

# Imanishi's View of the World

By Kawakatsu Heita

Imanishi Kinji (1902-92) was a great explorer and mountain climber. His idea that living things other than human beings have a culture is beyond the ken of most people. In fact, until recently Westerners did not acknowledge the existence of culture anywhere except in human society. Imanishi, however, insisted that it was possible not only to recognize societies among living things in the natural world but even to prove the existence of culture in the societies of primates and other animals. The hypothesis that culture is not unique to the human race has been verified by Imanishi's successors, such as a primatologist, Dr. Itani Junichiro, who demonstrated the cultures of primates (Itani, *the Evolution of the Primate Studies*, Man 20:4, 1985) and was awarded the Thomas Huxley Award in 1984. Even in Japan, when Itani's paper on the culture of Japanese macaques was first presented at an academic conference back in 1956, many resisted the idea, as he startled the participants by demonstrating varieties of monkey calls. Today, the high theoretical level of these studies and the soundness of the observed facts are so widely acknowledged that the culture of Japanese monkeys has even become the topic of a doctoral dissertation at Oxford University.

Imanishi wrote an outline of his ideas during the war in what was intended to be a posthumous work, *Seibutsu no sekai* (The world of living things) published in 1941. This book is a challenge to the views of Charles Darwin. Darwin took as his starting-point the variations in individuals and formulated the theory that species changed over time through natural selection in which the fittest survives. Taking a species (a species society) to which each individual belongs as a unit of the natural world, Imanishi emphasizes the role of "habitat segregation" among species and denies

natural selection. Imanishi's theory of "habitat segregation" is the mainstay, and shows a clear inclination toward space, as the expression "habitat segregation" itself indicates.

The three great thinkers of Europe, the philosopher Hegel, the natural scientist Darwin and the social scientist Marx, built their theories — the history of the spirit, the evolution of the species, and the stages of society — on the axis of time. In Japan, on the other hand, the philosopher Nishida Kitaro, the natural scientist Imanishi Kinji and the human scientists Watsuji Tetsuro and Umesao Tadao constructed their theories of the place of absolute Nothingness, habitat segregation, and climate and ecology respectively, with a bias toward space.

Why did these differences arise? It would be easy to cite the influence of the spiritual landscape of Japan with its polytheistic, Buddhist emphasis on all things coexisting in nature, or the impact of divination, which seeks to find patterns in the natural world, and make a contrast with the culture of Christianity, in which history is conceived as being acted out within the divine drama that begins with the Creation and extends to the Last Judgment. But this is an ahistorical view. The fact should not be overlooked that the above mentioned Japanese scholars were all well informed about Western culture, but they resisted modern Western intellectual paradigms and tried to break new ground.

In his introduction to *The Decline of the West* (1918), Oswald Spengler, the historian of civilization, claimed that only Westerners, not the human race as a whole, perceived the "world-as-history." Indians had no sense of time, he argued; for Egyptians time stopped when ancient civilization was created; the ancient Greeks and Romans did not understand the idea of inward evolution or historical development. Only

Westerners have a concept of time and a sense of history — "an image of the world in progress;" if Western civilization were destroyed, he argued, world history as a potent form of consciousness in the world would probably be destroyed with it. If Westerners express the world in the form of time, the Japanese tendency toward space is the antithesis of these European concepts. Schematically speaking, it is a way of plotting perception along the axis of "being and space" instead of "being and time."

If the axis from which the world is perceived is changed from time to space, it is possible to predict that this will lead to an image of the world which in all respects will rival the dominant image of world history in modern Western society. In fact, the work of the group led by Imanishi Kinji offers an inclusive vision of the world that qualitatively and quantitatively compares with the Marxist view of world history. The work of the Imanishi group was summed up by Hiromatsu Wataru in 1986 in the book *Seitaishikan to yuibutsushikan* (The ecologist view of history and the materialist view of history). Hiromatsu's book was written from the Marxist's standpoint of historical materialism, but no matter how Hiromatsu twists the words of Marx and Engels or Lewis Morgan's *Ancient Society*, at the levels of both theory and corroborative evidence, the difference between these 19th century thinkers and the Imanishi School is like night and day. Unfortunately for Hiromatsu, the results are the exact opposite of what he intended, and the image of human history that emerges is the one portrayed by the scholarly findings of the Imanishi School.

Marxism has had an enormous significance in the intellectual history of Japan. If Marx's anthropocentric materialist conception of history deserves to be



considered as representative of imported Western ideologies, then Imanishi's biocentric geocosmological conception of history stands in direct opposition to it. The Imanishi School rivals Marxism. If Marx's ideas are regarded as representative of imported scholarship, the Imanishi School deserves to be located at the opposite end of the spectrum.

