knowledge. In fact, some extreme *SE* doctors deny the existence of "proof" in general (SB, 10). For *SE*, everything should be done solely by perception and memory. In the following, we shall reconstruct the epistemology of *SE* and examine how *SE* can support the empiricist claim against the criticisms from the rationalist.

Since *SE* holds that perception and memory sufficiently provide medical knowledge, we should elucidate *SE*'s notions of perception and memory in order to reconstruct its epistemology. In general, the empiricist regards perception as the only way of recognition. In fact, according to Galen, experience is defined as "the knowledge of something which is based on one's own perception," i.e., on autopsy (OE, 44). But this definition is not sufficient. If we regard autopsy as a particular activity, we cannot obtain general beliefs about the remedy for a particular disease just in terms of autopsy. Thus, the empiricist has to appeal to memory in order to accumulate perceptions for forming such general beliefs (the belief produced by memory is called a *theorem*, as we have seen). Galen suggests that the more appropriate definition of experience is "the memory of what one has seen to happen often and in the same way" (ibid, 50). From these descriptions, memory should play a role for the empirical generalization.

But how exactly does *SE* characterize the role of memory? For the understanding of it, let's examine the details of the empiricist claim. According to *SE*, we can acquire medical knowledge basically by two steps. The first step is to observe many affections in people and some useful remedies for them. There are two kinds of experience for the discovery of these remedies. One is "the incidental kind of experience" (SB, 3). Some affections occur spontaneously as in the case that someone starts to have a nosebleed on a bloody nose and then loses his fever. Other affections can occur accidentally as in the case that someone falls from his chair and cuts his legs. Galen calls the former "natural" while calling the latter "chance" (ibid). The other kind of experience is called "extemporary" (ibid). This is an experience in which we *deliberately* try to cure a disease but without any scientific reason. For example, if we put herbs to an injured leg, which a snake bites in the mountain, without any knowledge about them, and if this leg is cured, then this experience is regarded as extemporary.

From these initial experiences, the empiricists proceed to the second step whereby they try out the remedies again for the same disease. By trying them out repeatedly, they have "imitative" experience which is regarded as the most crucial

one in order to form theorems (ibid). If we can continue to cure a similar kind of disease by repeating the same remedy, the trustworthiness of this remedy increases. The doctor forms various theorems about remedies with different degree of trustworthiness, relative to their frequency (OE, 46).⁸ Memory plays crucial roles in this second step. According to Menodotus, the initial experiences are “simple” and “unordered” in the sense that they still have not been “composed out of other particular experiences” (ibid, 46). This suggests that these initial experiences are supposed to have no relationship to other experiences yet. What gives them an order and relates them to other experiences should be memory because, in order to formulate theorems by repeating similar experiences, we must recollect which remedy was effective for a disease from many other experiences that are irrelevant to this disease. Thus, memory should work not only for retaining autopsy but also for discerning the appropriate relationship between a particular kind of disease and its remedy.

But how can our memory select such an appropriate relationship? Unfortunately, we don't have sufficient testimonies regarding this point. For understanding this point, it would be helpful to compare the empiricist epistemology to the theory of belief formation by Hume. Hume also denies the use of logical reasoning in the formation of belief. He defines a belief as “a lively idea produc'd by a relation to a present impression” (T, p, 97).⁹ Impressions and ideas are two kinds of “perceptions,” which only differ in that the former is more forceful and lively than the latter (ibid, p. 1). Our minds formulate various beliefs by associating ideas as far as they are non-contradictory. There are three principles of association which determine what kind of ideas are put together: resemblance, contiguity, and cause and effect (ibid, pp. 99-101). If we have an impression, our minds naturally associate this impression with the ideas which are similar to it, or the ideas that are spatially or temporarily contiguous to that impression, or the ideas of what is regarded as the cause of the object which that impression represents. Among them, the principle of cause and effect is the most fundamental for the belief formation because only this principle provides an unalterable determination for our minds to conceive a specific

relation between an impression and an idea (ibid, p. 110). The influence of the other two principles themselves is so feeble and uncertain that they are just the supplementations for cause and effect association.

For our aim, the most crucial point of Hume's theory of belief formation is that we don't use reason in cause and effect association. For Hume, in a narrow sense, "reason" is an ability of intuition and demonstration. Hume claims that, in cause and effect association, we never use any new operation of the reason or imagination because we cannot be aware of these mental acts in the association (ibid, p. 102). Hume thinks that it is past experience that produces a belief. By observing that two objects constantly appear together in a specific order, our minds establish the association such that if we have an impression of one object, we involuntarily and immediately have the idea of the other object. In other words, beliefs are produced only in terms of "custom" (ibid. p. 103). The more we repeat the same experiences concerning constant conjunction, the more easily and firmly we can form a belief that one thing causes another.

