



Seeing the Forest for the Trees

Written by Bella Han

MANY ADVISE US THAT we cannot see the forest for trees. This old saying, common across many cultures, originates from the idea that one should not be so caught up in the details of something but prioritize what is important about it as a whole. That is, to focus on the big picture rather than the individual aspect. This idea becomes particularly crucial when we work as a team, with a collective motivation. For instance, imagine yourself working on a group project. While we may divide up the work for efficiency, we must remind ourselves of how each person's work relates to the overall purpose of the project. In this sense, we interpret this saying through a utilitarian, or practical, lens. However, this interpretation and what underlies within it are not universal.

Let me offer a different interpretation of the a-

xiom. What is so important about the forest as a whole that we cannot be so focused on the trees? Without the individual trees, the forest cannot even exist at all! Each of these trees, different in their tallness, shape, or color, is equally, if not even more, as important as the forest itself. The interactions between them, however big or small, constitute the forest, which then constitutes the greater natural community. In this sense, the forest is analogous to a society. Not only do we individuals interact amongst ourselves and build our society, but also no one individual is the same as the other in such a society. Contrary to what others may advise us to do, therefore, I would rather encourage us to see the forest for trees, in the absence of the respectful acknowledgement of each individual, the value and motivation of the society disappears. Therefore, I am offering a sociological

"Helen Longino has written a timely book that fills a critical gap in the existing literature between philosophy of science and the social studies of science. Her exposition of scientific inquiry as a context-laden process provides the conceptual tools we need to understand how social expectations shape the development of science while at the same time recognizing the dependence of scientific inquiry on its interactions with natural phenomena."

Evelyn Fox Keller, author of *Reflections on Gender and Science*,
on *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry* by Helen Longino

interpretation of the aforementioned saying and a and a philosophical lens of our society.

As we recognize the individuality that one holds, these individualities may gather and develop a shared motivation. One of the most common identities that we value today revolves around STEM: Science, Technology, Engineering, and Mathematics. One that identifies themselves as a STEM-person, studies these subjects or envisions to find professional work in STEM. Others may teach and research STEM, or simply have experience or interest in STEM. When they are asked about their enthusiasm towards STEM, many often respond that its objectivity attracts them. That is, the boundary of truth and falsehood revolving around scientific or mathematical inquiry is clear, as this boundary is guaranteed by seemingly universal objectivity. However, is this true? What do we really mean by this scientific inquiry and the objectivity that upholds it?

Science has been broadly defined as the "knowledge covering general *truths* of the operation of general laws as obtained and tested through scientific method and concerned with the physical world." Following this definition, we superficially believe that scientific inquiry employs

objectivity, as scientists deal with general "truths" of the physical world. In that sense, we, in defining objectivity, intuitively consider the aspects of impartiality and accuracy that a scientist must be operating on. In her book, *Science as Social Knowledge*, Helene Longino, a professor of philosophy at Stanford University, presents an important question on the meaning of this objectivity. In her view, the objectivity of science originates not from an individual's effort to practice science in an unbiased manner, but from the intrinsic social character of scientific inquiry. Though the motivation for scientific endeavor lies in the desire to view and understand the reality as accurately as possible, the process of such is intrinsically social, as any scientific proposition must be discussed, reviewed, and accepted by a community in order to hold a public value. Though this is a seemingly oxymoronic phenomenon, since a comprehensive opinion constitutes what is accepted as objective rather than being treated as subjective, we shall view scientific knowledge as social "in the ways it is created and in the uses it serves."

Similarly, concerned with this notion of objectivity, Sandra Harding, a professor of Philosophy at

“Being Human in STEM grew out of a critical moment in Amherst College history [The] STEM faculty and staff *listened* to what the students shared, then each department and program *validated* student concerns. After *reflecting* on their own journeys and experiences, faculty and staff members chose to *partner* with students in developing a pathway forward.”

From *From Protest to Progress through Partnership with Students: Being Human in STEM (HSTEM)*

“Yes, science is impartial but before we are scientists we are humans and there are systemic changes that the STEM departments can make.”

An Amherst student on the survey:

“What would you like your STEM professors to know about your Amherst experience?”
From *Being Human in STEM: Moving from Student Protest to Institutional Progress*

the University of California, Los Angeles, also questions the traditional definition of objectivity, but by formulating the notion of standpoint epistemology. Harding maintains that objectivity in science cannot be maximized on the basis of the traditional notion of objectivity because “it is not rigorous or objectifying enough”—it is simply too weak to accomplish the goal of scientific inquiry. When a scientific inquiry is investigated only by those in power, the non-marginalized, that investigation will rarely reflect the topic of concern of those that are marginalized. In her view, the socially and politically marginalized are situated in a way that makes it more possible for them to be aware of the world and ask significant questions than it is for the non-marginalized. More specifically, when women, who historically have been marginalized in the scientific community, rise to occupy certain positions of epistemological endeavor, they are able to ask questions about not only those who are socially and politically marginalized but also those who are in the position of social and political superiority. In that sense, a stronger objectivity can be achieved. While Longino’s argument initiates the notion and explanation of science as social knowledge, this standpoint argument offers an expansion of Longino’s view by providing the specific measure necessary to achieve the complete picture of science as social knowledge.

These arguments essentially constitute the importance of being human in STEM. We have establi-

shed that scientific inquiry is a social process. Then, while the most defining feature of being human is the ability to reason, its value is lost if it cannot be shared among one another. This is what makes scientific inquiry not only social but possible. Longino’s view on scientific inquiry as a social endeavor challenges us to understand how our society can shape scientific inquiry while acknowledging its dependence on its interactions with the physical world.

EARLIER IN THIS ESSAY, I offered you to consider seeing the forest for trees, contrary to what is commonly said. Briefly, since individuals make up the society as a whole, it is more appropriate to consider the individuals before the society as a whole. As the two philosophers are concerned, if we only focus on what the society aspires as a whole, or just the forest itself, we often end up blinding the opinions of those of minority and the marginalized, or fail to appreciate the beauty of each tree that Nature has to offer. And because the study of science, which we often consider anything but social, is indeed a social process, this sociological perspective does not exclude the field of scientific endeavor: the notion of objectivity will be reinforced and guaranteed when we recognize the individual values of their background, perspective, and identity. Hence, I do not prefer but urge that we see the forest *for the trees*.