### Habitat Segregation

Imanishi Kinji, who was awarded the Order of Cultural Merit in 1979 for his contributions to natural science, had given up natural science in an essay entitled *Shizengaku no teisho* (In support of geocosmology) in the autumn of 1983, and had become a "geocosmologist." The flora and fauna in Imanishi's natural world live and breathe. When he was young, he came upon a grasshopper. "I was walking along a path in a valley, and there was a grasshopper on a leaf in the shrubbery. Until that moment I had happily caught insects, killed them with chloroform, impaled them on pins and looked up their names, but I realized I knew nothing at all about how this grasshopper lived in the wild." (Imanishi, *Reichorui kenkyu gurupu no tachiba* [The position of the primate study group]) Imanishi began to harbor doubts about the scholarly methods of biology with its taxonomic classifications of living things and collections of dead specimens. He had the revelation that living things must be observed in their natural habitat and thereafter established a research style based on field work. The change in the objects of study from dead specimens in a laboratory to plant and animal life living and multiplying in the natural world was a Copernican revolution in Imanishi's scholarly career.

Field work forms the background for Imanishi and his group, but Imanishi's field work itself is not original. His originality rests on two achievements: (1) the discovery that individuals of the same species form a *specia* (a "species society") in the natural world and the relationship among species is based on "habitat segregation;" and (2) the proposal of a theory to account for the density of species societies over the 3.2

billion years of life on Earth, in other words, a theory of evolution. The theories that form the basis for Imanishi's theory of evolution and the philosophy behind it are woven through *Seibutsu no sekai* (The world of living Things).

The book consists of a preface, meant to be published posthumously, and five chapters. The first chapter deals with similarity and difference, the second with structure, the third with the environment, the fourth with society and the fifth with history. The central idea

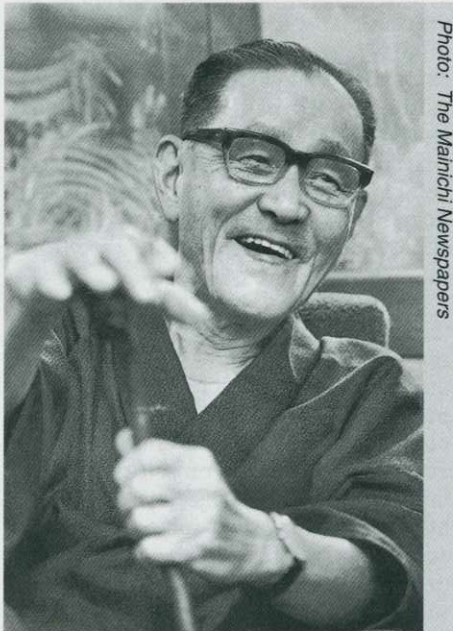


Photo: The Mainichi Newspapers

Imanishi Kinji challenged Darwin's theory of evolution

in this work is that individual members of the same species form a society and that societies practice "habitat segregation" with one another. In the natural world there are said to be approximately 1.7 million species. If the relationship among species was based on the strong preying on the weak, then during the 3.2 billion years of life on Earth, weak species would have been weeded out, and only a small number of strong species would be left. In fact, as the huge number of species indicates, it is not the case that weak species have

been destroyed and only the strong species survive. Strong and weak, big and small, old species and new ones, a truly diverse range of species coexist in the natural world. Imanishi Kinji uses the expression "habitat segregation" to describe the phenomenon of their mutual coexistence.

### Similarity and Difference

A *specia* which is the basic unit of habitat segregation, consists of individual members of the same species. Why members of the same species? Because no living being exists for which there is not some other living being similar to itself in shape and form. Imanishi has formulated a hypothesis related to this. Every organism on Earth traces its origins back to a single common ancestor. Since all organisms share the same origin, they have an affinity relationship with one another. How is this affinity relationship to be understood? Imanishi regards this as the basic question.

Insofar as organisms have a physical existence, they are all endowed with suitable forms. Accordingly, affinity among them ought to be related to their forms. If all living things originated from a common ancestor and have come to have the shapes and forms seen today, something about them somewhere must resemble one another. From this the idea of "similarity" is derived. At the same time, however, no two things have completely identical shapes. Even things that seem as alike as two peas in a pod are somehow different from one another. Why? If all living things originated by diverging from a common ancestor, the inevitable conclusion is that variations would have arisen as a result of the differentiation process. From this the idea of "difference" is derived.

