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A SENSITIVITY TO GOOD QUESTIONS: A VIRTUE-BASED APPROACH TO QUESTIONING

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ABSTRACT

This paper argues for a virtue-based account of questioning. First, it delineates the unreflective yet rational aspects of questioning and demonstrates that "good" questions – that is, properly focused, pertinent questions – can be obtained not only in reflective but also in unreflective processes. This paper then argues that the unreflective yet rational mode of inquirers in questioning can be characterized by an automatic response to good questions and cues for relevant doubt and further questions, the active and standby modes of responsiveness, and emotional stress on cues for relevant doubt and further questions. Finally, this article outlines how these features can fully be explicated in terms of exercising a sensitivity to good questions as a virtue.

1. INTRODUCTION

One way in which people attain knowledge is through inquiry, including scientific inquiry, although there are other ways to acquire knowledge, such as perception, memory and the testimony of others. To illustrate the way in which inquiry is conducted, suppose that you are a surgeon, and a patient is crying due to a stomach ache. In order to identify the cause of her pain, you would conduct an inquiry: you might obtain information on how the patient's stomach hurts, check her symptoms, confirm evidence of a certain disease, and consider whether it may cause other complications.

Questioning is one component of inquiry that has great potential to contribute to the acquisition of knowledge. Suppose, for example, that a child wants to know what it is like to be a bat that can fly and capture prey in the dark. An interlocutor may assist the child's inquiry by guiding her question. For example, the child may be curious about the mechanism that enables a bat to detect prey in the dark. The interlocutor may think that this question could be answered scientifically and, thus, advise the child to consult illustrated reference books on animals. Or the child may wish to look at the bat's peculiar experience, so the interlocutor may ask the child to consider whether the phenomenological experience can be known objectively. In this way, questioning, such as expounding on an earlier question, may help inquirers to approach the knowledge that is aimed at in an inquiry.

This paper argues for a virtue-based account of questioning. Specifically, I will articulate the notion of a sensitivity to "good" questions: that is, properly focused, pertinent questions, so I highlight unreflective, albeit rational, aspects of questioning. The nature of questioning has recently drawn concerns from some epistemologists. For example, Hintikka, developing the Socratic model of questioning, has been constructing the theory

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of knowledge acquisition by questioning, called the "interrogative model of inquiry" (2007: 18). Hookway, emphasizing the practice of inquiry as a way in which knowledge is attained, has explicated how inquirers' questioning serves to attain knowledge (2006a, 2008).

However, in studies of questioning, there appear to be two assumptions: first, that questioning is exclusively a reflective activity, as has traditionally been assumed, such as in Socratic dialogue; second, it is often assumed that questions are arranged in an orderly sequence through the application of fixed principles and rules. However, in the process of inquiry, an inquirer may pick up a cue for a question that is pertinent to her inquiry with some feeling and emotion prior to contemplating on it. In addition, a relevant question may occur to an inquirer's mind spontaneously and strike her as salient, even when she is not at work and thus is not actively looking for it. These cases suggest that the process of questioning is neither always reflective nor necessarily under the strict control of precedent principles and rules; rather, questioning has another, unreflective, component. This is not to deny that questioning as a whole is conducted with the end of the inquiry being to achieve the targeted knowledge.

With this in mind, two questions arise: what precisely is the unreflective part of questioning?; and how can inquirers engage in that aspect of questioning? In this paper, I will answer the former question by giving a detailed description concerning our experiences of acquiring good questions in an unreflective manner. I will then answer the latter question by accounting for the exercise of a sensitivity to good questions as a virtue, as will be explained later.

