Is a Primate Like a Rose?

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Reviewed by Joel E. Cohen

The honors for the first long-term field investigations of nonhuman primate social behavior and demography, in which individual animals were identified, go to Japanese scientists based originally at the Japan Monkey Centre in Inuyama and the Laboratory of Physical Anthropology of Kyoto University.

Shortly after World War II, these scientists began longitudinal studies of Japan’s other primate, the Japanese macaque. The world’s first primatological journal, Primates, appeared in 1958, initially in Japanese, under the imprint of the Japan Monkey Centre. The research efforts formerly at the Japan Monkey Centre are now carried on by Kyoto University’s Primate Research Institute in Inuyama.

In recognition of the leading and still unique contributions of Japanese scientists to the understanding of the naturalistic behavior of nonhuman primates, it is appropriate that a world congress of primatologists should have met in 1974 at Nagoya, near Inuyama.

This big and expensive volume contains all the papers presented during that fifth international congress of primatology. The papers are organized into five scientific symposia, and one special seminar on conservation of the nonhuman primates. The scientific symposia discuss the social structure of primates, determinants of behavioral variation in primates, locomotor behavior and hominization, perinatal physiology, and the neurophysiology and neuropsychology of the prefrontal cortex.

The papers report for the first time or review an enormous range of interesting facts. Some examples illustrate the scope of the papers.

On the basis of a study from 1954 to 1971 of a troop of Japanese macaques
that fissioned into two troops in 1966, Norikoshi and Koyama show that
most of the males over 5 years old left their natal troop and became solitary
or shifted to another troop in which their mothers or close female relatives were not
living. On the other hand, males less than four years old remained in their natal
troops. As a result, sexually mature males had little chance to copulate with their
mothers or sisters. (p. 48)

Such a simian incest taboo could not be demonstrated without the detailed
genealogies that are the fruit of sustained observation and identification of
individuals.

Stephenson finds that, in three free-ranging troops of Japanese macaques,
not only do higher class males prefer to mate with higher class females and
lower class males mate with lower class females, but most of the observed mating
activity by higher class males is with females that have not yet conceived in the
current season, while at least half of the observed activity of lower class males is
with females that have already conceived. (pp. 111-112)

Unlike the Japanese macaques, according to Kawanaka and Nishida,
among chimpanzees
females frequently transfer between unit-groups and they tend to transfer
when they are sexually receptive but not accompanied by an infant. (p. 175)

From records of births of pigtail macaques in a breeding colony at the
University of Washington, Sackett and colleagues show that breeding adult
females who received no medical treatment bore significantly more male off-
spring than female offspring. Breeders who received medical treatment, which
was primarily for bite wounds, before conception also delivered more males
than females, though not significantly more.

However, breeders treated during pregnancy had a threefold higher rate of carry-
ing a female fetus than a male fetus ($p < 0.01$). (p. 194)

There is no disputing the authors' claim that this is a "startling finding."

Itoigawa's observations of free-ranging Japanese macaques suggest that
"intimacy measured by the proximity between mother and young can inhibit
the young to leave the group," though the pattern is not without exceptions.

Rumbaugh and Gill quote and comment on protocols of their conversations in
an artificial language, "Yerkish," with a chimpanzee named Lana. These
protocols destroy the putative uniqueness of the human ability to understand
and intentionally to create grammatical language.

A kinesiological study of six species of primates by Ishida, Kimura, and
Okada demonstrates a remarkable similarity in the patterns of bipedal walking
among men, chimpanzees, and spider monkeys, and clear differences from the
gibbon, Japanese macaque, and hamadryas baboon.

To cite all the interesting factual and interpretive material in these papers
would require reproducing more than half the book. Instead let me conclude
by taking the volume as data for cultural anthropology.

When I had the privilege of spending six weeks at the Japan Monkey
Centre in 1965, there was such a gap between the concepts that Japanese
scientists used to describe nonhuman primate behavior outside of the labora-
tory and those that Western scientists used that I thought the difference could
be explained only by differences between the cultures of the scientists,
rather than by the differences in the behavior observed. To oversimplify, the
Japanese reports emphasized individuals, historical etiology, the roles of
males, and agonistic interactions related to social status or dominance rank.
Western reports at the time more often sought ecological and evolutionary deter-
minants of social behavior and emphasized the central roles of females and
mothers. In the decade since then, Japanese and Western field reports have
slowly converged in language and approaches. Though differences remain,
the present symposium volume demonstrates that longitudinal observation of
identified individuals (a Japanese contribution) and quantitative analysis (a
Western contribution) are now common threads.

A more striking cultural difference illustrated in this volume is that be-
tween scientists who study primates in the field and those who study the physi-
ological foundations of behavior in the laboratory. Excepting one theoretical
and one methodological paper, every paper on the social structure of pri-
mates identifies the primate studied in the title, and at some point in the text
takes a comparative perspective. None of the four papers on "primate pre-
frontal cortex" identifies which primate in the title, though three of them study
the macaque genus; the fourth paper does not even identify "the monkey."
This difference between two symposia suggests a deeper difference between
the two corresponding professional specialties in how they view biological
variability and the possibility of generalizing from observations of one or
two species.

If a rose is a rose is a rose, is a primate like a rose? Professional differ-
ences in the answer to that question now far outshadow the declining differ-
ences between East and West.

The brightest flashes in the world of thought are incomplete until they have
been proved to have their counterparts in the world of fact.

—John Tyndall
Fragments of Science

It is the customary fate of new truths to begin as heresies and to end as supersti-
tions.

—Thomas Henry Huxley
The Coming Age of "The Origin of the Species"

Life is the art of drawing sufficient con-
clusions from insufficient premises.

—Samuel Butler
Note-Books

Habit is habit, and not to be flung out of
the window by any man, but coaxed down-
stairs a step at a time.

—Mark Twain
Pudd'head Wilson's Calendar

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