

The Locus of Science and its Place in Japanese Culture

Nishida on the Relationship of Science and Culture

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The history of Japan continues to be marked by the multifaceted impingement of Western modernity, of which one of the most important aspects has been the massive influx of science.¹ When the Tokugawa policy of seclusion ended with the appearance of the Black Ships of the Americans in 1854, Japan faced the challenge of modernizing itself while at the same time remaining true to its own cultural values. As in so many other parts of the world, the blending of Western science and technique on the one hand, and endogenous cultural practices and values on the other, proved an especially demanding task.

As others have noted, taking up this task became a major concern among Japanese philosophers in the first half of the twentieth century.²

1. An excellent summary of this development can be found in S. N. EISENSTADT, *Japanese Civilization: A Comparative View* (Chicago: The University of Chicago Press, 1996), chap. 17.

2. Thomas KASULIS, "Sushi, Science, and Spirituality: Modern Japanese Philosophy and Its Views of Western Science," *Philosophy East & West* 45/2 (1995): 227–48; Andrew FEENBERG, "Experience and Culture: Nishida's Path 'To the Things Themselves,'" *Philosophy East & West* 49/1 (1999), 28–44.

Among them, Nishida Kitarō surely ranks as the single most influential. In particular, his logic of locus (場所の論理) which he developed in the 1930s and continued to revise thereafter, can be read as an effort to locate scientific thinking within a larger system that grants traditional and cultural values a non-subordinate place.³ Nishida's basic insight here is that every scientific judgment necessarily depends on a certain context, which in turn derives from a broader experiential domain that is beyond the scope of the judgment itself. According to Thomas Kasulis, this insight eventually led Nishida to answer the question of how science and culture interrelate:

Nishida argued that the realm of empirical judgment is necessarily grounded experientially in a realm of value that it cannot analyze from its own standpoint. Nishida's system attempted to grant Western science its logical place while showing that its experiential ground was what traditional values had affirmed all along. Religion, at least in its Asian forms, was not antagonistic to science, nor was it endangered by science. On the contrary, Nishida argued that spiritual experience is what makes science possible in the first place.⁴

In this way, culture seems to easily ground and encompass science without being endangered by it. From a socio-historic perspective, however, this point of view appears rather problematic.

First of all, Japan's modern history shows how the influx of Western science has not only affected the way the Japanese make empirical judgments about the world; it has also fundamentally changed the experiential ground of their everyday social life itself. Already in Nishida's time, social and institutional practices were rapidly being transformed by scientific progress. Also, values and world-views changed dramatically; at times they even seemed to simply dissolve on contact.⁵ This indicates that Western science—at least in certain ways—confronts Japanese tra-

3. Thomas KASULIS "Japanese Philosophy," *Routledge Encyclopedia of Philosophy* (London: Routledge, 1998), vol. v: 68–80.

4. *Ibid.*, 78.

5. FEENBERG, "Experience and Culture," 28.

ditions and values rather than being simply encompassed by them. As Ueda notes, this confrontation was strongly felt by Nishida himself:

Since Nishida had his roots in the Eastern tradition, his encounter with the West was a turbulent one, given the brusque way the West first made inroads into the East.... In a word, Nishida found himself at the exact point where East and West collided with one another full force.... He experienced the full confrontation of East and West as they threw themselves against each other headlong, like rival floats crashing into one another at a *matsuri*.⁶

It is not only the historic experience of Japan, but also the history of science in general, especially that of scientific objectivity, that calls into question the above mentioned subordination of science to culture. This is especially true when we consider modern Western science itself as a continually evolving historical construct, the meaning of which stretches beyond the realm of empirical judgments. This consideration might seem unusual at first glance, since the concept of scientific objectivity has often been considered to be monolithic and immutable and, hence, a trans-historical fact. The claim was that it has to do only with statements about the natural world, independent of all social and historical influences.

As Lorraine Daston and others have shown, however, the claims of scientific objectivity have never been limited to empirical judgments.⁷ They have also presupposed a freedom from subjective interpretation and individual bias on the part of individual scientists, their judgments, and their skills. What is more, despite its self-understanding as a value-free enterprise, science has come to shape an ideal of common knowledge which, because of its independence from all local contexts, can claim universal validity. As will become clearer later, this ideal at least implicitly negates the plurality of cultures, because it seeks to annihilate all locally unique forms of experience and knowledge.

These brief considerations already indicate that science—or, more pre-

6. UEDA Shizuteru, "Nishida's Thought," *The Eastern Buddhist* 28/1 (1995): 34–5.

7. Lorraine DASTON, "Objectivity and the Escape from Perspective," *Social Studies of Science* 22 (1992): 597–618.

cisely, scientific objectivity, which is a multi-layered concept⁸—cannot be located in a single *basho* within Nishida’s logic of locus. Given this, I will attempt in what follows to reread Nishida’s logic of locus in the light of the history of science in order to gain a new understanding of the relationship between science and Japanese culture, one that takes into account both their conflict as well as their co-existence. I will proceed in two stages. First, I will locate science in its own experiential locus (its own place of absolute nothingness in Nishida’s terms) prior to considering its relation to Japanese culture. To do this, we need to link Nishida’s system of enfolded and enfolding *basho* to the various layers of scientific objectivity as expounded by the history of science. Naturally, I am not attempting to spell out the entire web of connections between these two fields, nor to take into consideration the whole of the history of science, which has grown into a discipline all its own.⁹ My point is rather to highlight some interesting connections between these two fields that might have been unconscious to Nishida himself, but which, once made visible, can help us today to understand better his view of science. The second part of my essay will then focus on the relationship between science and Japanese culture.

THE LOCUS OF SCIENCE

The following passage shows Nishida to have been well aware of the fact that not only Japanese culture but also Western science carries a “spirit of its own”:

Since the Meiji Restoration, our country has been taking in Western culture pellmell. Those who speak rather flippantly of *wakon kansai* (和魂漢才) [or *wakon yōsai* (多恨洋才)] (“Japanese spirit and Chinese [or Western] learning [or crafts]”) in this connection may think that one can use these things merely as tools. They forget that every one

8. Lorraine DASTON and Peter GALISON, “The Image of Objectivity,” *Representations* 40 (1992): 82.

9. More specifically, my paper limits itself mainly to the history of science as expounded by Lorraine Daston, Peter Galison, and Theodore Porter.

of these things has a spirit of its own. Even the natural sciences carry a spirit proper to the natural sciences. We must digest these things by grasping each in its particular spirit.¹⁰

