

Articles

Prewar and Wartime Japanese Psychology – Involvement with Eugenics, Military Affairs, and Education¹⁾ –

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This article aims to describe how Japanese psychologists collaborated with the eugenic movement, the military, and nationalistic education policies before and during the Second World War. In their relationship with the eugenics movement, psychologists prepared scientific methods for measuring human abilities (Mental tests). For the military (both navy and army including air forces), many psychologists devised a variety of aptitude tests and engaged in the selection of applicants. In the field of education, a few psychologists abandoned their scientific ethos and pandered to the education policy of ultra-nationalism. Although psychologists during the pre-war and war periods didn't have important roles in national policy, they did play a role in the conduct of the war, and there needs to be a reconsideration of the role of psychology during this era.

Key words : history of psychology, eugenics, military psychology, education, Japanese psychology

0. Introduction

In 1914, Japan entered the First World War, though this fighting was generally confined to battles far from the main theater of the conflict. This situation enabled the country to receive a third party profit, which resulted in it subsequently becoming a world power. Domestically, however, Japan was experiencing a period of social unrest, as evidenced by the 1918 rice riot and an economic depression that started around 1920. Around the beginning of the Showa period in 1926, the

Japanese government entered a period of militarization and the subsequent years were marked by aggressive military actions, as the government in Japan saw the conquest of other Asian countries as essential to its national line of defense. The economy fell into a severe depression in 1930 when the government lifted a ban on gold. In 1931, the Manchurian Incident (also known as the Mukuden Incident), an explosion on a Japanese railway in Manchuria, provided the Japanese military a reason for a full-scale invasion of Manchuria (this area was subsequently called 'Manchuko' in Japan). After this, Japan began to withdraw internationally, and dropped out of the League

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of Nations in 1933 over disputes regarding the foundation of Manchukuo. In 1939, the Second World War erupted in Europe, and in 1941, Japan commenced hostilities in the Pacific. Throughout this era of significant change, what part did psychologists play?

In answer to this question we can see that there are various noticeable patterns. Sometimes, psychologists cooperated in projects, which today may be seen as objectionable, responding to requests at certain points regarding certain positions. In this paper, I'm going to examine the psychologists' relationship with eugenics, military tasks, and education. It should be noted that the intent of this paper is not to simply to accuse those involved in these activities. However, the actions taken by the psychologists do need to be discussed. If such discussion is avoided, these activities may come to be regarded as be non-existent, and this will impair any future study of the role of psychology in events such as these. History should not have explicit blanks. This paper includes an overview of psychology related to aviation in a practical study of the military, because studies regarding aviation, in many cases, have been handled as a matter of military flight rather than commercial air transport. In the introductory article of "Psychology of National Defense" published in 1941 as Volume 7 of the lecture series, "Contemporary Psychology," Obonai drew attention to the fact that "aviation psychology is playing an important role as a part of military psychology" (Obonai, 1941).

1. Early Development of Eugenics and Psychology

Eugenics is a concept that was first advanced at the end of 19th century, mainly in Britain, and then became common worldwide during the beginning of the 20th century. The content of its claims are largely diverse, but a common thread in eugenics separates humans into 2 types, those who are fit to propagate and those who are not, based on the criterion of judgments as to whether or not it is preferable that certain qualities be transmitted to future generations (Matsubara, 2000). I'd like to briefly examine the relationship of psychology and the propagation of eugenics as a field of study.

1-1. Introduction of the study of a superior breed in 'psychological work'

Eugenics became influential in Japan during the Taisho Era (1912-1926). This movement was basically centered in the fields of biological and medical sciences, but there were also many psychologists who were interested in the field. The woman who translated Francis Galton's "Hereditary Genius" (1869), which advocated eugenics in Britain, was Tsuruko Haraguchi (Arai), who obtained a degree while studying under Thorndike in the United States. In Japan this work was known as "*IDEN TO TENSAN* (遺伝と天才); Genius and Inheritance." The following is a brief look at the development of eugenics from articles published in "*SHINRI KENKYU* (心理研究); Study of the Mind".

At this time shortly after the rediscovery of

Mendel's law (1900), knowledge of heredity was still in its formative stages. Therefore, eugenics, which was described as an application of genetic sciences, developed rapidly and became influential in scientific study around the globe, including Japan.

In the first issue of "*SHINRI KENKYU*" (1912), Matataro Matsumoto published "The Rise and Fall of the Elite Race," an article discussing eugenics that was a shorthand record of his lecture at the 16th Popular Psychology Lecture Meeting. The content of the article features general thoughts about eugenics and these ideas are best summarized in the concluding words, "Eugenics is the voice of scientific hostility against the decay of civilized races." In the 4th issue, Galton was introduced in an article entitled "Francis Galton, the First Advocate of Eugenics" by Genji Arima. In the 6th issue, Ayao Abe briefly described Mendel's law in "Marriage and Inheritance" and stated that racial hygiene means applying the knowledge of genetic science to oneself, with the first step being the improvement of marriage.