The following argument consists of four parts. In section 2, I will describe questioning and differentiate it from inquiry. In section 3, I will delineate the unreflective yet rational parts of questioning and will demonstrate that good questions can be obtained in not only reflective but also unreflective ways. In section 4, I will introduce the notion of a sensitivity to good questions and will argue that exercising this sensitivity enables inquirers to obtain good questions and cues for relevant doubt and further good questions in an unreflective manner. I will then contend that the character trait of being sensitive to good questions is considered a virtue for inquirers that has a distinctive role in good questioning. This will lead us to argue that a virtue-oriented approach to questioning is more favorable than other approaches. In section 5, I will summarize the argument of this paper and suggest further research.

2. QUESTIONING

What is questioning? Questioning could be seen as an activity equivalent to inquiry. Although there may be no clear-cut distinction between inquiry and questioning, in this section, I will differentiate questioning from inquiry in terms of its distinctive activities and roles.

Let us begin by clarifying some features of inquiry as long as they are relevant to questioning. First, inquiry is composed of asking various types of questions, such as questions asking for reasons, and trying to answer them so that inquirers can attain knowledge. For example, a police detective may contemplate how to find evidence, involving a witness, to identify a criminal. As this example suggests, inquiry is an activity that consists of questioning and answering in which the goal is to obtain targeted knowledge.

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Second, inquiry involves a wide range of intellectually challenging activities. Suppose, for example, that you are a scientist who has been developing a medicine to avert an epidemic. You would search for better evidence to support your hypothesis, analyze the data precisely, specify the cause of the problem, check the medicine for side effects, and account for the mechanism in which the medicine cures the epidemic. In the course of engaging in diverse cognitive activities like the ones above, inquirers may raise specific questions, such as how to reduce the risk of a side effect possibly caused by administering the medicine.

Third, knowledge attained as a result of inquiry may be in the form of a reply or an answer to a question, whereas it could also be a satisfactory solution to a problem. For example, politicians may conduct inquiry with a view to finding a better measure to prevent terrorism from spreading. More importantly, knowledge obtained through inquiry may often be novel. With regard to the definition of this novelty, knowledge is new if and only if it is first found and proved historically. For example, the method of converting adult cells to iPS cells was first developed and accounted for by Yamanaka, a Japanese physician[1], this method being recognized as new knowledge in the history of physiology. In this way, a new discovery can be made as a reply or an answer to a question and as a solution to a problem.

However, it might be argued that an inquirer may think of something that is first known to her as new. Admittedly, in our intellectual lives, many inquiries are conducted in the pursuit of this kind of new knowledge. This is the notion of novelty concerning the individual who finds the knowledge. For example, the knowledge that oxygen and hydrogen comprise water may be new to a child; however, this type of new knowledge can be gained in ways other than inquiry. For example, a child can get to know the molecules of water based on the testimony of her parents and teachers. By contrast, inquiry may arguably be one of the principal ways in which to find knowledge that is new to human history and to vindicate its truth, in other words, to discover new knowledge. For example, during the course of his inquiry, Lavoisier, one of the foremost French chemists of his time, found and proved that water consists of two distinct elements, that is, oxygen and hydrogen. This achievement was a historic discovery, and without his inquiry, Lavoisier could not have obtained that novel knowledge.

Note that knowledge obtained as a result of most inquiries may also be justified. With regard to the relationship between justification and inquiry, the better the inquiry that is conducted, the more compelling reasons may generally be provided to support the beliefs gained in the inquiry. To illustrate, politicians would supply us with a convincing reason their new policy will likely be effective to eradicate terrorism. Hintikka emphasizes the close relationship between justification and acquisition of new knowledge as an advantage of his epistemological enterprise concerning inquiry.

> It is contexts of justification that cannot be studied alone, independently of the task of discovery. For discovery and justification have to be accomplished both through the same process of inquiry as inquiry. There are no separate strategies of justification in isolation from strategies of discovery. (Hintikka 2007: 8)

1 Yamanaka Shinya won the 2012 Nobel Prize for Physiology for discovering the method to generating induced pluripotent stem cells, abbreviated as iPS (Rogers 2014).

