

# Nishida Kitarō as Philosopher of Science

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Nishida Kitarō is known as the first original philosopher in modern Japan. He was born in 1870, just after the Meiji Restoration. In those days, Japanese intellectuals eagerly imported Western scientific knowledge and technology from European countries. Nishida lived during this time of Westernization and industrialization. As a young intellectual in the Meiji era, he had once considered being a mathematician. He recalled in a speech in 1928:

At Fourth High it came time for me to select the professional course I would enter in the future. This was a choice young students agonized over, and I too was at a loss what to do. Especially as it was a matter of either entering into mathematics or into philosophy, it was an extremely difficult choice for me. The advice of one teacher whom I respected was to opt for mathematics. Philosophy was not just a matter of rational ability, he said; it required poetic imagination as well, and he told me frankly that he was not sure whether I had that sort of ability or not. (NISHIDA 1995, 246)

The teacher Nishida mentioned is probably Hokujō Tokiyuki (北条時敬), who eventually became the second president of Tōhoku University. Nishida finally decided to study philosophy instead of mathematics, but

his passionate concern for mathematics and science continued throughout his life.

It may seem odd to speak of Nishida as a philosopher of science, since his philosophy is famous for its close connections with the Kyoto School and Zen Buddhism, and his highest accomplishment is widely thought to be the philosophy of religion. Moreover, Nishida's philosophy is characterized by metaphysics, dialectics, phenomenology, the philosophy of religion, and the philosophy of Zen Buddhism. It is seldom categorized as a philosophy of science; the two appear to be two isolated issues. Nevertheless, if one carefully studies Nishida, in particular the seven volumes of *Philosophical Essays* published at a later stage in his life, it is clear that he endeavoured to tackle various questions fundamental to mathematics, logic, and natural science. Nishida's achievement in the philosophy of science surely comprises an important part of his philosophy.

The philosophical activities of Nishida developed at crucial time points. Here I would like to divide Nishida's philosophy into three developmental stages. A first period of "early" philosophy begins in 1911 with the publication of his maiden work, *An Inquiry into the Good*. The keystone of his philosophy at the time was "pure experience," which then developed into his notion of "self-consciousness." A second stage constitutes his "middle" philosophy. In 1926 he published an essay entitled "Place," in which he discussed the problem and significance of the logical place, giving us what would come to be known as "Nishida philosophy." Nishida's final stage of "late" philosophy began in 1935 with the first volume of his *Philosophical Essays*. Here the key concept was "acting intuition," which may be related to the problem of mathematical intuition. It was during this later philosophical stage that Nishida paid attention to the philosophy of science.

## NISHIDA AND SCIENCE

Nishida was born in 1870 and passed away in 1945. The period from the late nineteenth century to the middle of the twentieth century represented a "crisis of science." During the first half of the twentieth century Nishida wrote numerous articles and books on the philosophy of

science, at a time when radical changes were taking place in the theories of mathematics and physics. This scientific change” or “paradigm shift” introduced many new concepts in the methodological foundations of science. Nishida could hardly have been indifferent to all of this. Indeed, his philosophy of science may be seen as a unique response to the crisis of science at the time.

For example, in the nineteenth century non-Euclidean geometries were proposed by Nikolai Lobachevsky and János Bolyai, followed by the controversy between Gottlob Frege and David Hilbert over imaginary geometry. In 1902, Bertrand Russell discovered the paradox of set theory, stimulating a serious debate over the foundation of mathematics. We may distinguish three positions here: logicism (Russel), formalism (Hilbert), and intuitionism (Luitzen Brouwer). In 1905 and 1915 Albert Einstein presented his theory of relativity, raising questions regarding the philosophical foundations of space and time. In the 1920s, quantum mechanics was developed by Niels Bohr, Werner Heisenberg, Erwin Schrödinger, and Louis de Broglie. In 1927, Bohr and Einstein debated the concepts of reality and the Copenhagen interpretation of quantum mechanics. All these controversies and new concepts were of interest to Nishida, who mentions the names of Bohr, Einstein, and Heisenberg in his works.

