

KNOW, WE MUST. KNOW, WE WILL.

BY THE EDITORIAL BOARD

Is it truly the case that the scientific pursuit born of sheer curiosity lacks value? The question is older than science itself. “Curiosity, which may or may not eventuate in something useful, is probably the outstanding characteristic of modern thinking,” said Abraham Flexner in *The Usefulness of Useless Knowledge*. Before asking whether any knowledge is useful, one must ask what it means for knowledge to possess a use. Is the usefulness just the correspondence between the idea and the existing needs of a civilization? But one should not deny the right to be useful to any inquiry done, even if it does not bring any fruit to any immediate party. In a grand principle, it always does—in more than immediate and obvious ways. However, this is a bit of a strong opinion, something which largely pure mathematicians and theoretical physicists have maintained.

Mathematics, as a science or art, has been useful. From computer chips and navigation systems to family budgeting, it plays a subtle but clear role. But one is not required to understand group theory to read a clock. The usefulness of mathematics in daily life can be acknowledged on a terms basis. Yet the general public remains ignorant of its utility. While the same can be said of, say, biology or psychology, mathematics has suffered more than any other discipline from the accusation of being “useless.” Entire branches of algebra, number theory, geometry, and topology were cultivated for centuries without hope of practical reward. Euclid, Riemann, or Einstein were not building GPS; Newton was not launching satellites, nor was Grothendieck inventing cryptographic protocols. Their pursuits were personal and abstract, part of the grand scheme of knowledge and the progression of their subject. This is a beautiful irony: ideas developed purely for understanding these generalities can become the foundation of the very civilization that, at one time, ignored their utility and considered them unnecessary. One can, of course, accuse the examples presented here of being selective. However, we say that even if the pursuit is personal, the value of theoretical subjects lies not merely in what they can do in practice, but in what they allow humanity to become, and in how far they enlarge our capacity to ask new questions from old ones.

Fortunately or unfortunately, modern civilization has quietly replaced the pursuit of knowledge with utility as the measure of its importance. With research proposals requiring impact statements, universities seeking innovation, and students questioning the scope of a subject, the justification of usefulness has become the most important factor in evaluating any success.

The title of this editorial is inspired by David Hilbert’s celebrated declaration, “Wir müssen wissen. Wir werden wissen.” (“We must know. We will know.”). For full effect, you are encouraged to read the title in the voice of Yoda.

But this is a recent demand. Ancient civilizations like the Greeks or the ancient Indians would have found it peculiar. Yet this essay has been written in our modern world, so such a comparison is futile here, given how much our understanding of the word ‘civilization’ has changed. It may be that every age asks what knowledge can provide to their immediate needs.

While this is true in abstract sciences, and as we acknowledge our ignorance beyond them, we can speculate on the following questions for a large class of intellectual pursuits. Suppose a philologist reconstructs a forgotten script, as Jean-François Champollion did through his work on Egyptian scripts in the Rosetta Stone. Suppose a musician devotes a life to a raga, much like Ustad Asad Ali Khan. Suppose a philosopher and scholar spends years understanding a single fact or truth, in a similar spirit to Adi Sankaracharya or Wittgenstein. What are their uses in the grand scheme of things? For a large, non-overlapping audience, they do not seem to have a return; yet if they disappear, the civilization becomes poorer. Their values lie in humanity’s memory, not in produced commodities. Even after centuries have passed, creators’ ideas still contribute to human thought. Perhaps this is the deepest usefulness of knowledge: not necessarily to serve the present, but to enlarge the inheritance of the future.

One need not claim that each inquiry into knowledge will transform the world; indeed, many may not. Yet sincere effort adds to overall understanding and offers a modest gift to posterity. This alone can serve as a reason for curiosity to wander. If there is a usefulness to what is often called ‘useless knowledge,’ it first lies in the confidence that understanding is itself a worthy and human endeavor.