Here, Nishida expresses the important idea that we must learn the spirit inherent in the natural sciences if we want to comprehend the effect of these sciences on a given culture.¹¹ But how can this spirit be grasped? In his logic of locus, Nishida attempts to answer this question, so to speak, from the bottom up. By starting off from the related insights that “all existing things are located in something” and that “being” means “being located,”¹² Nishida moves us from the realm of empirical judgments about the natural world to the question of what these judgments necessarily imply, but cannot, in their own terms, explain. In this way, he wants to show that empirical judgments are not only located within the wider field of individual subjective consciousness, but also that this consciousness grounds itself in the field of a common knowledge which is the same for each and every individual, that is, consciousness in general. Furthermore, Nishida shows that even the latter cannot be considered as simply given, but only exists in a yet wider experiential locus, namely, the world of action.¹³ As will become clearer later, even this field is not the last to be explored by Nishida. What is of greater importance here, however, is that in each of its steps, the pattern of argumentation in Nishida’s logic of locus remains the same:

There is basically one pattern of argumentation that, when successively applied, forces a move upward from a relatively simple set of categories to a richer and more complex one. The reason for this way of arguing is not just to demonstrate how a more complex categorial structure develops, but also to show why the richer categories are not

10. Cited from UEDA, “Nishida’s Thought,” 37–8.

11. *Ibid.*, 38.

12. *Ibid.* 46. Compare also NISHIDA Kitarō, *Logik des Ortes*, trans. by Rolf ELBERFELD (Darmstadt: Wissenschaftliche Buchgesellschaft, 1999), 72–4.

13. For a summary of Nishida’s logic of locus, see James W. HEISIG, *Philosophers of Nothingness: An Essay on the Kyoto School* (Honolulu: University of Hawai’i Press, 2001), 72–75. Also: Robert. E. CARTER, *The Nothingness Beyond God: An Introduction to the Philosophy of Nishida Kitaro* (Paragon House: St. Paul, 1997), 16–58.

reducible to the simpler ones. In this way Nishida hopes to explain the essential dependency of the simpler categories on the more complex, that is, to show why the former can be abstracted from the latter, but the latter cannot be constructed from the former.¹⁴

In short, “one moves from the instance as verbally judged, to what such judgment necessarily implies, in increasing layers of inclusiveness.”¹⁵

Considering the realm of empirical judgments first, judgments such as “this thing is black”¹⁶ seem to be concerned with what *is* only; they are statements about being, and thus Nishida locates them in the *basho of being*. Speaking of ontological objectivity in this connection, Daston shows that an important concept of scientific objectivity is closely related to such judgments.¹⁷ Ontological objectivity claims that only what “naturally is” can be considered objective. Its object is the passive, represented, and unconscious natural world alone, to which it opposes the active, conscious self, going so far as to present itself as entirely independent from human consciousness as such.¹⁸ Nishida’s own view of the scientific world-view alludes to this conception of objectivity:

Natural science goes on theoretically to organize them [the objects] according to the forms of space, time and causality. Science universally denies the subjective; the “physical world” is constructed thereby. Therefore sounds are considered to be the vibrations of air, colors to be ether waves. Pursuing this direction to its logical conclusion, everything subjective must be negated.¹⁹

While Nishida thus confirms that science usually denies the subjective, he argues that this denial cannot be complete. “If it [the scientific

14. Robert J. WARGO, *The Logic of Nothingness* (Honolulu: University of Hawai‘i Press, 2005), 122.

15. CARTER, *The Nothingness beyond God*, 29.

16. This example is given in NISHIDA Kitarō, *Intuition and Reflection in Self-Consciousness*, translated by TAKEUCHI Yoshinori et al. (New York: SUNY, 1987), 43.

17. DASTON, “Objectivity and the Escape from Perspective,” 599.

18. Jennifer TANNOCH-BLAND “From Aperspectival Objectivity to Strong Objectivity: The Quest for Moral Objectivity,” *Hypatia* 12/1 (1997): 158.

19. NISHIDA Kitarō, *Fundamental Problems of Philosophy*, translated by David DILWORTH (Tokyo: Sophia University, 1970), 245.

world-view] entirely denies the subjective there would be no things, no entities.”²⁰ For Nishida, empirical judgments are not given per se. Even though the internal logic of those judgments does not allow us explicitly to consider the subject making these judgments, it nevertheless implicitly relies on a broader experiential context that assumes the functioning of this very subject. As Nishida notes in more general terms: “If we reflect on the a priori of the natural scientific world, we discover phenomena of consciousness.”²¹ Here, the individual scientist appears as the ground of his empirical judgments, without being thematized by these judgments himself.

On closer examination, there appears a deep contradiction inherent in empirical judgments. Because these judgments only explicitly state what naturally is, they neutralize the observer (i.e., the scientist) in such a way that he or she does not even enter into the judgment per se. Seemingly, the observer’s existence is negated altogether. At the same time, however, empirical judgments implicitly contain judgments about the observer. “To neutralize the role of the observer as ordinary empirical judgments do is to say something about the observer—its role can be neutralized or ignored.”²² Empirical judgments thus negate and affirm the scientist at the same time.

For Nishida, this contradiction makes the transition to another *basho*, another level of explanation, necessary. As Wargo explains:

The appearance of the contradiction and the recognition of it as a contradiction require a shift to a new set of categories, in other words to a new *basho* which can accommodate the type of entity required to resolve the contradiction.²³

We have thus to move to another, more inclusive layer of explanation in which we can affirm the contradiction inherent in empirical judgments by making their presuppositions about the neutrality of the observer explicit. Nishida defines this layer as the contextual field of judgments

20. *Ibid.*, 245.

21. NISHIDA, *Intuition and Reflection*, 157.

22. KASULIS, “Sushi, Science, and Spirituality,” 238.

23. WARGO, *The Logic of Nothingness*, 136.

about self-consciousness which grounds all empirical knowledge while not being explicable in its terms. While from the standpoint of empirical judgment, this field appears to be nothing, it is, from the standpoint of self-consciousness, very much something. Nishida thus terms it the *basho of relative nothingness*.²⁴ But what exactly does this *basho* of relative nothingness look like? How can we explicitly think of the scientist being neutralized in the way empirical judgments demand?