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Although Hintikka goes so far as to say that justification cannot be studied unless contexts of discovery are taken into account, here a more moderate claim will suffice: in the process of questioning and answering comprising inquiry, it is unnecessary to assume that justification is separate from the attainment of novel knowledge.

How, then, can we distinguish questioning from inquiry characterized above? Although inquiry tends to be identified with the activity of answering a question and solving a problem, this is not necessarily true. To explicate, suppose that Genie has the genius to correctly answer any question. Still, she may end up with failing in her inquiry unless she sets appropriate questions at each step on her own. This shows that, in addition to answering, inquirers should find questions that can bring them closer to the goal of their inquiries. Scheffler, in his study of Pragmatism on inquiry, contends that, during inquiry, scientists who seek the truth engage in what he calls "problem-finding."

> The life of science is not exhausted in resolving problems that arise without effort; the scientist's thought does not subside when his questions have been answered. Problem-finding is as important as problem-solving, and scientific thought of the greatest significance is expended in seeking, formulating, and elaborating questions that have not yet intruded on practice. (Scheffler 1974: 252)

Scientists engage in not only answering questions but also identifying, revising, and defining questions. Questioning is thus a distinct constituent of inquiry that can help inquirers to find new knowledge.

Let us examine characteristics of questioning more closely by focusing on questions set at the outset of inquiry and the goal of inquiry. Primarily, a question that initiates inquiry, that is, an initial question, is not always established preceding that inquiry. In some inquiries, the initial question may be given prior to inquiry, but in many cases, inquirers must contemplate what question they should set as a proper initial question. For example, skimming a criticism of her interlocutor's view, an inquirer might soon feel that something is wrong with the argument of the criticism, such as jumping to a conclusion too soon. The inquirer might still have no idea how her question can precisely be expressed in a sentential form and attempt to define a question that initiates her inquiry. Moreover, an initial question could be refined into a more precise one, and an inquirer might develop the end of her inquiry accordingly. Thus, inquiry encompasses the activity of setting and elaborating an initial question as well as solving it.

Second, the goal of inquiry is not necessarily fixed throughout the process and, as inquiry progresses, the goal may often be subject to modification. Primarily, many questions and problems of inquiry are open-ended, in the sense that there can be more than one reply to a question or one solution to a problem. For example, confronting an intractable problem, a scientist may contemplate whether or not the goal is feasible and may set a provisional goal that is easier to achieve. Secondly, in the process of inquiry, some presuppositions that underlie the framework of inquiry can often be questioned. Take the example of Lavoisier's inquiry regarding the theory of combustion. In the process of constructing his theory, Lavoisier was struggling with explicating the fact that an acid solution reacts with a metal material so as to generate hydrogen. At last, he doubted the assumption that water is made up of a single element, which had been unquestioned before, and advocated the view that water is composed of two distinct elements, that is, oxygen and hydrogen, as is now known. Consequently, his theory successfully incorporated what had earlier appeared to be an unaccountable phenomenon.

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It is concluded that questioning plays a constitutive role in accomplishing the end of inquiry, in that, as many questions are raised, refined, and replaced, the end of inquiry can also be clarified and developed accordingly.

Here a question arises concerning the feature of good questions. What constitutes good questions? Surely, good questions may be such that, by answering them, inquirers can make some progress toward the goal of their inquirers. But what are particular features that make questions good in this sense? My answer is that, at least, proper focus and pertinence are constituents of the quality of questions.

First, a good question must be well-focused, in the sense that the question is neither too general nor too specific. As inquiry proceeds, the inquirer may come to recognize the ambiguity of her earlier question and to identify a question that she is really eager to answer. In this way, a well-focused question may help an inquirer to approach aimed-at knowledge. It can also promote other people's understanding of the goal of inquiry. As a consequence, an inquirer may be able to gain beneficial comments from her interlocutor. Thus, a question must be properly focused to be good.