Now, we can point out a couple of crucial similarities between Hume's theory of belief formation and the epistemology of *SE*. First, both Hume and the *SE* doctor have an atomistic theory of perception.¹⁰ For Hume, in perception, we have an impression first, and, after then, our mind stores it as an idea and forms a belief by associating it with new impressions. In the same way, in *SE*, as we have seen, initial experiences are "simple," and, by repeating experiences, our memory gives them the relationship to other stored perceptions. Second, both Hume and the empiricist reject formal inference for obtaining beliefs. Hume claims that we cannot be aware of such an inference when we form a belief. Rather, by custom, we associate ideas *immediately* and *involuntarily*. What fundamentally associate ideas are not logical inferences but natural relations between perceptions. *SE* seems to have a similar idea. If we use the rationalist reason to obtain the medical knowledge, we have to reflect the logical relation between observations and the theory of the unobservable for the deduction of the conclusion. Since *SE* rejects such a reflective step in belief formation, it is plausible to interpret that, for *SE*, by having a perception, we recall an

appropriate memory involuntarily and immediately. Third, for both of them, it is the experiences of constant conjunction that enable us to form general beliefs concerning the relationship between two things. In fact, the empiricist also regards belief formation as cause and effect association. According to Galen, the empiricist takes the relationship between a symptom and its remedy to be a kind of causal relation. Galen calls this causal relation “partial” in the sense that it doesn’t refer to the real causal structure of matter (ME, p. 137).¹¹

From these similarities to Hume, I think it is appropriate to interpret that the empiricist assumes a version of the principle of association by virtue of which our memory can identify an appropriate relationship between a particular disease and its remedy.¹² If we can interpret the role of memory in this way, *SE* can explain the formation of theorems solely in terms of perception and memory, which shows that the *SE* doctor can support the empirical claim.

Lastly, we shall consider how the *SE* doctors can reply to the criticisms raised by the rationalist for defending themselves. Roughly speaking, Galen reports that the rationalists make two types of criticisms against the empiricist claim. The first type of criticism is that mere experiences cannot reach a general belief. According to Asclepiades, the experience on which *SE* relies is “unrealizable” because “nothing can be seen often to happen in the same way” (SB. 9). Since every symptom is different from each other because of the difference of the patients’ bodies and of their circumstances, if we just memorize particular perceptions as the empiricist holds, we cannot form consistent beliefs. Rather, we need “reason” in order to categorize the similarities which are shared by different experiences and to reach general knowledge (ME, 89).

To this criticism, *SE* could reply in the following way. First, such a usage of “reason” does not fall in the scope of the rejection of reason by *SE* as far as it is not the theoretical or formal inference. The above criticism presupposes that the function of memory is just retaining previous perceptions. But this is not the case. If my Humian interpretation of *SE* is correct, memory naturally discovers the similarities among perceptions by repeating experiences. That is, memory informs us of these

similarities among perceptions without using theoretical reasoning even if these perceptions are not exactly the same. For the vindication of this point, Galen insists that we have learned medical knowledge just from experiences as the peasant has learned what seeds to sow at a certain time and on what soil even if she doesn't know the nature of seeds, soil, or the substances of rain and wind (ME, 98). Secondly, *SE* could attack the legitimacy of the use of reasoning by appealing to an epistemological argument. As we have seen, the *SE* doctor holds that we cannot know the unobservable. Presumably, she would say that we couldn't observe such reasoning when we form a belief; rather, beliefs would be involuntarily produced by experience.

The second type of rationalist criticism is a methodological one. This criticism says that the empiricist method is "unmethodical" in the sense that it takes so long time to discover remedies if we just rely on perception and memory (SB, 9). According to the empiricist, even if we have an experience just once, such experience is not useful in that it doesn't have sufficient trustworthiness. But memory cannot form general beliefs however many times we repeat the same experiences. Thus, in order to discover the remedy for a symptom, we have to wait until we have exactly the same experience. As we can see, this criticism presupposes the same idea as the previous one, i.e., perception and memory cannot form a general belief (ME, 98). With regard to this, *SE* can just repeat the same reply that we have shown for the first criticism.