While I am not sure to what extent Nishida probes into these questions, the history of science shows that scientific objectivity itself places demands on the person who is making empirical judgments.²⁵ Speaking of mechanical objectivity in this connection, Daston shows that science demands that the scientist be free of individual bias, refraining not only from personal emotions and judgments but also from unique forms of experience, knowledge, and skill.²⁶ The demand for objectivity suppresses the human propensity to judge and aestheticize, and thus negates subjective interpretation. In turn, it favors “procedures, devices, and mechanisms designed to eradicate interpretation in reporting and picturing scientific results.”²⁷ Here, objectivity becomes closely associated with knowledge obtained by the use of machines (hence the term “mechanical objectivity”). Minimizing the role of human reflection in judgment, science puts its faith in the objectivity of machines instead of human analysis and judgments. It becomes concerned with “push-button objectivity” alone, where human judgment resembles a mechanical device or is even replaced by one.²⁸ Ideally speaking, the scientist exists only to “insert an unknown into an instrument, push a button, and get the answer.”²⁹

The ideal of mechanical objectivity has a negative as well as a positive sense. In its negative sense it attempts to eliminate the mediating presence of the observer entirely or, at least, to rule out the possibility of any

24. KASULIS, “Sushi, Science, and Spirituality,” 238.

25. TANNOCH-BLAND, “From Aperspectival Objectivity,” 165.

26. DASTON and GALISON “The Image of Objectivity,” 81–128.

27. TANNOCH-BLAND, “From Aperspectival Objectivity,” 157.

28. Davis BAIRD, *Thing Knowledge: A Philosophy of Scientific Instruments* (Berkeley: University of California Press, 2004), 19.

29. *Ibid.*, 190. Baird also speaks of “instrumental objectivity” in this connection.

subjective modifications of the scientific procedure. In its positive sense it requires painstaking care and exactitude, infinite patience, unflinching perseverance, preternatural sensory acuity, and an insatiable appetite for work. What unites these positive and negative senses is a sort of heroic self-discipline:

On the one side, the honesty and self-restraint required to forswear judgments, interpretation, and even testimony of one's own senses; on the other, the taut concentration required for precise observation and measurement, endlessly repeated around the clock.³⁰

Once again, these virtues are ideally embodied in machines:

It was nineteenth-century commonplace that machines were paragons of certain human virtues. Chief among those virtues were those associated with work: patient, indefatigable, ever-alert machines would relieve human workers whose attention wandered, whose pace slackened, whose hand trembled. Scientists praised automatic recording devices and instruments in much the same terms.... It was not simply that these devices saved the labor of human observers, they surpassed human observers in the laboring virtues ... Of course, strictly speaking, no merit attached to these mechanical virtues, for their exercise involved neither free will nor self-command. But the fact that the machines had no choice but to be virtuous struck scientists distrustful of their own powers of self-discipline as a distinct advantage. *Instead of freedom of will, machines offered freedom from will*—from the willful interventions that had come to be seen as the most dangerous aspects of subjectivity.³¹

Turning back to Nishida's logic of locus, we have to ask what makes such freedom from willful interventions possible without being explicitly expressed by the ideal of mechanical objectivity itself. Or in other words, in what place can the scientist be truly impersonal in the sense of mechanical objectivity? There seems to lie a hidden ideal or goal behind the scientific demand for freedom from the individual will, here, which

30. DASTON and GALISON "The Image of Objectivity," 83.

31. *Ibid.*, 83, emphasis added.

cannot be itself explained in purely individual terms. Turning back to the scientific ideal of the machine, we might detect the root of this ideal in the machine's ability to reproduce and standardize phenomena in conformity to certain programmed rules and mechanical patterns that cannot be willfully altered. Machines, especially when mass produced, make possible uniform measurement across space and time. As such, they provide "a new model for the scale and perfection to which standardization might strive."³²

Taken over into science, this ideal is made a norm requiring the scientist to obey certain rules that are to be the same for every member of the scientific community. Here, scientific objectivity is not concerned with individual self-discipline but with an important presupposition of such self-discipline: it calls for rules and standards which form a consensus among the community of scientists and, as such, rules out all individual judgments. Here impersonality appears as an ideal that replaces arbitrariness, idiosyncrasy, and judgment by explicit rules.³³

Here again, this insight helps clarify Nishida's own view, when he states that "the pure objectivity of knowledge, which does not allow the least element of subjectivity must be based on an... an ideal of knowledge."³⁴ Speaking of such an ideal of knowledge, however, indicates that another change of place, another leap in the logic of locus, has taken place. This is so because the focus has moved away from the individual scientist and his judgments to a field of universal rules and standards that are common to all scientist and, as such, cannot be explained in individual terms. Scientists lose themselves by becoming one with a common standard located on a trans-individual plane. They transcend their individual horizons by arriving at the horizon of "consciousness in general."³⁵ Speaking in terms of the logic of locus, science eliminates the validity of any claim based on subjectivity by presupposing a "world

32. *Ibid.*, 99.

33. Theodore PORTER, "Quantification and the Accounting Ideal in Science," *Social Studies of Science* 22 (1992), 633.

34. NISHIDA Kitarō, *Art and Morality*, trans. by David A. DILWORTH and Valdo H. VIGLIELMO (Honolulu: University of Hawai'i Press, 1973), 195.

35. *Ibid.*, 42.

of common knowledge”³⁶ in which all scientists operate in the same a priori cognitive structures and thus transcend their own subjective wills. Speaking of aperspectival objectivity in this connection, Daston argues that science attempts to transcend all individual viewpoints or perspectives by establishing a binding communal form of truth which is dependent on thought in general but independent of idiosyncrasies, that is, independent of what I, or you, or any specific number of people think.³⁷ Going beyond the merely personal, objectivity becomes associated with public knowledge.³⁸

Without going in any detail here, it is important to observe that this knowledge is usually associated with quantification—methods that involve counting, measurement, and commensuration (the expression or measurement of characteristics normally represented by different units according to a common metric³⁹). Quantification can be described as the knowledge of numbers and calculations, and, as such, can be shared by everyone, independent of differences in individual background. Ideally, it is represented by mathematics; “a language of rules, the kind of language that even a thing as stupid as a computer can use.”⁴⁰ Mathematics involves constraining rules of discourse which screen out desires, biases and willful interventions of the individual. It can thus form an ideal world of common knowledge determining all individual knowledge without being determined by any individual will.

The realm of mathematics is... a kind of objective world given to our subjectivity and can be viewed as a creation of a kind of objective spirit. Mathematical understanding involves our uniting directly with this objective spirit and creating in unison with it. The transcendental, necessary nature of mathematical knowledge resides in this.⁴¹

What is of importance here is that science’s common world of knowl-

36. *Ibid.*, 75.

37. DASTON, “Objectivity and the Escape from Perspective,” 607.

38. PORTER, “Quantification and the Accounting Ideal,” 641.

39. Wendy N. ESPELAND and Mitchell L. STEVENS, “Commensuration as a Social Process,” *Annual Review of Sociology* 24/1 (1998): 313–43.

