BEHAVIORISM IN JAPAN

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Two great pioneers of Japanese scientific psychology are Yujiro Motora (1858-1912) and Matataro Matsumoto (1865-1943). Although Motora was first interested in psychophysics, he later turned to speculative and systematic psychology (Kido, 1961). On the other hand, Matsumoto devoted himself to experimental and applied psychology more intensively than to systematic psychology. One of his main contributions was what he called 'psychocinematics' by which he meant an objective study of purposive bodily movements (Matsumoto, 1914), and it is on this account that he was called the Japanese pioneer of objective psychology (Watanabe, 1953).

Matsumoto's objective view was succeeded by his students, among whom Narasaki (1922) directly advanced his master's psychocinematics, and Tanaka (1921) did a systematic study in mental work which he called 'human engineering'. However, both Matsumoto and Narasaki had never tried to substitute psychocinematics or 'mental dynamics' in Narasaki's term for the traditional psychology. On the other hand, they believed that psychocinematics or mental dynamics must be distinguished from the traditional 'pure' psychology which can be approached, according to them, only through introspection and not by objective methods.

Pre-Watsonian behavioristic movements as represented by Angell, Pillsbury, and Parmelee, were introduced to Japan by Ueno (1913), Otsuki (1913), and others. After reviewing Pillsbury's *The Essentials of Psychology* (1911), Ueno, applied psychologist, argued that psychology should be defined as a study of behavior in order to avoid ambiguous definitions such as a mental science or a science of consciousness. However, he did not intend to exclude consciousness *per se*, but instead he stated that both behavior and consciousness are the subject matter of psychology and that consciousness can be fully understood only in relation to behavior. Ueno's emphasis on behavior was weakened in his later criticism of Watsonian behaviorism in that behavioristic methods were considered only as auxiliary means to introspective methods (Ueno & Noda, 1922).

Behaviorism formally established by Watson in 1913 was first made known to Japanese psychologists by Narasaki and Hayami in 1914. According to Narasaki (1914), behavioristic studies may be classified in the same category as psychocinematics mentioned above since the objective method is emphasized in both cases. However, he contended that the objective and behavioristic method is entirely different from the introspective method as things are different from mind, and thus both behavior science and psychocinematics must be distinguished from 'pure' psychology.

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Hayami (1914a) stated two reasons for the birth of Watsonian behaviorism. First, the traditional definition of psychology in terms of consciousness had become too narrow with the development of animal and child psychology, and second, behavior had become to be understood not only as overt manifestations of the mind, but also as a determinant of the mental function itself. However, Hayami himself did not agree with behaviorism but was more favorably disposed to philosophical psychology of Natorp, Husserl, and Lipps. He believed that our vivid, direct experience is inaccessible to the objective, behavioristic method (Hayami, 1914b). Similar negative attitudes toward behaviorism were taken by other Japanese psychologists. For example, Chiba (1915, 1918) was opposed to Watsonian behaviorism as well as to reductionistic and physiological theories by Parmelee (1913) and Bechterev (1907). The mental phenomenon, he argued, may be viewed from the physiological standpoint, but the former cannot be reduced to the latter.

Imada (1923) accepted behaviorism as a science independent of the traditional introspective psychology, but he argued in his later article (1924) that behaviorism cannot adequately deal with our concrete experiences such as wishes, and desires because behaviorism is based on mechanistic principles. One of the weakest points of behaviorism, stated Kido (1926), is the lack of the unifying principle of experiences and he showed favorable attitudes towards a purposive and dynamic psychology of Woodworth (1918) among the current American psychological schools. Koichi Masuda (1923) objected against the clear demarcation between behaviorism and introspectionism, hoping for a harmonious integration of the two schools.

Especially after 1930, Japanese psychologists had been very much influenced by the German gestalt theory which reached Japan around 1920. Since then, behaviorism had been discussed and criticized only in relation to gestalt theory and positive contributions to behavioristic studies had been relatively small before the last war.

Theoretical backgrounds of Japanese animal psychologists before the war may be added in this connection. Koreshige Masuda (1883-1933), one of the earliest animal psychologists in Japan, attempted an experimental study on black-white discrimination in fish as early as 1911. Although he (1926a) later confessed that he was a behaviorist then, he cannot be called a Watsonian behaviorist, since he (1915) tried to explain the animal behavior in terms of consciousness. In another article, he (1926b) enumerated four significant points in studying behavior. First, behavior gives important suggestions to the study of consciousness; second, it may be used as means to infer consciousness in children and animals who cannot give introspection; third, it may be utilized as peripheral descriptions of the mental function; and lastly it may be studied as one aspect or a symbol of consciousness. According to the same author, behavior without any reference to subjective consciousness is nothing but successions of bodily movements, and he believed that even Watson must have implicitly assumed some unifying psychic functions underlying animal behavior.