Second, questions are evaluated in terms of their relevance to the goal, although there is difference in the degrees of relevance to the goal of inquiry.[2] Admittedly, the goal itself can constantly be modified as inquiry proceeds, and inquirers can evaluate the relevance of their questions only from the present standpoint, because the future cognitive process of inquiry is opaque to inquirers. However, this does not mean that relevance is not a standard for a question to be good. Suppose that an archeologist wants to know about physical characteristics of Moses and ask, "What size shoe did Moses wear?" Does the answer to this question forward her inquiry? People might have lived without any footwear those days and, if this fact is known to the archeologist, her question turns out to have been pointless, and she may soon relinquish her question. Hence, the relevance of a question to the aim of inquiry makes sense independently of the extent to which inquirers evaluate the relevance of the question to their inquiries.

Note that proper focus and relevance might be insufficient to fully characterize good questions. For example, another possible feature that constitutes good questions, particularly in the context of science, may be that the question is answerable. The answerability here means that an answer to the question may likely be attained by means of proper methods in a certain period.[3] Clinging to an unanswerable question in science, such as questions about the existence of possible worlds, would make scientists end up wasting time. As this instance suggests, there may probably be other factors to make questions good. Still, it may be acknowledged that the properties of being well-focused and pertinent are fundamental for a question to be good regardless of the context in which the question is raised.

How, then, can we obtain good questions? It appears that questioning is in essence a reflective activity, and that good questions can be obtained only through the process of deliberation. There are, however, unreflective yet rational aspects of questioning, which may help inquirers to obtain good questions. I will examine these aspects of questioning in the next section.

2 Greco (2000) analyzes the meaning of the term "relevance" in inquiry by using possible world semantics.

3 An anonymous referee suggested to me that answerability can be another feature of good questioning, especially in science.

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3. AN UNREFLECTIVE ROUTE TO OBTAINING GOOD QUESTIONS

Hintikka has theorized his model of questioning and answering based on Socratic dialogue. In his theory, questions and answers are not only obtained in the reflective process but are also arranged in an orderly sequence through the application of fixed principles and rules.

> The most important aspects of epistemology illuminated by the interrogative model are likely to be the strategic ones. Considering inquiry as a question-answer sequence enables us to theorize about entire processes of inquiry, including strategies and tactics of questioning, not only about what to do in some one given situation. Aristotle already had a keen eye on the tactics of questioning. The strategic viewpoint can be dramatized by considering interrogative inquiry as a game. (Hintikka 2007: 7)

Indeed, in the history of Western philosophy, it has been assumed that questioning is essentially a reflective activity. As exemplified in Socratic dialogue, good questions can certainly be gained through a process of deliberation. Consider the interchange of questions and answers between an inquirer and her interlocutor. As the inquirer continues to ponder on replies to questions from her interlocutor, she may develop a question that is more comprehensible to other people. As this example indicates, inquirers may reflect on shaping their earlier questions into well-focused ones. This questioning process could also be formalized by way of general principles and rules concerning the logical behavior of questions and answers.[4]

The question is, however, whether good questions always originate from the reflective processes. My answer is that questioning has unreflective yet rational components, which have been neglected thus far in the relevant literature. In what follows, I will endorse the view that good questions can be obtained in an unreflective as well as a reflective manner.

Let me first illustrate three phenomena that seem to exemplify unreflective parts of questioning. First, inquirers may feel a sense of doubt regarding matters that are relevant to the inquiry. Suppose now that an inquirer's interlocutor is presenting a criticism of the inquirer's view. Merely looking over the argument of the criticism, an inquirer might feel that there is something wrong with her interlocutor's logic, such as that she is jumping to a conclusion. This sort of feeling related to doubt may be triggered as an immediate response to the content that bears on the inquiry involved, although the inquirer may not know how to express her doubt verbally. This case suggests that, during the course of inquiry, we may notice a signal for something that is questionable that is often marked by a feeling and emotion, such as the feeling of doubt. The occurrence of this sort of experience seems to precede contemplation.