Nishida’s own philosophy of science was developed in later works such as *Logic and Life* (1936), “The Empirical Sciences” (1939), and “The Objectivity of Knowledge” (1943). He wrote prolifically in the year before his death, publishing four articles on “The World of Physics,” “Logic and Mathematics,” “Space,” and “Life.” In his final year, he published an article entitled “The Philosophical Grounding of Mathematics.”

## NISHIDA’S EARLY VIEWS OF SCIENCE

I would like to give a brief account of Nishida’s early views of science. Nishida began his career as a philosopher in the 1890s. The main concerns of his first book, *An Inquiry into the Good*, are ethics and reality. His interest in human experience, an important issue throughout the

book as well as throughout his whole life, is in evidence. Contrary to what one might expect, Nishida mentions science, scientists, mathematics, and physics several times, although most of his comments on science are rather critical or sceptical. He writes, for example:

A scientist's way of explanation is slanted toward just one aspect of knowledge, whereas in a complete explanation of reality we must satisfy intellectual demands as well as the demands of feeling and the will. (NISHIDA 1911, 50)

Nishida sought to explain the concept of pure experience or direct experience, a technical term borrowed from William James' radical empiricism. Through it he sought the unity of consciousness prior to the distinction between subject and object, or between the knowing self and its object. In his view, such a state of consciousness is the starting point of philosophical consideration. All scientific knowledge must be based on this experience, and the physical world proposed by scientists is merely one aspect of this world of pure experience. When Nishida comes to the point, he makes an interesting remark:

In the independent, self-sufficient true reality prior to the separation of subject and object, our knowledge, feeling, and volition are one. Contrary to popular belief, true reality is not the subject matter of dispassionate knowledge; it is established through our feeling and willing. It is not simply an existence but something with meaning. If we were to remove our feelings and the will from this world of actuality, it would no longer be a concrete fact—it would become an abstract concept. The world described by physicists, like a line without width and a plane without thickness, is not something that actually exists. In this respect, it is the artist, not the scholar, who arrives at the true nature of reality. (NISHIDA 1911, 49)

Nishida argues that artists understand the world better than scientists, in that our intellectual understanding of the world presupposes an understanding of everyday concerns. He draws attention to the importance of the everyday in Japanese culture, particularly in Zen Buddhism. There we see a way of understanding the world without secular concepts, as is the case, for example, of one's state of mind during the tea

ceremony. At the same time, Nishida recognized the problem of naive realism in science, whereby the physical world as described by physics has been unreflectively identified with a single world reality. It was Nishida's goal to recover the forgotten primordial mode of pure experience and at the same time to locate the ground of scientific activity.

Interestingly, Nishida's early philosophy of science tackles a very similar problem in the phenomenology of the life-world. Nishida does not himself employ the terms "phenomenology" or "life-world," but his notion of pure experience is similar to Husserl's concept of the life-world, which form the basis of his phenomenology. According to Husserl, the life-world refers to the one and only world actually given to consciousness. In this life-world, our action is actually intuited and experienced. It is within this experiential world that our whole life takes place. From this standpoint, Husserl severely criticized mathematical physics for its neglect and concealment of the life-world. Both Nishida and Husserl called for a rejection of empirical knowledge based on scientific hypotheses, wishing instead to return to immediate experience. In particular, they both wanted to begin their philosophies from conscious phenomena as a true foundation without hypotheses. In this sense, Nishida's early thought shared the methodology of phenomenology in that it aimed to return to the evidence of direct experience without presuppositions. In fact, Nishida had already drawn attention to this problem some twenty-five years before Husserl took it up in his *Crisis of European Sciences and Transcendental Phenomenology*.

### THE TURN IN NISHIDA'S THOUGHT

In October 1936, Nishida penned a new preface to the new edition of *The Inquiry into the Good*. In it he summed up the change that had taken place in his thinking over the years:

That which I called in the present book the world of direct or pure experience I have now come to think of as the world of historical reality. The world of acting intuition—the world of *poiesis*—is none other than the world of pure experience. (NISHIDA 1911, xxxiii)

It is clear here that Nishida has adopted the notion of “acting intuition” to replace that of “pure experience.” In fact, he no longer uses the term “pure experience” in his later works. The reason is that the state where the subject and the object have not yet been separated is a kind of chaos; the set of direct experience is unstructured or unarticulated. It is in his later stages that Nishida came to recognize how pure experience fails to provide a background for the historical and social world. He turned to study the structure of the world in terms of our bodily actions, or acting intuition. The life-world as a base of science was thus transformed into the world of historical reality. This change in Nishida’s philosophy may be called a transition to a logic of historical formation.