Ryo Kuroda (1890-1947) is probably one of the greatest animal psychologists Japan has ever had. He conducted a great number of experiments with various species of animals and the results were summarized in his book *Animal Psychology* (1936). In this valuable book, he insisted that consciousness and behavior are not independent but rather

they are different aspects of the same psychic phenomenon. Like other psychologists, he stated that consciousness is the content of experience, while behavior is its objective representation. He further stated that the traditional definition of psychology as a science of consciousness is too narrow since unconsciousness or the negation of consciousness is also a psychic fact.

Based on Buddhist psychology, Kuroda (1931) dichotomized our experience into *kaku* (comprehension), and *shiki* (consciousness). Kuroda's concept of comprehension is very close to James' consciousness of fringe, but they are not identical in that vital importance is given to comprehension in learning. He argued that learning is primarily a function of what he called the 'psychic polarization' (Kuroda, 1931, 1939; Otsuka, 1960). While consciousness is directed (polarized) to immediate and sometimes only peripheral aspects of the learning situation, comprehension is focused unconsciously or subconsciously to the ultimate goal of a task. When the polarized comprehension is reflected into consciousness, it yields a state of tension. According to him, Hull's goal gradient and other learning phenomena may be more easily understood in the light of comprehensive polarization. Apparently, Kuroda's theory is related to the Lewinian cognitive field theory of learning but Kuroda accused the latter of its subjectivity. However, either of the two theories may not belong to behavior theory, since none of them are firmly anchored to the observable behavior.

Influence of gestalt theory on Japanese animal studies appeared after 1930. Then, neo-behaviorism associated with gestalt theory (Tolman, Krechevsky, & Lashley) was introduced. In the meantime, Yoshioka (1935), a Japanese-American psychologist, visited Japan and talked on some recent theoretical trends in animal learning as represented by Guthrie, Köhler, Yerkes, Tolman, & Lashley. Some of the Japanese animal studies based on gestalt theory or its affinities may be found in Aoki (1933), Takemasa (1934), Odani (1934), Masaki (1940), and Kobayashi (1940).

Another rapprochement between gestalt theory and behaviorism was initiated by operationism. Imada (1941) translated Bridgman's *Logic of Modern Physics* into Japanese, and Yatabe (1943) gave the first detailed comment on this new logic of science, but only a small amount of works had been made on operationism before the last war.

Hayashi, physiologist and student of Pavlov, translated Pavlov's *Conditioned Reflex* into Japanese (Hayashi, 1937) and started Japanese studies on conditioned reflex* which failed to arouse much interest among Japanese psychologists before the war.

The Japanese psychological scene has been greatly changed since the war. The orientation has been American. A symposium concerning behaviorism and neobehaviorism was held at the 1949 convention of the Japanese Psychological Association and it bred a number of theoretical articles on behaviorism and operationism (Takagi, 1950; Ogawa, 1951; Umeoka, 1951). All these papers showed favorable attitudes toward molar behaviorism in contrast to Watsonian molecular behaviorism, and special emphasis

* However, Russian conditioning studies (Pavlov, & Bechterev) were introduced to Japanese psychology much earlier (Sakuma, 1915; G. Kuroda, 1916).

was placed on intervening variables or operational concepts in place of direct experience and consciousness.

Psychology, according to Takagi (1950), deals with the molar behavior of the organism. So far as psychology is a science, the datum (behavior) must be public and repeatable but it does not mean the exclusion of consciousness. He continued that introspection in the form of the verbal report is evidently a kind of behavior. Thus, consciousness may be studied as a scientific construct based on the verbal report and other related behaviors. Nakamura (1948) discussed the logical basis of psychology from the viewpoint of the Vienna Circle. While learning psychologists were generally disposed to behaviorism, some defended cognitive gestalt theory (Sagara, 1950; Johdai, 1955).

In 1948, the *Annual of Animal Psychology*, a continuation of the previous journal called *Animal Psychology* was reissued and a number of articles appeared on behavior theory. Until then, the journal centered mostly on ethological problems and sensory perception (Oka, 1935; K. Ono, 1944). Animal studies in Japan have increased year by year. Only two papers were read at the 1947 convention of the Japanese Psychological Association but the number increased to 16, and 32 at the 1952, and 1962 conventions respectively.