Second, there may be an exploratory mode in inquiry that might not involve having fully formed sentential questions.[5] For example, scientists might explore collected data by letting relevant clues strike them without actively looking for questions and hypotheses. Relevant clues could encompass cues that are related to doubt and further questions about

4 The reason that Hintikka draws his attention to forms of questioning is to investigate the logical behavior of questions and answers, such as the logical form of different kinds of questions and their presuppositions. This leads Hintikka to explore how sequences of questions and answers contribute to the acquisition of new knowledge. See Hintikka (1999) in detail.

5 An anonymous reviewer enabled me to recognize this point.

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the data. Even when they are not actively engaging in questioning, the scientists can remain responsive to these cues. In this respect, this readiness to respond, that is, the responsiveness, seems to operate independently of deliberation and can serve to initiate the use of deliberation in inquirers' active questioning.

Third, good questions and cues for relevant doubt and further questions can occur to inquirers even when they are not reflecting on their inquiry. Inquirers may unconsciously attend to their research while they are engaged in other irrelevant activities. In psychology, this kind of cognitive state is described as what is called "incubation" (e.g., Smith and Blankenship 1991). An example can help to illustrate the relationship between the discernment of good questions and incubation. In 1928, Alexander Fleming, a bacteriologist, discovered penicillin, an intense antibiotic. A question that led to the discovery of penicillin struck Fleming when he was sorting out his pile of dishes and noticed the strange changes in the mold in a particular dish. Fleming then made numerous experiments in the pursuit of verifying the effect of that mold, which was later named penicillin. Still, it is not surprising that he hit on a question about the cause of the changes in a dish when he was not consciously looking for it, and that this question became the initial question that drove him to his investigation into penicillin. As this example suggests, some inquirers can be perceptive to good questions and cues for relevant doubt and further questions, whether or not they are concentrating on their inquiry at the time.

These everyday experiences of acquiring good questions show that inquirers do not always reflectively engage in questioning, but can still obtain good questions or cues for them. While good questions can be attained as a result of deliberation, inquirers can also find themselves facing these questions and signals for them without having deliberatively conceived them. Hookway provides a description regarding this way of obtaining good questions:

> Sometimes a fact's being salient may be the result of extensive reflection and exploration. On other occasions, it is immediate: we depend upon certain facts or questions *occurring to us* as salient at particular stages in our inquiry. Of course, salience alone is not sufficient. If irrelevant considerations become salient for us, then our reasoning and inquiry is likely to fail. It is a necessary condition for successful reasoning and inquiry that *salience tracks relevance*. (Hookway 2006b: 59)

In this quotation, Hookway refers to facts as well as questions, but I shall restrict my concern to questions. As he observes, some questions simply occur to inquirers as salient. Salient questions here may be defined as questions toward which inquirers' conscious attention is directed. I will call questions that simply occur to inquirers "spontaneous questions." Whereas forming good questions with deliberation may be seen as something that inquirers actively do, obtaining spontaneous questions may be viewed as an involuntary occurrence, in the sense that it happens to inquirers.

These two distinct processes of obtaining good questions can be differentiated in terms of their relation to reflection. On the one hand, inquirers can obtain good questions as a result of deliberation, in which case the process of developing a question is reflectively available to the inquirers; on the other hand, good questions and cues for relevant doubt and further questions can simply occur to inquirers, drawing their conscious attention, in which case the process of obtaining good questions and cues for them is reflectively unavailable to the inquirers. Although the latter process of obtaining good questions and cues for them involves no reflection on the inquirers' part, this process

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can still be rational, in the sense that it serves to attain knowledge that is the aim of their inquiries. Recall our experiences of acquiring good questions in an unreflective manner. An inquirer may equip herself to recognize a good question without being reflectively attentive to her inquiry. In addition, an inquirer may be disposed to emotionally react to a cue for relevant doubt and further questions. It is found that, while these features of inquirers are exhibited unreflectively, they do not work haphazardly but in the service of achieving the goal of their inquiries. In this respect, the unreflective process of questioning can be considered rational.