40. PORTER, “Quantification and the Accounting Ideal,” 644.

41. NISHIDA, *Art and Morality*, 76.

edge is transcendental to both the field of empirical judgments (the *basho of being*) and the field of the individual scientist (the *basho of relative nothingness*). More precisely, it is the locus in which both fields simultaneously, yet antithetically, arise. With regard to the former, Nishida writes:

The world of reality is constructed by the attempt to unite all experience from the standpoint of trans-individual consciousness.⁴²

The material world is a precipitate of the cognitive effort to unify all experience.⁴³

Nishida turns an important assumption of science on its head here, because he considers the material (or natural) world not to be independent from the ways we commonly perceive it. Rather, the uniformity of nature appears as being based on the universality of science.⁴⁴ What is more, Nishida sees through the scientific world-view as a limited perspective in that it neglects all aspects of nature that cannot be accounted for by the common standards of scientific knowledge. For example, all individual or unique facts are necessarily negated by quantification and a deeper or more accurate knowledge of nature is sacrificed to the demands of communicability.⁴⁵ Everything contingent, accidental, inexplicable, or personal is averaged away, leaving behind only large-scale regularities.⁴⁶ In the extreme, even accuracy is “sacrificed on the altar of objectivity.”⁴⁷ As Daston observes:

The very phenomena had to be pruned and filtered, for some were too variable or capricious to travel well. Already in the eighteenth century, scientists had begun to edit their facts in the name of scientific sociability; by the mid-nineteenth century, the concentration of nature to the communicable had become standard practice among

42. NISHIDA, *Intuition and Reflection*, 166.

43. *Ibid.*, 156.

44. A claim also made in Lorraine DASTON, *Wunder, Beweise und Tatsachen. Zur Geschichte der Rationalität* (Fischer: Frankfurt am Main, 2003), 164.

45. DASTON, “Objectivity and the Escape from Perspective,” 600.

46. Theodore PORTER, *Trust in Numbers. The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1996), 85–6.

47. DASTON and GALISON “The Image of Objectivity,” 114.

scientists. It would be an exaggeration, but not a distortion, to claim that it was *scientific communication that was the precondition for the uniformity of nature rather than vice versa*.⁴⁸

There is an obvious contradiction here. On the one hand, science claims its world of common knowledge to be universal. On the other, behind this claim it screens out all unique facts about both nature and society. In this way, it cannot be said to be truly universal. A similar observation can be made in regard to the scientist. Within the world of common knowledge, his knowledge has to conform to common rules and standards. He thus is forced to reduce himself intellectually to a detached, impartial and disinterested observer whose unique characteristics are lost, so as to make him utterly exchangeable:

[It is] the ethos of the interchangeable and therefore futureless observer—unmarked by nationality, by sensory dullness or acuity, by training or tradition; by quirky apparatus, by colorful writing style, or by any other idiosyncrasy that might interfere with the communication, comparison and accumulation of results. Scientists paid homage to this ideal by contrasting the individualism of the artist with the self-effacing cooperation of the scientists, who no longer came in the singular—*L'art c'est moi, la science, c'est nous*, in Claude Bernard's epigram.⁴⁹

Here, the inconsistency of science's world of common knowledge appears again: its universality implies incompleteness because it negates all forms of unique individual knowledge and skill. At least for Nishida, this means that it cannot claim to be truly universal.⁵⁰

What is important here is the fact that science usually represses the fact that we can become aware of this contradiction *as* contradiction. For from the standpoint of the individual scientist, the world of common knowledge always remains a sort of limiting concept that grounds all scientific observation without being ever turned into an explicit object of

48. DASTON, "Objectivity and the Escape from Perspective," 609; emphasis added.

49. *Ibid.*, 609.

50. NISHIDA, *Art and Morality*, 94.

scientific reflection itself. More to the point, science denies that we can become aware of our own ideals as our *own* ideals. Thus, these impersonal ideals are supposed to determine all knowledge without being objects of the form of knowledge they provide. As a limiting concept, they appear as a “formal idea from the outside, and one to which our intellectual activity ought to conform. The self does not see its own content as its own, but its focus of attention is on the ideal of Truth as an eternal standard to be achieved.”⁵¹ Put differently, the world of common knowledge appears to determine the individual scientist without being itself determined by him. As such, it confronts the scientist as if it were a given *law* to be blindly obeyed. Here, a distinct feature of the general relationship between an enfolding *basho* and an enfolded *basho* becomes visible. As Nishida explains:

As the self-determination of any universal deepens, that determination is transferred to ‘that which is within’ which can then be thought to be self determining. At the same time the universal itself can no longer be determined and *it merely confronts ‘that which is within’ simply as law.*⁵²

It seems as if all important determinations had already occurred whenever the scientist makes his choices. In this way, science appears as a “view from nowhere”⁵³—a place of absolute nothingness in Nishida’s terms.

For Nishida however, this place cannot be true absolute nothingness because it cannot account for the whole of our experience but has to suppress various experiential demands. Bending over to accommodate one demand, science destroys the larger unity of the person itself.⁵⁴ Because of this incompleteness of knowledge, Nishida searches for another locus, which can subsume the ideals of science in itself and, ultimately, determine them; a field that he closely associates with the free, creative and

51. CARTER, *The Nothingness Beyond God*, 41.

52. Nishida quoted in WARGO, *The Logic of Nothingness*, 165–6, emphasis added.

53. A term borrowed from Thomas NAGEL, *The View from Nowhere*, (Oxford: Oxford University Press, 1986).

54. NISHIDA, *Art and Morality*, 94.

self-determining self. “There is profound self-conscious experience at the foundation of knowledge. We cannot even know number without the experience of self-consciousness.”⁵⁵ We are able to “transcend the objective world of cognition and become free in ourselves.... by internally subsuming the plane of consciousness in general and becoming infinitely creative.”⁵⁶

Put differently, in the field of consciousness in general we cannot account for the whole of our selves. “The a priori of mathematical truth is not the whole of the self, and therefore the self can further differentiate and develop.”⁵⁷ Speaking in terms of the logic of locus, we have to move to another deeper or wider place in which we can conceive of this development appropriately; a place that Nishida often speaks of as the “world of acting-intuition” or, as in the following passage, the “horizon of behavior”:

What I term the horizon of behavior entirely transcends the plane of conceptual knowledge and is the horizon of pure act, which embraces this plane in itself. It transcends consciousness in general; it is the horizon of the creative, free self that it includes.⁵⁸

Once more we see Nishida turn an important presupposition of science on its head: The scientific world-view suggests that its rules and standards of common knowledge are pregiven not only in relation to human understanding but also to human behavior; we can only act in accordance with them. Nishida reverses this relationship by stating that those truths and laws are ultimately grounded in the world of behavior itself.⁵⁹ For him, scientific knowledge only exists as an abstract knowledge that touches behavior at its outer limits.⁶⁰ He thus argues that science is grounded in an experiential realm, a world of acting-intuition, rather than being an a priori of that realm. In this way, he challenges the primacy given to the idea of disciplined intellect reasoning about the

55. *Ibid.*, 93.