Research areas of the current animal studies in Japan are widely distributed but many of them are related to behavioristic theories. While some are interested in theory and methodology (Iwahara, 1957; Kawai, 1957), others are devoted to experimental studies in schedules of reinforcement (Okamoto, 1952; Yamanouchi & Sukemune, 1959), drive and incentive (Kinjo, 1954; Yoshida, 1955), general activity (Baba, 1958), response variability (Fujita, 1955; Niihama, 1954), stimulus generalization (Ogawa, 1955), extinction (S. Ishihara, 1958), and other related topics. For further details, see Motoyoshi and Iwahara's article (1961) which gives an overview of Japanese animal studies, 1951-1960. Besides, Hirano (1960) reviewed Japanese studies which were related to or based on Tolman's theory.

Behavioristic approaches to human behavior must also be added. Iwataro Ishihara's experimental work on semantic generalization is well-known. He (1960) opposed Osgood's hypothesis of reciprocal inhibition of antagonistic reactions, and proposed a new theory based on the mediation process. Valuable contributions were made by Umemoto (1951), and Morikawa (1959) on the mechanism of verbal paired-associate learning. A detailed review of Japanese studies on human learning and memory is given by Umemoto (1959). Kotake is one of a few psychologists, working on human behavior from the Pavlovian theory of conditioning (Kotake & Miyata, 1957). Verbal learning and other aspects of human behavior are investigated from information theory (Ohnishi, 1962; Takada, 1954), game theory (Toda, 1956), and other mathematical models (S. Ono, 1958; Yoshida, 1959).

Some of the most recent trends among Japanese behavior psychologists are their increasing interests in physiological studies (Sakai, 1961; Niki, 1962) and in abnormal behavior (H. Hirai & Haruki, 1961; Asami & K. Hirai, 1961). As a matter of fact, a research group on abnormal behavior was organized some years ago and more recently a society of 'behavioristics' was formulated among psychologists around Tokyo. These facts indicate active behavioristic movements in Japanese psychology.

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AAP is a continuation of *AP*, and *JJP* a continuation of *PR*. *JJEdP* and *JJExP* were discontinued. A new journal called *Japanese Journal of Educational Psychology* is now published independent of the discontinued *JJEdP*.

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NEWS OF THE WORLD

To the XVII International Congress of Psychology, Prof. Koji Sato of Kyoto University, Prof. Moriji Sagara of Tokyo University and Prof. Taro Indow of Keio University have been invited to participate in symposia: Mr. Hiroto Katori of Tokyo Christian Women's College also received invitation by the young psychologist program. Dr. Tadasu Oyama of Hokkaido University, Dr. Yoshihisa Tanaka of Tokyo University, and a couple of others will also attend it from Japan.

The Third International Congress of Group Psychotherapy is held in Milano on July 21-25. From Japan Prof. Kohei Matsumura will attend it.

The joint meeting of the American Psychiatric Association and the Japanese Psychiatric Association was held in Tokyo on May 13-16, and about 400 Americans came to attend it. After the Meeting Dr. Stanley R. Dean who attended the Meeting had a talk with Dr. K. Sato in Tokyo and by his suggestion visited Master Ishiguro to see the training. Dr. David Kosenthal of NIMH also met Dr. Sato on his visit to Kyoto after the Meeting.

The Fund for the Behavioral Sciences, Ann Arbor, Michigan, established the Stanley R. Dean Research Award last year in a move to stimulate research into schizophrenia and to recognize major advances being made in the behavioral sciences relevant to this illness. The 1963 winner of the Award is Dr. David Shakow, chief of the laboratory of psychology of the National Institute of Mental Health, Washington, D. C. According to Dr. Dean the award is also open

to foreign scholars who have done outstanding research work on schizophrenia.

Prof. Clarence H. Graham of Columbia University received the Edgar D. Tillyer medal for the outstanding work in vision from the Optical Society of America on March 26, 1963.

Dr. D. H. Lawrence, professor of psychology at Stanford University, who has been in Tokyo since April, visited Kyoto University on May 10, met the staffs, and made a lecture on his recent works in animal psychology. On May 12, he visited Nara and greeted at the Convention of Kansai (Midwest) Psychological Association at Nara Women's College. Then he extended his trip to Kyushu.

Dr. Queenie Beatrice Mills, director of child development laboratory, University of Illinois, visited Japan for about four weeks around May, and enjoyed her stay in Kyoto, welcomed by Mr. and Mrs. Tsushima who studied two years at Urbana. She visited Kyoto University and talked with the staffs. She was going further to visit Hongkong, Taipei and Bangkok.

Dr. Robert F. Simmons of the System Development Cooperation came to Kyoto in the second week of May during his stay in Japan, and talked with Dr. Sato at Kyoto University and visited the Electronic Engineering Laboratory of Dr. T. Sakai.

Dr. and Mrs. C. J. Adcock of Victoria University of Wellington, New Zealand, came to Kyoto in the middle of April and visited Dr. Sato.