Let us examine more closely how good questions and cues for them are obtained unreflectively. As discussed by Hookway in the above quotation, although some spontaneous questions simply strike inquirers as salient, salience is not sufficient for a question's relevance to the content of inquiry, because some spontaneous questions are still irrelevant. Note here that making good spontaneous questions and cues for them salient to inquirers is a matter of a particular exercise of agency that is distinct from deliberation. Then, how can we describe the capacity to make good spontaneous questions and cues for them salient to inquirers?

It could be argued that a sort of natural propensity enables people to recognize good questions and cues for relevant doubt and further questions, but this view is unacceptable. For example, children might naturally display curiosity about everything around them at an early age, but this does not mean that they will raise questions purposefully. This can be contrasted with the case of the bacteriologist Fleming, in which a question that was relevant to his research occurred to him and led him to the discovery of penicillin. This kind of serendipity would not be given to just anyone.[6] What can be acknowledged here is that we do not all have the default ability to make good questions and cues for relevant doubt and further questions salient to us.

What capability, then, are inquirers exerting when they obtain good questions and cues for them unreflectively? In the next section, I will consider this capability as a virtue that is related to good questioning.

4. A SENSITIVITY TO GOOD QUESTIONS AS A VIRTUE

Our interest in this section centers on the capacity to enable inquirers to obtain good questions and signals for relevant doubt and further questions in an unreflective manner. According to Hookway, our experiences of good questions occurring to inquirers relate to the inquirers' habits and capacities, which amount to virtues.

> Subordinate questions will just 'occur' to us as relevant, and we can ignore those that do not occur to us. Their 'occurring' to us generally has a passive character and reflects our character and education; they are influenced by habits and capacities that we have described as virtues. (Hookway 2003: 200)

Hookway is representing virtues as capacities that orient questioning in a better direction, even without additional reflection from the inquirers (Hookway 2003: 197). Although

6 The difference between this sort of serendipity and sheer luck must be considered at another opportunity.

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Hookway makes an intriguing point regarding the relevance of virtues to inquirers' unreflective engagement in questioning, he has not expounded on how specifically virtues can enable inquirers to obtain good questions and cues for relevant doubt and further questions in an unreflective way. Given this situation, in what follows, I will begin by substantiating characterizations of inquirers' unreflective engagement in questioning. I shall call inquirers' state of unreflectively engaging in questioning the "unreflective and rational mode in questioning." I will then account for these characterizations in terms of inquirers' sensitivity, as exercised during the course of questioning.

First, some inquirers have a prompt reaction when good questions and cues for relevant doubt and further questions occur to them. When looking through a reference book that is pertinent to an inquiry, an inquirer may feel a sense of doubt. She might feel suspicious about the weight of the reasoning, although she might still not be able to transform her feeling into a verbal question. Here, what is registered as a salient feature to the inquirer is the sign for doubt and potential further questions that are pertinent to her inquiry. Only this certain feature is made salient to the inquirer.

Inquirers' sensitivity can serve to make good questions and cues for them salient to the inquirers. Specifically, the sensitivity here enables them to be receptive to questions and cues for them, in that it can elicit inquirers' immediate response to them. Moreover, this sensitivity also enables inquirers to be selective in registering good questions and cues for them. To illustrate these roles of the sensitivity, let us consider the analogy of a smoke detector. A smoke detector acts as a sensor, reacting to what is registered as a smoke that could cause a big fire: the detector may thereby prevent a fire from breaking out. Similarly, by prompting a signal for relevant doubt and further questions that may be salient, the sensitivity will elicit inquirers' immediate response. From the inquirers' perspective, the signal may appear as something to which they will react automatically. Admittedly, just as a smoke detector occasionally misrepresents something harmless as a smoke that signals a big fire, so the sensitivity may register a cue for doubt and questions that will later turn out to be irrelevant to the inquiry. Nevertheless, this sensitivity may help inquirers to direct their conscious attention to a certain feature, even when it is exercised independently of reflection. This may lead the inquirers to reflect on whether or not the salient feature is relevant.