In issues 26 and 27 (1914), Hiroshi Hayami wrote a series entitled "Improvement of Society and Inheritance," and in issue 69 (1917), Biologist Asajiro Oka argued for inheritance of acquired characteristics while criticizing Weismann for his "center of inheritance issue." In issue 106 (1920), Biologist Shigeo Yamauchi published "Inheritance of Human Nature," a transcript of a lecture given at a eugenics conference.

Furthermore, a report outlining a lecture by (First Name) Goldschmidt, who at the time was recognized as an authority in the world

of genetic science, entitled "Growth of the Body Build in Japanese with a Viewpoint in Genetics" was published as a miscellaneous article part in issue 162 (1925) of "*SHINRI KENKYU*." In the last issue of "*SHINRI KENKYU*", issue 164 (1925), Naritoshi Asano introduced a genetic family history investigation conducted by Goddard under the title, "Study of the heritability of feeble-mindedness in the Kallikak family." Please note that Goddard's study has been severely criticized for its misrepresentative character (Gould, 1989).

It is clear through reading "*SHINRI KENKYU*" and its various articles by different writers regarding eugenics, that there was a high level of interest in the subject. The aspect that led to the involvement of psychologists in eugenics could be the fact that the idea of inheritance was at the time novel, and the concept of racial hygiene represented a current trend in various scientific circles. Additionally, eugenics offered an appealing place for new techniques to measure psychological aspects (mental testing). In discussions during this era concerned with saving superior humans for later generations, there was a growing tendency to advocate intelligence tests to define just what should constitute 'superiority.' Around the same time as "*SHINRI KENKYU*" was being published, another magazine, "*HENTAI SHINRI* (変態心理); Abnormal Psychology" was also in circulation. This magazine published and introduced many treatises regarding genetic science and eugenic activities. When looking at these articles from the magazine, it is

apparent there were more discussions about “birth control” techniques, which are indispensable to the conducting of eugenics, than there were about developing “heredity of talents.” This point of view was the focus of “*HENTAI SHINRI*” (Mizoguchi, 2001).

1-2. Formation of academic societies and magazines

Initially, the journal “*JINSEI* (人性); Human Nature” was launched by a medical doctor, Yu Fujikawa, in 1905. This journal published Japanese original articles as well as the translations of overseas articles concerning biology, psychology, medicine and anthropology. Papers regarding eugenics were also published on the journal.

As for academic societies, the Japanese Society of Breeding was established in 1915. Seven people were involved in its organization and establishment: five managers including Hirotaro Ando, an engineer at an experimental station of the Agriculture and Commerce Ministry, and Kametaro Toyama, an associate professor at the Agriculture Department of Tokyo Imperial University, as well as 2 full-time managers, including Ayao Abe, a professor at Chiba Prefectural Gardening School. Another founder, Yoshimaro Tanaka recounted that “Mr. Abe took the initiative at the beginning and he chose these 7 members” (Tanaka, 1967), so it seems that Ayao Abe, who graduated from department of psychology in Tokyo Imperial University (1905), played an important role in the creation of this society. However, after Toyama died at 1918, and Abe took a job in Taiwan as a professor of agriculture and forestry and left Japan, the

society’s influence declined.

During this time there was remarkable progress in genetic science throughout the world. Therefore in Japan there was a sense of urgency surrounding discussions to establish a system to respond as rapidly as possible to such opportunities, and in 1920, the Japanese Society of Breeding dissolved and the Genetics Society of Japan was founded.

Sex and marriage are another related area of heredity. The magazine “*SEI* (性); Sex”, was published by Junjiro Sawada in 1920, and included articles like “Chastity from the perspective of Eugenics” (1920) by Goro Takahashi and “Racial Hygiene and Heredity” (1921) by Buntaro Sasaki.

In 1924, Ryukichi Goto, who was not a scientist but was an active follower of events surrounding eugenics, published “*YUZENIKUSU* (ユーゼニックス); Eugenics” (the title was originally in phonetic description of English but it was changed into a Japanese expression, i.e., *YUSEIGAKU*(優生学); the following year). In 1926, Shigenori Ikeda established the Japan Eugenics Activity Association and began publishing the magazine, *YUSEI UNDO* (優生運動); “Eugenics Activity.”