Living things insofar as they are things — material substances — necessarily, have forms. Insofar as they originated from a common ancestor, they have an affinity with one another as a result of their history (i.e. their evolution); hence their forms can be comprehended in terms of underlying patterns of "similarity" on the one hand and "difference" on the other. Similarity and



difference are two intellectual forms abstracted from the physical forms of all living beings. They are the modes of existence that inevitably result from the premise that organisms have an affinity relationship as a result of their evolution.

Some organisms have a close affinity relationship, others a more distant one. A species is a collection of individuals that bear a strong likeness to one another. Individuals in the natural world invariably share their living space with other individuals of the same species. The resulting species society is the building block of the biosphere in the sense that no individual can exist without one. If the species society is the basic organizational unit in the world of living things, what is the principle by which it is maintained? To put it another way, how did habitat segregation come about?

"Habitat segregation" lies at the root of Imanishi's biological theories. The habitat segregation of species societies is an observable fact, a natural phenomenon.

Consequently, intraspecific structures (the relationship between individuals within a single species society) and interspecific structures (the relationship between one species society and another) can be minutely observed, and researchers have been focussing their interest in that direction. But no matter how deeply they have delved into this area, they have not answered the basic question — why does "habitat segregation" exist in the first place? What is the underlying principle behind this phenomenon? Imanishi himself was aware of the importance of this problem, which has been called the Achilles heel of his theory, and at the end of his career, he proposed the concept of "proto-identity."

#### *Proto-identity*

Imanishi's final work, *Shizengaku no tenkai* (The development of geocosmology), contains a full-scale discussion of proto-identity. Proto-identity is the sense of identity that living beings inherently have for the species to which they belong. This concept is worth special attention. Imanishi at the age of eighty-five in the Afterword dated April 10 1987, dictated

because of blindness, gives a glimpse of his nobility of spirit. "It is my intention to lay my pen aside with this work, and so I believe these will be the last words I shall ever write. And yet if I do not include a page on proto-identity, there would be something incomplete, I think, about my ideas on sociobiology and my theory of evolution." The theory of proto-identity is the finishing touch to Imanishi's geocosmology.

A cat recognizes another cat, a dog recognizes another dog, a bird recognizes another bird. All living things are inherently endowed with the ability to recognize other individuals of the same species. Proto-identity is the faculty by which one individual recognizes another of the same species using this ability that living things innately have. "Proto" means "first" or "earliest form;" it is used as a prefix before the word "identity" because, as Imanishi says, it includes the idea that "a variety of identities eventually arise from it."

Imanishi has written many works on the theory of evolution. The last of these, *Shutaisei no shinkaron* (The theory of the evolution of subjectivity) published in 1980, contains the proposition that "growth and evolution are both trajectories of self-movement through which the subject is revealed," but the meaning of "subject" here is somewhat unclear. The concept of proto-identity makes it clear that the subject is each individual and that this individual has the ability to recognize the species to which it belongs. Individuals endowed with this power of discernment recognize one another and form a society. Societies of species that have a close affinity with one another coexist, though their territorial boundaries are fraught with tension. As experiments have shown, what limits the distribution of individual organisms are not the physiological limits of a given species; even though individuals have the potential to spread out until they reach their physiological limits, they do not cross the boundary lines of the society in which they live. This sort of behavior on the part of individuals certainly seems to suggest that they have subjectivity.

The theory of proto-identity is a theory of pan-subjectivity that recognizes the subjectivity in all living things.

#### *The Metaphysics of Geocosmology*

Can it be proven that each individual organism has the inherent faculty of proto-identity? If it could, it would be possible to attribute the reason organisms form societies to their subjectivity. But in fact proto-identity is impossible to prove. It is a concept that enters the realm of metaphysics.

The fact that the metaphysical concept of proto-identity is an inextricable part of the phenomenon of habitat segregation does not mean, however, that Imanishi's biological theories, as brilliant as they are, somehow cease to qualify as biology because proto-identity is used to corroborate them. Let me explain this point.

Even physics has metaphysical underpinnings. How is it possible for human beings to understand physical phenomena having to do with the movement of matter such as falling objects or the refraction of light? The German philosopher Immanuel Kant (1724-1804), himself a physicist who was influenced by English empiricism, took up this question in the *Critique of Pure Reason* (1781) and discussed the grounds for the human cognition of physical phenomena as empirical facts.

Prior to Kant it was thought that human cognition had to conform to objects. But if cognition conforms to the nature of objects, it would be impossible to vouch for the universality of cognition. Kant took the idea that cognition conforms to objects and reversed it: the objects conform to our cognition. According to Kant, the thing itself is unknowable; it exists in conformity with the operation of human intuition. The cognition of a thing begins with experience, but prior to this experience, in other words *a priori*, human beings are endowed with the faculty for perceiving it (intuition). This faculty of intuition Kant called the "transcendental Aesthetic."