Second, some inquirers may recognize a good cue for relevant doubt and further questions even when they do not reflect on an inquiry. Here we must underscore that, while this responsiveness actively operates once a good question and a cue for it occurs to inquirers,[7] it keeps working even in normal circumstances. The way in which this responsiveness works can also be accounted for in terms of inquirers' sensitivity. The first notable feature is that the sensitivity is not strongly activated when a cue for doubt and further questions is irrelevant to the specific inquiry. Inquirers do not have to cast doubt on everything, except for in a particular context such as a skeptical argument; rather, it is sensible for inquirers to zero in on pertinent questions in order to accomplish the end of their inquiries. For example, consider a scientist who studies the movement of a galaxy. It may be reasonable that she is relying on a theory of physics that is broadly approved in

7 Responsiveness may be a character trait. A character trait is generally seen as a good disposition, and a disposition can arguably be viewed as a counter-factual property. The reason a disposition is seen as a counter-factual property is that the disposition does not actually need to be manifested in order for it to be possessed (Brendel 2009: 327).

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science as reliable. Another significant feature of this sensitivity is that it automatically shifts into high gear when a signal for relevant doubt and further questions occurs. As a result, such a good cue will be made salient to sensitive inquirers. Just as a computer has both active and standby modes, so sensitivity operates in both active and standby modes, and a shift of gear can automatically turn it into either mode. The active mode refers to the status in which the sensitivity is intensified, while the standby mode refers to the status in which the sensitivity is not inert but is kept statically operative. The fact that the sensitivity is constantly in operation helps inquirers both not to miss good spontaneous questions and cues for them and to disregard questions that do not strike them as salient.

Third, some inquirers are disposed to pick up signals for relevant doubt and questions emotionally. An analogy relating to people's sensitivity to morality may help to show the connection between sensitivity and feeling and emotion. A morally sensitive person may be highly susceptible to the pain of people who are in need; in addition, she may become obsessed with a sense of guilt regarding an offensive remark that she made to others. A morally sensitive person may find herself receptive to these kinds of moral feeling and emotion. In a similar way, an inquirer with a strong sensibility may be perceptive to the feeling and emotion that accompany a signal for relevant doubt and further questions. Although such a feeling and emotion may not always arise on the right occasion at the right time, they may still be helpful to inquiry, in that emotional emphasis can be placed on signs for relevant doubt and further questions and, consequently, inquirers' reflective attention may be directed toward them.

To summarize, the unreflective and rational mode of inquirers in questioning is characterized by an automatic response to a good question and a cue for relevant doubt and further questions, the active and standby modes of responsiveness, and emotional stress on the cue for relevant doubt and further questions. These characterizations can be accounted for in terms of exercising inquirers' sensitivity. I refer to this sort of sensitivity as the "sensitivity to good questions."

This sensitivity to good questions is considered a virtue that bears on the unreflective process of questioning. While this sensitivity is conducive to the acquisition of good questions and cues for relevant doubt and further questions, the state of being sensitive is a matter of a particular exercise of agency that is separate from reflection. Thus, this sensitivity can be regarded as a virtue for inquirers that is related to the unreflective aspects of questioning. However, I am not denying the possibility that virtues also contribute to the reflective process of questioning. The notion of virtue is broad,[8] and some virtues may be helpful to good questioning in different ways. For instance, imagine a case in which an inquirer is reflective. Reflectiveness can be understood as follows: if inquirers had engaged in tasks for which deliberation is required, they would have reflected on them. The reflective inquirer might tend to concentrate on questioning in proper circumstances and, as a result, may be able to shape an earlier question into a better one. As this example indicates, some virtues may help inquirers to attain good questions in a reflective manner;

8 In order to gain a general overview of virtue in virtue epistemology, see Zagzebski (1996: Ch. 3), Axtell (1997), Greco (2002), Battaly (2008), Kvanvig (2010), and Baehr (2011: Ch. 2). See also Fricker (2007: Ch. 3) for an epistemological exploration regarding the concept of testimonial sensibility. In what follows, I will confine my account of virtue to the relationship between the unreflective and rational aspects of questioning and a sensitivity to good questions.