In 1930, the Japanese Society for Racial Hygiene (Currently the Japanese Society of Health and Human Ecology) was inaugurated. It was considered the first academic society for the study and promotion of eugenics. Hisomu Nagai was named Chairman of the Board, and the standing directors were Yoshio Furuya, Sigesaburo Saito, Chiyomatsu Ishikawa, Genzo Ichikawa, Shigenori Ikeda, Akira Toki, Eiichi Makino, Sadanori Mita,

Shunichi Miyake, and Naoki Sugita. Local board directors were Yoshimaro Tanaka, Tanemoto Furuhashi, Ryukichi Goto, and Ayao Abe, who also strongly pushed for its establishment. Abe's participation in the 8th International Federation of Eugenic Organizations (IFEEO) in 1929 probably led him to believe there should be a science council in Japan that would be able to participate in the IFEEO (Fujino, 1998; Matsubara, 2000). Abe didn't consider the activities of Ryukichi Goto and eugenics activist Shigenori Ikeda to be academic, and it seemed that Abe was going to draw the line at Goto and Ikeda's participation in academic activity such as IFEEO. Abe was eager to establish an academic society on eugenics. At the foundation of the Japan Society for Racial Hygiene, there were about 1,000 participants, from both academic and non-academic fields (Suzuki, 1983). Abe eagerly worked to promote the eugenics movement in Japan by sending a prospectus to the Foreign Ministry, stating that a Japanese organization should participate in IFEEO (Sato and Mizoguchi, 2002).

1-3. Backing up eugenics with intelligence testing

Intelligence tests affected the eugenics movement by providing techniques for racial comparisons. The fact that it became possible to compare different groups with the same examination meant the judgment of relative merits in the end, and that this could become the basis of eugenics policies. One such example is the study "Mental testing on the *Ainu*", which was published in issue 158 of

"*SHINRI KENKYU*". Results of this paper stated that "(the *Ainu* are) a meek, simple and honest race, but they don't have the spirit of diligence and effort" and "(their) intellectual activities are simple and psychologically awestruck." At the end, this paper concluded that "instructing *Ainu* to improve their lives and let them enjoy the benefits of modern civilization" is the "Japanese people's obligation".

Furthermore, one of the leading figures in the field of educational measurement studies, Kwanichi Tanaka, conducted a large-scale investigation with funding from the Japan Society for the Promotion of Science. Tanaka used a non-verbal intelligence test (B type) using numbers and diagrams rather than a verbal intelligence test (A type) to conduct intelligence tests on local children in Korea, Manchuria, Taiwan and China, as well as Japanese children living in each of these locations. His results, in all locations, when comparing the local children with the Japanese children, showed the Japanese children as being superior (Tanaka, 1936, 1937a,b, 1939). Subsequently, Tanaka conducted intelligence tests on children of various races, including Japanese children living in North American cities (Honolulu, San Francisco, Los Angeles) that again documented the mental superiority of the Japanese children (Tanaka, 1941). Table 1 shows an extract from the comprehensive list of his test results (Table 161 from Tanaka (1941) Deviation IQ Scores from students at public elementary schools and junior high schools in 3 cities in the U.S.). According to these numbers, Japanese children scored higher on

these tests than other students. But as Hoshino (1997) notes, it is necessary to remember two things when looking at these results. First of all, it was not clearly stated what kind of schools these children were attending, and at least one of the schools the Japanese children were attending was said to be a highly ranked institution, and information on whether the American children were attending schools of the same stature is not given. Secondly, the problem is the nature of the B type test itself, which is supposed to be a non-verbal system, but when conducting questioning, there is always some level of language involvement and the results of the tests may differ greatly depending on what language was used to give instructions. Moreover, there is a larger problematic issue included in Tanaka's works that I'd like to point out below.

Table 1 Results of intelligence tests on different nationalities in 3 cities in North America conducted by Tanaka (1941)

Group	Deviation IQ Score	Number of Students
Japanese	49.8	644
British	45.1	524
German	43.7	118
Italian	37.1	217
American	44.2	668

Note: Extracted group of 100 or more subjects from European and American elementary schools from Tanaka's Table 161 (1941).

When we look at Table 1, the deviation IQ score for Japanese elementary school students is certainly high. However, the only information contained here is that showing the Japanese scored 49.8 and the other

children had lower scores. The meaning of this is unclear, as deviation IQ scores are originally adjusted to make 50 the average. If the average is lower than 50, then the intelligence test is not suitable for the group. Specifically, intelligence tests were designed to examine an individual's development and confirm his/her development level. Therefore Tanaka (1941)'s usage for group comparisons was in principle, mistaken. His results represented a deviation of the test's original purpose. Similar tests were conducted not only in Japan, but also in other countries such as the U.S., but we should bear in mind that in intelligence tests, comparisons of groups with different parental populations is, in principle, impossible.