56. *Ibid.*, 108.

57. *Ibid.* 142.

58. *Ibid.*, 72.

59. *Ibid.*, 74.

60. *Ibid.*, 96–7.

world.⁶¹ For him, even the world of common knowledge is located in a particular place, and this place is none other than the world of action.

Particularly in his later work, Nishida identifies this world of action with the world of history, i.e. the real world where multiple individuals mutually determine one another according, for example, to their style of productivity. While it is impossible to give an adequate overview of the various facets of Nishida's account of history here, we feel safe in suggesting that Nishida generally views the world of common knowledge as encompassed by the wider field of social activity. Consider, for example, the following statement:

Our conceptual knowledge must have originally developed from social production.... Without language there is no thinking, and language, as the philologists say, accompanied originally a common social activity [and production]. Conceptual knowledge is true in so far as it is productive according to its style of productivity. Modern science, too, has developed from this standpoint, and cannot be separated from it. Although modern science has already transcended this standpoint, and even denies it, science started there, and it returns there.... The theory, as theoretical as it may be, has essentially developed from acting-reflecting comprehension of the style of productivity of things, through poesis. Historically, all theory develops from there.⁶²

For Nishida, “the standpoint of our thinking is necessarily [situated] in the historical world.”⁶³ More specifically, he places scientific knowledge within the wider experiential field of bodily experience in general and attributes it to behavioral strategies we learn from our cultural and social environment in particular. “In fact, we *learn* to be in the world not through abstract notions, but thanks to cultural and historical forms of behavior, conceivable as automatisms concerning the body, ... [that is, through] practical knowledge.”⁶⁴ It is regrettable that Nishida does not

61. HEISIG, *Philosophers of Nothingness*, 81.

62. NISHIDA Kitarō, *Intelligibility and the Philosophy of Nothingness*, trans. by R. SCHINZINGER, (Tokyo: Maruzen, 1958), 213.

63. *Ibid.*, 170.

64. Matteo CESTARI, “The Knowing Body, Nishida's Philosophy of Active Intuition,” *The Eastern Buddhist* 31/2 (1998): 199.

specify exactly what cultural and historical forms of behavior he believes to enfold science's world of common knowledge, at least not in the texts I have encountered. However, we can usefully bring to bear insights garnered from the history of science to illuminate Nishida's general insight here, because he is, in effect, arguing that scientific knowledge is generated through social processes. What is at stake here is the important, yet admittedly highly disputed, claim that science's own foundation is socially constructed.⁶⁵

My point here is a simple one, namely that further research on this claim is needed because it is crucial for our understanding of the relationship between science and culture. The universality of knowledge as demanded by science seems to be grounded in a socio-historic world of universal experiences, experiences of a "public character" that can be repeated in any given circumstance and, thus, claim independence from local contexts. As Daston shows, the ideal of aperspectival objectivity has grown out of the practical context of scientific communities which, since the mid-nineteenth century, has become increasingly dominated by impersonal communication. Highly selective bonds established between peers have been eliminated as face-to-face meetings, intimate relationships, and cooperation among scientists turn more and more formal.⁶⁶ In addition, rigid standardization of weights and measures made possible uniform measurement which in turn was crucial for reconciling and integrating the work of diverse laboratories. More generally, quantification came to function not only as a form of regulated and standardized knowledge, but first and foremost as a powerful tool to standardize experience. It served to rule out everything contingent, accidental, inexplicable, or personal from scientific praxis. Leaving only large scale regularities and uniform standards, quantification enforced the development of impersonal and uniform rules that screen out all unique forms of behavior. It reduced social interaction to a set of rules and conventions and behavior to routines. As such, quantification became a distinctive feature of human organization, a feature that has come to dominate not only the scientific disciplines but also almost every sphere of social

65. PORTER, "Quantification and the Accounting Ideal," 11.

66. DASTON, "Objectivity and the Escape from Perspective," 608–9.

life—from technology and economics to administration and politics to the everyday of interpersonal relationships. As Espeland and Stevens, for example, argue convincingly, commensuration, far from being a mere technical process, has become a fundamental feature of social life:

Commensuration is... ubiquitous and demands vast resources, discipline and organization. Commensuration can radically transform the world by creating new social categories and backing them with the weight of powerful institutions. Commensuration is political: It reconstructs relations of authority, creates new political entities, and establishes new interpretive frameworks. Despite some advocates' claims, it is not a neutral or merely technical process. Commensuration is everywhere, and we are more likely to notice failures of commensuration than its widespread, varied success.⁶⁷

These findings support and exemplify Nishida's general claim that scientific knowledge is an event taking place in the historical-social world.⁶⁸ Given this, his logic of locus draws our attention more closely to the true nature of the relationship between experience and knowledge: For the very reason that the former envelops and grounds the latter, it can never be known by means of scientific argument itself. As the enveloping *basho*, experience cannot be grasped by scientific knowledge; rather, it thoroughly determines it. This is to say, from the standpoint of scientific knowledge, the social-historical world of unified and standardized experience appears as a given. We are confronted with an historically formed set of conventions and habits as though it were a pre-established law:

That which confronts us in intuition as historical past from the standpoint of acting-intuition, denies our personal Self, from the depth of our life. This is what is truly given to us. That which is given to our personal Self in acting-intuition, is neither merely material, nor does it merely deny us; it must be something that penetrates us demonically. It is something that spurns us with abstract logic, and deceives us under the mask of truth.⁶⁹

67. ESPELAND and STEVENS, "Commensuration as a Social Process."

68. NISHIDA, *Intelligibility and the Philosophy of Nothingness*, 170–1.

69. *Ibid.*, 223.

From the standpoint of science's world of common knowledge, all important determinations within the socio-historic world seem always to have occurred already. There is no movement "from the formed towards the forming." There is no room for anything like 'formation' or 'creation.'⁷⁰ In other words, there is nothing creative, only an eternal repetition of the same world.

For Nishida, the proof that this perspective is clearly limited lies in the fact that it cannot account for the whole of our experience. First, it does not pay justice to the fact that in the socio-historic world "there is nothing that is merely 'given.'⁷¹ Second, it fails to account for the fact that the socio-historic world is itself continually shaped and determined by our present activity. Its rules and conventions are not simply given; they are rather made valid in different social contexts prior to being perceived as universally valid. As the history of science shows, standards of commonly shared knowledge do not arise simply out of "nowhere" but take shape through a process of collaborative adjustment. According to Porter, this holds true even for mathematics whose success is not to be seen as a miracle but as the result of an arduous process of mutual adjustment.⁷² Even numbers are first of all social numbers in the sense that they need to have a social meaning. This is to say, the value they have for scientific measurement and quantification in general is not an a priori given. Rather they are made valid in social contexts, through a process that has to do with social power and negotiation.⁷³

Thomas Kuhn argues along similar lines, when he finds that all disciplinary communities continually actively define their standards, concepts, and tools in an ongoing process;⁷⁴ an argument also supported by Daston:

There was nothing inevitable about communicative science; it required hard work on every juncture: new instruments and new methods of

70. *Ibid.*, 176.