However, Galen suggests a relevant criticism to the method of *SE* concerning the discovery of remedies. When we discover complex remedies, such as composite drugs, first, we consider which ingredient is effective in which kind of patient, and then, we compose these ingredients by using the reasoning that, if we composite them, a greater number of patients will be cured.¹³ But instead of using this reasoning, the *SE* doctor claims that we can discover this composite drug by either incidental or extemporal experiences. However, for the discovery of complex remedies, it seems less practical just to wait for these initial experiences. Rather, if the empiricist admits a kind of logical inference by virtue of which we can know what follows from our

perception and what is incompatible with it, she can discover such complex remedies much more quickly. And when the *WE* doctor insists on epilogism, she admits this kind of common reason (OE, 89). Galen reports that epilogism is “*of use* in the discovery of things which are not manifest temporarily” (SB, 11, my italics). This suggests that, by using epilogism, the *WE* doctor reflects and analyzes their perceptions and memories, and logically infers what kind of observable phenomena will (or, will not) result from them. But since *SE* denies epilogism, this method of discovery for complex remedies is not available to the *SE* doctor. Hence, we conclude that *SE* is less methodical than *WE* for inventing new remedies.

To recapitulate, basically the *SE* doctor can support the empiricist claim. The epistemology of *SE* has two aspects. First, it has an epistemological argument that we cannot know what is unobservable and, thus, theoretical approach towards medical knowledge is wrong. Second, therefore, experiences are enough for acquiring general beliefs concerning the remedy which we prescribe for a disease. Our problem was that this second argument seemed so extreme that even *SE* might have to use “reason” implicitly. In order to defend *SE*, we used Hume’s theory of belief formation as the model for interpreting the role of memory. According to this interpretation, by repeating similar experiences, our memory naturally recalls the appropriate relationship between a particular kind of disease and its remedy. Therefore, *SE* can support the empirical claim without using reason. However, with regard to the methodology for discovering new complex remedies, *SE* is inferior to *WE* because *SE* rejects even epilogism which enables us to logically infer what kind of observable phenomena will result from our experiences.

¹ I will use the following abbreviations of Galen’s works in this paper. SB: “On the Sects for Beginners.” OE: “An Outline of Empiricism.” ME: “On Medical Experience.” All of them are in Galen, *Three Treatises on the Nature of Science*, trans. by R. Walzer and M. Frede (Hackett, 1985).

² Some early empiricists reject (iii) as a constituent of medical knowledge. See OE, 49.

³ The rationalist raises this kind of problem against the empiricist. See ME, 94.

⁴ Galen also calls epilogism “common reason” (OE, 89).

⁵ See Sextus, *Outlines of Scepticism*, ed. by J. Annas and J. Barnes (Cambridge, 2000), pp. 62-4.

⁶ Some *SE* doctors insist that theoretical reasoning is “superfluous” (SB, 10). Since both the empiricist and the rationalist prescribed the same remedies, they regard the rationalistic inference

as redundant (SB, 7).

⁷ *WE* is influenced by Pyrrhonism. Since the *WE* doctor doesn't want to deny reason dogmatically, she admits epilogism. For the shift from *SE* to *WE*, see M. Frede, "The Empiricist Attitude Towards Reason and Theory" in *Apeiron* 21 (1988), pp. 95-7.

⁸ As we have noted earlier, in addition to these steps, *SE* can use history as a supplement method. History doesn't contradict to *SE*'s methodology as far as it is consistent with empirical confirmation because *SE* can regard history as a kind of incidental experience (OE, 67).

⁹ D. Hume, T: *A Treatise of Human Nature*, ed. by L. A. Selby-Bigge and P. H. Nidditch (Oxford, 1978). In Hume's theory of perception, the notion of ideas covers not only sensations or concepts but also propositions.

¹⁰ By "atomistic theory of perception," I mean the theory which postulates the simple units of perception and regards complex perceptions or beliefs as composed of these simple units.

¹¹ Note that Galen mentions this *partial cause* in the context where he compares *WE* with the rationalist. But I think that there is no reason for *SE* to reject the notion of partial cause because this notion is irrelevant to whether the empiricists should accept epilogism or not.

¹² Of course, there are some crucial differences concerning belief formation between the empiricist and Hume. First of all, Hume distinguishes memory from imagination and attributes more restricted character to the former, whereas, for *SE*, there is no distinction between memory and imagination. Further, we must notice that Hume never insists that every kind of belief is produced unconsciously. For example, when our past experiences are mixed, we consciously and reflectively form beliefs. See T, p. 133. By contrast, *SE* seems to deny the use of reasoning in the formation of any kind of belief. See pp. 9-10 of this paper.

¹³ For Galen's criticism against *SE* concerning the invention of a composite drug, see Frede, op. cit., pp. 84-5.

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