The transcendental Aesthetic, Kant says, has two forms, time and space. "If we take away by degrees from our



conceptions of a body all that can be referred to mere sensuous experience — colour, hardness or softness, weight, even impenetrability — the body will then vanish; but the space which it occupied still remains, and this it is utterly impossible to annihilate in thought." Space may be a necessary condition that makes it possible for objects to exist, but it is a form that human beings have as an intuition. Similarly, time is also a form of intuition. Space and time are not properties inhering in substances; they belong to the intuition that we are born with.

Before Kant space and time were regarded as external to us. Kant considered them to be forms that inhere innately in human intuition. In so doing Kant proudly claimed he had done for the theory of cognition "just what Copernicus did" for astronomy.

One of the topics of the *Critique of Pure Reason* is "how is pure natural science possible." According to Kant's theory of the transcendental Aesthetic, the reason we comprehend the movement of an object as occurring in the two axes of time and space is that we inherently have a faculty by which we are capable of perceiving it in those terms. One of the tasks that Kant attempted in the *Critique of Pure Reason* was to lay the foundations of the natural sciences, especially Newtonian physics, in the experience of the perceiving subject.

The ability to elevate physical phenomena perceived in this way to a concept through the use of analysis (induction and deduction), in other words, the ability to elevate them to a science, is what Kant calls "understanding." What is important is Kant's assertion that, before this scientific cognition that is the medium for understanding can occur, it is impossible for us to perceive an object without presupposing that we have an innate ability which enables us to intuit time and space. Kantian philosophy is a philosophy of the perceiving subject not of the perceived object.

The natural science of Kant's age was Newtonian physics, and the phenomenon

under investigation was the movement of objects. In Imanishi's biology, on the other hand, the phenomenon under investigation is the habitat segregation of species societies in the natural world. If Kant's metaphysics rests on the assumption of the "transcendental Aesthetic" in the human subject that makes possible an intuitive understanding of physical phenomena such as the movement of material objects, the premise in Imanishi's metaphysics to account for phenomena in the biological world such as the existence of species societies or habitat segregation is that all individual organisms are endowed with a faculty, i.e. proto-identity, with which they inherently intuit the species to which they belong.

Although differing in their emphasis on human and non-human beings, both Kant and Imanishi are alike in discussing inherent faculties of the perceiving subjects. Imanishi's argument, of course, lacks the subtlety of Kant's philosophical system and is highly intuitive. Nevertheless, there is no doubt that his efforts are an important advance in conferring a philosophical basis to biology. As the basis for the biological phenomenon of habitat segregation, Imanishi proposes that individuals have an inherent intuitive faculty that enables them to recognize identity through the concept of proto-identity.

Kant considered time and space to be forms of intuition, but as he himself said, metaphysics is "a science which is at the very outset dogmatical," and it is not self-evident why the forms of intuition have to be time and space. According to Ernst Cassirer's theory of symbols, time and space, quality and quantity, energy, atoms, ether, etc. are concepts that cognition devises to exercise control over the sensible world and view it as orderly and law-abiding, but that does not mean that anything which directly corresponds to them exists among sensible givens. Both time and space are a mental form of expression, a process of symbol-making.

Kant's theory of the transcendental Aesthetic was influenced by the trend in

European scholarship which saw physics establish its independence from theology. It was Descartes who defined an object as something having extension, but does God have extension? At the time this question was raised, God was imagined as having infinite extension both spatially and temporally; in the modern period, however, God ceased to be conceived in terms of objective existence. As philosophy attained its independence from theology, a God that is infinite time and infinite space was abstracted out of the world of ideas, leaving time and space behind as a form of subjective intuition, the vestigial remains of God, as it were. Isn't it this that became what Kant calls the forms of intuition, time and space?

What I want to emphasize here is that "time and space" did not occur to Kant "ex nihilo;" they are both concepts that arise from the trend in European intellectual history away from theology and toward philosophy and the natural sciences. There may be other forms of intuition by which to perceive objects. Imanishi Kinji has a different view of religion from the European idea of God as infinite time and space, a view that can be readily inferred from its major premise that "animate and inanimate objects, flora and fauna, all trace their origins back to the same single source." From this kind of religious view Imanishi derived his two concepts of "similarity and difference."