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even so, the distinct merit of taking virtue into consideration in the context of the reflective process of questioning is not so straightforward. Virtue may be helpful to the reflective process of questioning in much the same way as it is to an inquiry as a whole. By contrast, the notion of a sensitivity to good questions explains all of the characterizations of inquirers' unreflective and rational mode of questioning and, in this respect, this sensitivity as a virtue plays a distinctive role in that mode of questioning.

However, it could be asked whether the characterizations of inquirers' unreflective and rational mode of questioning could be explained by way of other factors apart from this sensitivity. One alternative explanation that could bear on the unreflective process of questioning is that of skill. Skills are generally regarded as a sort of competence at performing a certain task, and the use of skills does not call for conscious attention (Scheffler 1965: 19–20). For example, a skillful pianist can play a waltz on the piano without conscious effort. Likewise, an inquirer may be required to possess skills that are associated with various activities in an inquiry. However, there is a notable difference between skills and a sensitivity to good questions. Whereas this sensitivity can function spontaneously when necessary, skills are either used or unused, based on the will of the inquirer. Skills are not always exercised automatically and, thus, do not suffice to explain the power to exhibit responsiveness in relevant circumstances. Neither do skills involve a feeling and emotion that is related to cues for relevant doubt and further questions.

Another factor contributing to inquirers' unreflective and rational mode in questioning may be their background knowledge. Of course, the possession of abundant background knowledge may be a prerequisite for the inquirers' ability to discern good questions and to recognize cues for relevant doubt and further questions.[9] However, the possession of background knowledge does not in itself qualify inquirers at discerning good questions or recognizing cues for them. To explicate, take the case of a doctor. Only a doctor who has sufficient knowledge may be able to detect a symptom of a certain disease by checking a patient's body. However, even if doctors have the same amount of expertise, one doctor may be sensitive to the symptom and thereby able to detect it reliably, while another may be liable to miss it. In a similar way, even when inquirers are familiar with knowledge that is pertinent to the topic of inquiry, the extent to which inquirers can notice good questions and recognize cues for relevant doubt and further questions may depend on their sensitivity.

For these reasons, the notion of the exercise of a sensitivity to good questions as a virtue is necessary and sufficient to encompass all of the features that constitute the unreflective and rational mode of inquirers in questioning. This is what makes a virtue-oriented account of questioning distinctive.

5. CONCLUSION

I have delineated how inquirers can obtain good questions and signals for relevant doubt and further questions in an unreflective manner and have argued for the superiority of a virtue-based approach to good questioning. Specifically, I have demonstrated three points.

9 A psychological study suggests that inquirers may need sufficient background knowledge about the topic of inquiry in order to generate great achievements (Weisberg 1999).

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First, good questions can be obtained not only in reflective but also in unreflective processes. So far, the latter process has been neglected, but I have highlighted its importance by describing our experiences of acquiring good questions and cues for relevant doubt and further questions in an unreflective way. Second, inquirers' unreflective and rational mode of questioning can be characterized by an automatic response to good questions and cues for relevant doubt and further questions, the active and standby modes of responsiveness, and emotional emphasis on the cues. Third, these features are fully explicated in terms of the exercise of a sensitivity to good questions as a virtue. In this sense, the exercise of this virtue is more important for inquirers to engage in good questioning in an unreflective manner than the possession of skills and background knowledge is. This sensitivity involves a distinct way of exercising agency that is separate from reflection, and we should be virtuous to be good seekers for knowledge in our intellectual lives.[10]

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