71. *Ibid.*

72. PORTER, "Quantification and the Accounting Ideal," 17.

73. *Ibid.*, 33.

74. Thomas KUHN, *The Structure of Scientific Revolutions* (Chicago: Chicago University Press, 1995).

data analysis were a precondition for amalgamating measurements by far-flung observers; international commissions met and wrangled over the standards of definition that would make the results of, say, statistical or electrical research comparable.⁷⁵

Here, the socio-historic world of science appears not as something determined by universal rules and standards but as an open process of formation. This is again illuminating for Nishida's insight that this world must be both formed and forming. For Nishida, the scientific world-view is problematic because it perceives individuals wrongly as thoroughly limited by given social standards and ideals while barring them from consciously reflecting on, let alone changing them. It treats persons as if they were passively determined by certain, universal social conventions shaped in the past to which they must blindly obey in the present.

Science therefore denies us the most important part of our own nature: creativity. "The world, as mere past, deprives us of our personal Self and our roots of life; this means: the world negates itself; and becomes uncreative."⁷⁶ What science negates is the truly unique and creative self who is free to form the world "beyond" any pre-given standard of scientific knowledge and practice. For his part, Nishida strongly affirms that we are "creative factors of a creative world":

The individual is creative as an individual; while forming the world, he is, at the same time, a creative part of the self-transforming creative world. This makes the individual and individual.⁷⁷

From such a perspective individuals are truly self-aware, in the sense of a self that determines itself and *knows* that it is doing so.⁷⁸ They have become aware of the standards, conventions, and ideals of scientific knowledge and practice and appropriated them to the degree that they are free to follow them, change them, or even entirely negate them. This is not to say that scientific knowledge and experience are completely abandoned. The creative self is trans-scientific, not anti-scientific,

75. DASTON, "Objectivity and the Escape from Perspective," 608–9.

76. NISHIDA, *Intelligibility and the Philosophy of Nothingness*, 224.

77. *Ibid.*, 173.

78. HEISIG, *Philosophers of Nothingness*, 78.

because it continues to include science as one of its possibilities.⁷⁹ As a totality, it can never be objectified by any scientific knowledge. It lies, so to speak, ‘beyond’ all forms of scientific objectification, while serving as their ultimate ground. “It is as no-self, an ultimate intuition out of which and on which all distinctions are based.”⁸⁰

This no-self is not, of course, simply self-determining; it also determines the socio-historic world. More precisely, it is both a formed and a forming factor of the latter. “We are shaped, and yet shape that which shapes us by creating, which creation in turn shapes us, as we have shaped it.”⁸¹ Evidently, our own participation in, and action upon the world is, far from being objectifiable or standardized, deeply self-contradictory:

We are determined by the world, and yet we ourselves determine the world. This important *mutuality* must not be lost sight of, for we are not victims but creators. From the creating (from *creatus* to *creatans*), from the formed to the forming is how he describes the situation: we are created by our inheritance and our environment, and yet, we are also capable of re-shaping our environment and of altering our inheritance both for ourselves, and our offspring. We are shaped, and we shape: are conditioned, and yet condition: are determined by our facticity, and yet are radically free to influence and re-create our world.... We are creators of our own destiny, as well as a product of our age, biology and culture.⁸²

In similar fashion, the socio-historic world is also self-contradictory because it is determined by our activity as much as it determines this activity. As such, it is not simply an eternally unchanging thing which, as an unchanging substratum, underlies science’s world of common knowledge.⁸³ For Nishida, “this self of ours” and “this world in which we exist”

79. NISHIDA, *Intuition and Reflection*, 169. Nishida is not speaking here of science in particular but of the intellect in general.

80. CARTER, *The Nothingness Beyond God*, 46.

81. *Ibid.*, 119.

82. Robert E. CARTER, *Encounter with Enlightenment. A Study of Japanese Ethics* (New York: State University of New York Press, 2001), 169.

83. Silja GRAUPE, *Der Ort ökonomischen Denkens. Die Methodologie der Wirtschaftswissenschaften im Licht japanischer Philosophie* (Ontos: Frankfurt/Main, 2005), 209–13.

are mutually dependent and yet contradictory aspects of the same reality. As such, they determine as well as oppose each other.⁸⁴ By recognizing this contradiction *as* a contradiction we have, in Nishida's view, already moved to another *basho*, to another layer of explanation. The self-contradictory nature of self and world as well as their discontinuous relationship require a place. For Nishida this place can no longer be something conceptually grasped or in any other way objectified. We find ourselves confronted with the impossibility of an ultimate grounding of how the determination and formation of the world occurs. There simply is no way of objectifying the creative and ongoing formation of the socio-historic world.⁸⁵ Rather, it is the ground which determines all concepts of scientific objectivity without being determined itself by anything:

All individuals must somehow be conceived of as determinations of a universal.... and by the same token, the individual must determine the universal.... The meaning of the individual and the universal must consist of a dialectical determination between the two—not a universal of being determining the individual, but a universal of nothingness in which determination takes place without anything doing the determining.⁸⁶

For Nishida, the real locus of science is one of *true absolute nothingness*, in which no conceptual distinctions are made and to which no scientific statement applies at all, or only with contradictory results.⁸⁷ This absolute nothingness breaks through all scientific determinations and at the same time envelops them. It is the “boundless openness” or the “uncircumscribable emptiness” that is not “something” at all, or something of which it can be said that it “lies within,” but is the place in which everything, positive and negative, lies.⁸⁸

84. UEDA Shizuteru, “The Difficulty of Understanding Nishida’s Philosophy,” *The Eastern Buddhist* 28/2 (1995): 182.

85. Elmar WEINMAYR, “Denken im Übergang—Kitaro Nishida und Martin Heidegger,” *Japan und Heidegger* (Sigmaringen: Jan Thorbecke Verlag, 1989), 51.

86. NISHIDA quoted in HEISIG, *Philosophers of Nothingness*, 83.

87. CARTER, *The Nothingness Beyond God*, 46.

88. ABE Masao, “The Logic of Absolute Nothingness as Expounded by Nishida Kitarō,” *The Eastern Buddhist* 28/2 (1995): 172–3.