### *Acting Intuition and the Historical Body*

As mentioned, the key concept of Nishida’s later philosophy was acting intuition, a cognition acquired through bodily action on objects. “Conceiving something and grasping it through acting intuition,” he wrote, “means seeing it through making it, comprehending it through *poiesis*” (NKZ 9: 194). *Poiesis* here implies both technological and artistic activities, suggesting a continuity between of science and art. For Nishida, both science and art belong to praxis in the life-world.

Another key concept of Nishida’s later philosophy is the “historical body,” which is closely connected to that of acting intuition. In an essay of the same title he remarks that “the historical body is a body endowed with language and tools, that is to say, a social life” (NKZ 14: 290). Language and tools are human cultural products transmitted historically from generation to generation. In other words, the whole of human experience and praxis is settled and crystallized in the historical body.

Scientific experiments are good examples of acting intuition performed by the historical body. In “Logic and Life” he suggests that “knowledge must be based on acting intuition of a rational body. The so-called scientific experiments are none other than the acting intuition of a body fitted out with tools” (NKZ 8: 326). Though Nishida emphasized the importance of experiments in scientific research, he did not commit himself to a logical positivist view of verification. On the contrary, he saw experiment and theory as not only inseparable but inter-

woven. This point appears in statements such as, “Even if we know facts through external perception by experiments, experiments must presuppose theories,” and “perception without theory is blind” (NKZ 8: 396). As is well-known, in 1959 N. R. Hanson characterized this view as the “theory-ladenness of observation.” Thus Nishida’s insight deserves to be reevaluated in the light of the contemporary philosophy of science.

*“Anti-Realism” in Nishida’s Philosophy of Science*

We may refer to Nishida’s philosophy of science in his later philosophy as an “anti-realism” in the sense that his philosophy of science does not presuppose an ideal, scientific world independent of scientists’ activities. To put it another way, the natural world is not furnished with an unchanging and everlasting structure, but is malleable to the various sciences that examine its many aspects. It also means that the structure of reality itself is involved in the process of historical formation by bodily acts.

In mathematics Nishida’s position was similar to Brouwer’s intuitionism, which contrasts with logicism and formalism. In the philosophy of physics, he was attracted to Bridgman’s operationalism. He understood operations in physics as acting intuition or *poiesis* through bodily activity. In addition, he held the concept of “measurement” in quantum mechanics in high esteem, viewing it as a true return to the intuition of the bodily self. In the philosophy of biology, he was influenced by J. S. Haldane’s organism, an alternative to the approaches of mechanism and vitalism. It is interesting to note here that the positions with which Nishida identified were not mainstream but belonged to what were considered heterodoxy in the controversy over the foundations of science at the time. This is the why Nishida’s philosophy of science is still challenging and stimulating for us today.

## A PROVISIONAL CONCLUSION

In Nishida’s later philosophy of science, two themes stand out as incomplete projects. First is his attempt to ground the sciences phenomenologically by returning to the life-world through acting intuition

in the historical body. Second is his aim to establish a fully anti-realist philosophy of science. Nishida himself referred to this position as “radical positivism without substance.” In this connection, he cites the words of de Broglie: “As de Broglie has said, prior to analysis by prism, there are seven colors in the colorless ray. But they exist, in the sense that if we make an experiment, they appear” (NKZ 8: 438–39). From this passage, we see his view of the reality of the world as potential actualized by experimental operation, namely as acting intuition. This is the point of departure of Nishida’s philosophy of science and his fundamental view of reality. From this standpoint, he attempted to form a philosophy of science with new possibilities. Unfortunately, he passed away before the project was completed, and this remains as one of the new challenges that face us in the twenty-first century.

## REFERENCES

### *Abbreviation*

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