Thus, "similarity and difference" correspond to Kant's "time and space." It is probably fair to say, as Kant does, that the movement of objects is intuited through the forms of "time and space." The affinity of living beings, on the other hand, can be said to be intuited through the forms of "similarity and difference."

Kant called the mental activity that elevates physical phenomena to a concept of "understanding." According to Imanishi, the mental activity that recognizes the affinity of living beings is "analogical inference."

Analogical inference like induction is a form of reasoning concerned with tangible facts, but there is an important difference between them. Induction



derives laws or general propositions from individual, concrete facts. As a result of the reasoning process, the diversity or particularity of these facts disappears and a universal law or principle is drawn from them. In the case of analogical inference, by contrast, if several attributes of two particular examples agree, then it is reasoned that their other attributes will also agree; it is reasoning from particulars to particulars. Particular and/or diverse attributes do not ultimately disappear; they remain in our perception. In this respect analogical inference is extremely different from induction. Analogical inference is perceiving different things with their differences intact. Objects that differ from one another enter our perception without losing their differences. Diverse or particular objects are not perceived in such a way that they lose their diversity or particularity; rather, it is their diversity or particularity that is perceived. Analogical inference is the logic of the tangible.

As individuals (i.e. as indivisible entities), organisms have independent existences. An independent living being has a distinct individual wholeness that does not tolerate division. The perception in all their diversity of these independent organisms that have diverse forms is achieved not by induction but by analogical inference. Unlike induction, which seeks the universal by eliminating diversity, analogical inference not only recognizes diversity, it seeks the universal in it. In analogical inference we can perhaps unexpectedly find traces of a polytheistic world view of the Japanese.

One of the tasks of biology is to classify diverse forms of life and comprehend their systematic affinity

relationships. The basis for this classification is not a law but a "form." The classification of living beings is the province of morphology, which Goethe established with his introduction of 1807. Morphology takes its cue from the analogical inference of form, which systematically comprehends the diverse forms of nature in all their diversity. Hence, analogical inference must be regarded as a method of reasoning on a par with deduction and induction.

As all these points indicate, Imanishi's biology deserves to be regarded as having a structure comparable to physics (see chart).

#### A Reservation

Several propositions arise from the theory of habitat segregation. The most important among them is that each individual of the same species is of equal merit. From this proposition is derived the assertion that even if a superior individual were to arise as a result of a sudden mutation, the species would not evolve as a result; similarly, if that individual accidentally died, the species would not regress. This assertion is in direct opposition to Darwin's theory of evolution with its emphases on natural selection and survival of the fittest. According to Darwin, evolution and natural selection are the result of mutations in individual members of a species and differences in their relative merits.

According to Imanishi, evolution occurs in the species society as a whole. When all the individual members of a species society undergo a transformation, what is likely to happen? The balance of habitat segregation is likely to be destroyed. Until that time the species society would practice habitat segrega-

tion with other species societies and live in a balanced state of mutual dependence. When this balance is broken, it would probably produce an imbalance in, and changes to, the collective society of living things that species societies form through habitat segregation. Both the sub-society, i.e. the species society, and the collective society would all "change the way they have to change."

Because any answer to the question of why evolution occurs must cover all 3.2 billion years of life on Earth, until someone invents a time machine, no one will ever know for sure. Consequently, the theory of evolution has more of the aspect of a view of nature or a world view than a science and cannot avoid being controversial. On the other hand, however, evolution is a patent fact, the proof of which is engraved in the fossil evidence. The Mesozoic era was the golden age of reptiles, and dinosaurs dominated the Earth; they were replaced by mammals in the Cenozoic era, and for a while mammoths reigned supreme. They in turn were succeeded by human beings whose dominance has lasted to the present day. These facts tell us that, even though its mechanism is unknown, evolution itself exists and that in every era some organism was in the evolutionary vanguard.

The world of living things which Imanishi understands in terms of habitat segregation is not a dynamic place, however; it is static and self-fulfilling and preserves the status quo. In that sense, doesn't it seem to deny evolution? This leads to the question: How do we explain the dynamic phenomenon of evolution and the static phenomenon of habitat segregation so that they are consistent with one another? **UJI**

	Newton's and Kant's physics	Imanishi's biology
Phenomenon	movement of objects	habitat segregation
Name of intuition	transcendental aesthetic	proto-identity
Form of intuition	time and space	similarity and difference
Operation of cognition	understanding	analogical inference
Result of cognition	laws of motion	affinity relationship of living beings

*Kawakatsu Heita is a professor of economic history at the International Research Center for Japanese Studies in Kyoto. His books and articles have been published in both English and Japanese. He also serves as an advisor for various governmental bodies such as the Ministry of Finance.*