By showing absolute nothingness to be the true place of all scientific attempts at objectifying experience, Nishida's *logic of locus* points to the fact that these attempts are ultimately abstractions only; they are conceptualizations which implicitly rely on a wider field of experience which they cannot account for in their own terms and thus fail to describe adequately. While Nishida thus denies the very possibility of expressing the real locus of science itself, he strongly affirms that it can nevertheless be *experienced*. In a final account, the true locus of nothingness is none other than *ordinary, everyday experience*, which, serving as the very ground of conceptualization, forever eludes any scientific explanation.

In the depth of noetic determination there must be something which that gone beyond so-called intuition. There is behavior that cannot intuit its own content—indeed, this is everyday behavior.⁸⁹

Now this notion of everyday behavior as the true place of science is not simply posited by Nishida's logic of locus. Rather, his rigid inquiry into the layered presuppositions of science itself—part of which I have attempted to reconstruct above—shows it to be the logical ground of science, a ground that is ultimately posited and yet structurally denied by all scientific attempts to explain and control our experience. Still important is the fact that Nishida does not depict true absolute nothingness simply as a background, but as a background against which everything in the foreground appears in its clearest relief.⁹⁰ A brief explanation seems in order.

The history of science has made an important general claim about the different conceptual layers of scientific objectivity: they are to be distinguished first of all by what they leave out.⁹¹ We can specify this claim with the help of Nishida's logic of locus. From the standpoint of the *basbo of relative nothingness*, for example, individual scientists can become aware of the objects of the natural world as enfolded by their own judgments and, at least partially, as confronting them. And yet, in this moment of awareness they must remain completely unaware of the wider reach of

89. NISHIDA quoted in WARGO, *The Logic of Nothingness*, 167.

90. HEISIG, *Philosophers of Nothingness*, 74.

91. PORTER, "Quantification and the Accounting Ideal," 645.

the enfolding *basho*: the world of common knowledge, the world of action, and the locus of true absolute nothingness. These latter determine the scientists at their work without them being consciously aware of the fact. Accordingly, to the scientists only the foreground of an outer world of material objects standing over and against them clearly exists. From the standpoint of the world of common knowledge, the interrelation between the individual scientists and their judgments about the world (the interrelation of the *basho of being* and the *basho of relative nothingness*) comes into clear relief.

Still, the world of action in its passive dimensions (as formed in the past) as well as in its active dimensions (as formed and forming in the present) remains hidden from view. While it is implicitly considered as a given law that cannot itself be consciously and creatively determined, its existence is usually denied in strong terms. From the standpoint of true absolute nothingness (that is, from the midst of everyday life), however, we see through this world as both formed and forming and become fully self-aware of our own creative potential. At this point, all concepts of scientific objectivity lose their determinative power. Because everything is enfolded in an infinite and unlimited *basho*, nothing is left out in contrast to which scientific objectivity could be defined in any meaningful sense. At the same time, all the various layers of scientific objectivity appear clearly in their distinctiveness as well as their interrelation and interdependence.

THE PLACE OF SCIENCE IN JAPANESE CULTURE

Having sketched in broad strokes a way to locate science in its own locus of “true absolute nothingness” according to Nishida’s philosophy, the question whether such a scheme enables us better to understand the place of science in Japanese culture remains. In order to answer this question, let us begin with a look at the relationship between science and culture from the standpoint of science and its world of common knowledge.

While scientists usually do not even consider such a relationship to exist, the preceding section shows a certain cultural concept to be implicit

in science. If we define culture with Nishida as “experienced content” or the “crystallization’ of the social and historical world,”⁹² then it is obvious that science grounds itself in a specific culture. More precisely, the enfolding *basho* of science itself is none other than a cultural one; all its various layered standpoints necessarily arise from there. Without going into any detail, there seems to be a distinctive feature of this cultural concept which is of immediate importance here: it is the idea of a unified, common culture which implicitly denies the plurality of cultures in an absolute fashion.

As we have seen, the scientific ideal of universal or common knowledge is enfolded by a field of universal experience which is entirely public in character. Because of this character, this field demands the annihilation in its procedures of not only all unique individual experiences, but also all unique experiences shared by families, groups, communities, nations or cultures. Because scientific knowledge can only exist in a field of unified experience, it demands independence from all locally unique customs, traditions or other forms of personal encounter. In this regard, it is very much like free market exchange:

Science averaged away everything contingent, accidental, inexplicable or personal, and left only large-scale regularities.... The interactions among instrumentalists, experimentalists and theorists in physics are a bit like a trading zone, involving, say, European merchants and South American Indian craftsmen or farmers. All the meanings—religious, cosmological, ideological—are lost; the traders only need to agree on a price, a number or ratio.... It may even facilitate easy communication if the rich craft techniques of both communities are simply ignored.⁹³

We feel free to suggest that science grounds itself in the idea of a unified or even uniform culture, which becomes distinctive as an identity only by what it leaves out: the multiplicity of cultures. By inculcating the formation of a single culture across national and social boundaries, it rivals the multitude of cultures. When it comes to the multiplicity of cultures, however, science tends to think of the cultural influence as a

92. NISHIDA, *Fundamental Problems of Philosophy*, 248, 254.

93. PORTER, “Quantification and the Accounting Ideal,” 645.

“local distorting factor” at best. At worst, all unique forms of cultural experience that do not conform to science’s standards and common rules of behavior are negated and, eventually, removed from the picture. Here, cultures, by being reduced to a unity, lose their specificity and cease to be cultures.⁹⁴

The most pressing problem in the scientific standpoint seems to be that science is blind to this process of negation and marginalization. Insofar as this process is an essential, even if not consciously reflected on, part of the social and historical world demanded of science, it remains an inexplicable feature of our experience. It is particularly Nishida’s disciple, Nishitani Keiji, who draws attention to this fact. Standing on the field of relative nothingness, we can only perceive the world as being entirely external to us:

We are accustomed to seeing things from the standpoint of the self, ...from within the citadel of the self.... To look at things from the standpoint of the self is always to see things merely as objects, that is, to look at things *without* from a field *within* the self. It means assuming a position vis-à-vis things from which self and things remain fundamentally separated from one another. This standpoint of separation of subject and object, or opposition between within and without, is what we call the field of “consciousness.”⁹⁵

By always looking away from ourselves to an outer world, we do not recognize the socio-historical world lying hidden in our own background. Thus, we remain unaware of the fact that we ourselves, through our own activity, determine and shape this world. Neither do we recognize that the world determines and shapes us; not as an outer force but as a force working deeply from within our own selves.

Science is always outer-directed and facing external world. Given that attitude, the field of what might be called the preestablished harmony between the external and internal is relegated to the past; it is hidden from its view. It is in the very essence of the scientific standpoint that

94. NISHIDA, *Fundamental Problems of Philosophy*, 254.

95. NISHITANI Keiji, *Religion and Nothingness*, trans. by Jan Van Bragt (Berkeley: University of California Press, 1982), 9.

this be so. Thus science, through its activity, takes effect on domains lying behind it without being aware of the fact.⁹⁶

From the standpoint of either the individual scientist or of science's world of common knowledge, we cannot conceive of the plurality of cultures. At the same time, we are bound to unconsciously, yet actively negate it. The process of marginalizing and destroying other cultures appears as an inevitable fact; as a fundamental feature not only of the past but also of our present everyday activity. As such, it cannot be given any rational explanation. Lying in the background of scientific awareness, it remains an irrational feature of our life. This is a source of bitter conflict between science and culture(s), conflicts which cannot possibly be resolved by rational argumentation but are carried out irrationally in our everyday experience.

If we cannot account for the plurality of culture from the standpoint of science, can we do so from the standpoint of Japanese culture? For Nishida, the answer is clearly in the affirmative. Referring to Japanese culture a "culture of nothingness,"⁹⁷ he perceives it as a field of true absolute nothingness. In this way, Japanese culture appears as the background against which the mutual forming process of the multitude of cultures—both modern and traditional—consciously and creatively takes shape.

Obviously, there is an ambiguity here in the term *culture*. In one sense Nishida continues to define cultures as the experienced (given) contents of specific historical worlds. At the same time, he does not mean to identify Japanese culture itself with any of these contents but rather to present it as a kind of "culture of no-culture." It is a place where a multitude of cultures (in the sense of experienced contents) continually take on new forms and new meanings as they interact with one another without having any given form itself. As such, it can even enfold science.

To return to the point we began with, we might say that Kasulis is right in claiming that for Nishida the Japanese cultural experience makes

96. NISHITANI Keiji "Science and Zen," *The Buddha Eye: An Anthology of the Kyoto School*, (Bloomington, In.: World Wisdom, 2004), III.

97. NISHIDA, *Fundamental Problems of Philosophy*, 249.

science possible in the first place.⁹⁸ But science is here not considered as a place of empirical judgments (a *basho* of being) only but as a socio-historical world which among many other worlds is encompassed by Japanese culture. The latter thus appears as an experiential field which subsumes and envelops many cultures within itself without being determined by any of them. “It receives various forms, but at the same time gives a certain form to them.”⁹⁹

At least ideally, Nishida wants Japanese culture to open up a place in which both East and West are “located,” a place that embraces and subsumes both.¹⁰⁰ This is not to say, however, that science does not often rival tradition and change it. Far from identifying Japanese culture with any particular static tradition, he located it in the very process of changing and remolding traditions. He preferred to view it as the home-ground where the conflicts of science and tradition are to be consciously and creatively resolved. Thus, though certain traditional forms of experience might change or even dissolve on contact with Western science, Japanese culture as such does not exhibit that vulnerability. What must fundamentally change, however, is the concept of science itself. Even though its ways of knowing and experiencing are not necessarily changed, they are seen through as limited perspectives which cannot (and should not) account for the whole of Japanese experience. In the end, for Nishida science is just that: a certain form of knowledge grounded in a certain way of doing. As such, it has no universal value. It is just another unique perspective, forming as well as formed by a manifold of other unique perspectives.

In closing, I suggest that future research should evaluate, in the light of Japan’s own historic experience, this admittedly vague concept of the interrelationship between science and Japanese culture. Is there really a “place of absolute nothingness” at work at the basis of the Japanese program of modernity, a place that transcends and, ultimately, grounds science? And if so, how has it shaped the political, social, and economic

98. KASULIS, “Japanese Philosophy,” 77.

99. NISHIDA, *Fundamental Problems of Philosophy*, 249.

100. UEDA, “Nishida’s Thought,” 38.

systems of modern and contemporary Japan? In my view, there are important elements in Japan's process of modernization that resonate strongly with Nishida's concept of absolute nothingness and could therefore be used as a hermeneutic to reread his work. One thinks in particular of the often deliberate negation, or bracketing, of any universalistic components associated with either Chinese or, especially in modern times, Western social frameworks while, at the same time, making these frameworks part of the Japanese experience itself.¹⁰¹ Speaking of a "de-axialization of transcendental and universalistic orientations" in this connection, Eisenstadt, for example, observes:

As in the earlier encounters with Buddhism and Confucianism the dominant tendency in the Japanese discourse was to claim to represent fully the universal values claimed by the 'other'. But such values were reconstructed in immanentist and particularistic terms, bracketing out or negating their original universalistic and transcendental orientations. Interestingly, such claims even developed with respect to modern technology without attempts at evaluating such technology in transcendental terms.¹⁰²

There are at least two important issues here that merit closer attention. First, it seems to be strongly associated with an absence of universal rules or standardization of behavior which, as we have seen, have usually functioned as the foundation of science in the West. As Tom Rohlen observes, generally speaking, in Japan there is neither an insistence that governmental institutions solve problems by removal from society and objectification, nor is there any policy consensus that distancing should be seen as a key mechanism for establishing everyday order. Rather, the latter seems to stem from that aspect of group involvement in which attachment and interdependence are emphasized. "Social borders and informal processes of management appear much more important than public formal institutions or universal principles of references."¹⁰³ According to Nakayama, similar tendencies have also characterized Japanese scientific

101. EISENSTADT, *Japanese Civilization*, 368.

102. *Ibid.*, 436.

103. TOM ROHLEN, "Order in Japanese Society: Attachment, Authority, and Routine," *Journal of Japanese Studies* 15/1 (1989): 17.

communities.¹⁰⁴ Such observations might prove illuminating of Nishida's own view that in Japan science is consciously grounded in the "nothingness" of creative and non-standardized social interaction.

Second, despite the negation of universalistic orientations associated with Western modernity, Japan has not usually presented itself as anti-modern. Both modernity and tradition seem to have been defined not as opposites in confrontation but as highly flexible. Without developing any sharp boundaries between the two, the specification of tradition seems to reveal a certain looseness and ambiguity that facilitate the encompassing of a variety of new items and ways of social life under the stable canopy of being "typically Japanese."¹⁰⁵ Again, this characteristic of Japanese tradition might prove illuminating for Nishida's concept of Japan as a "culture of nothingness." That being so, an interdisciplinary inquiry into Japanese ways of receiving and forming science may help us to develop further a concept of cultural creativity that breaks through the transcendental and universalistic claims of science.

104. NAKAYAMA Shigeru "Japanese Scientific Thought," *Dictionary of Scientific Biography* 15 (New York: Charles Scribner's Sons, 1978), 728–58.

105. EISENSTADT, *Japanese Civilization*, 286..