As the influence of eugenics grew, many countries in Europe and North America used intelligence tests to suppress immigrants and races that were considered inferior. Compared to the activities that took place in these countries, although the various factors involved need to be considered, I don't believe the dominance/inferiority²⁾ measures in Japan led to appalling results. Generally speaking, in Japan, the aspects of negative eugenics functions did not become as influential as these ideas did in other countries. At the time, Japan's policy was to expand its Asian territory, which included efforts to culturally dominate its colonies. What the Japanese government was trying to

2) Eugenics encourages the reproduction of people who have desirable traits and suppresses reproduction of those who don't have ones. Looking at its function, some call the former positive eugenics and the latter negative eugenics.

do in these cases was different from advocating eugenics. (Oguma, 1995). Additionally, Yonemoto (1989) compared eugenics in Japan and Germany, and noted that the differences in disease conformance by these countries made Japan's policy toward eugenics less severe than that taken by Germany. For example in Germany during this period, chronic ailments were a major concern, but in Japan, nutritional deficiency and infections represented large problems, so each country then concentrated on different areas. Japan needed to decrease the rates of various diseases by putting emphasis on public hygiene rather than inheritance and other eugenic principles.

Of course, I must emphasize that this view of eugenics in Japan does not imply that it was harmless, and the government's policy of dominating the colonies was certainly not benign. Japanese intelligence tests carried out the same function as those conducted in other countries: to prove the inferiority of other races and cultures. Japan staged it's "own nation's superiority with objective intelligent measurement."

1-4. Eugenics arguments and special education proposals for gifted children

It has been well documented that intelligence tests were used provide a basis for eugenics, but in the study of psychology, there were concepts that argued against eugenic thought. For example, in "*SHINRI KENKYU*; Psychology Research," there were not only articles advocating eugenics, but in issue 85 (1919), Kohtoku Unno wrote "About the Limits of Eugenics" and in Number 134

(1923), Fukiko Sakuma submitted his article, "Eugenics Limits." By 1910, Unno had already become involved in eugenics, which was rather early in the development of the field, but in the above mentioned paper, he showed disgust towards the "racial recessive" movement in eugenics, stating this could not help depending on the simple argument of "disposal." Sakuma's paper was an introduction of Grossman's lecture held at the 2nd International Eugenics Conference in 1921. Here, too, disgust is shown toward the concept of raising "elite races" and eliminating "inferior races," and the Grossman's article suggested that care needed to be taken as eugenics was still a young science.

Early education was an important school of thought that took the opposite tack of the heredity doctrine and was introduced to Japan by Kyuichi Kimura. Kimura (1916) reported on cases of early education in overseas countries in "Subject of Special Education for Gifted Children" and also published "Early Education and Geniuses" (1917). In this period an urban middle class started to form and this population was enthusiastic about supplying their children with high-quality education, so Kimura's writing on early education theory garnered large interest. Women's magazines and family magazines published many articles on early education. However, criticism of the trend increased, as it became the basis for examination-based education (refer to Kimura, 1918). However, it should be noted that Kimura was not just talking about basic early education doctrine, but also indicated that eye, nose and teeth diseases could

prevent children from fully using their abilities. We could see the onset of a viewpoint that doesn't only consider illness to be a physically damaging condition, but also one that examines damage to the child's inner environment.

Genetics and/or eugenics are highly sensitive issues for psychologists. From the perspective of biology, heredity might play a role in these issues, but from the perspective of education, emphasizing the genetic factors leads to the abandonment of basic educational principles. It was during the Meiji Era (1868-1912) when Yujiro Motora, who was the founder of Japanese psychology, developed the theory of Platon, which states that "The human spirit has experience in a previous life before it enters a child's body, but once in a new body, it is oppressed and loses its freedom to act. Educators of children should devote themselves to taking the role of a midwife to revive the experiences of the child's previous life." He felt this concept agreed with heredity theory, and the study of children and heredity theory are complimentary. That is why he recommended training using "attention practice devices" for mentally retarded children (Motora, 1908). Even if heredity is accepted as a biological system, when the meaning of education and training after birth is not accepted, the value of education is lost. Motora was also writing about heredity in his first book "Psychology" (Motora, 1890) after returning from the U.S. He noted that the children of intelligent parents are not always intelligent themselves, and he tried to connect this to the regression phenomenon (See Section II, Chapter 5 of

Sato, 2001). During studying psychology at Johns Hopkins University, Motora studied under G.S. Hall and was also influenced by the teachings of the zoologist W. K. Brooks.

As I mentioned above, although there was momentum building against the theories of eugenics in certain areas of psychology, the whole of academia, including psychology, was leaning toward the acceptance of eugenics during this period.

2. Practical Military Research

In this section, I'll discuss the relationship between psychologists and the military as well as the associated field of aviation psychology. When the academic community cooperates with the military there always exists the potential for ethical conflicts. But at the time in question, corporation with the military was generally considered to be a positive social contribution.

2-1. Exchanges between the navy and research psychologists

"At first, naval officers asked me to cooperate" (Matsumoto, 1923). As Matsumoto noted, the navy was proceeding with psychological research coordinated by Yasujiro Ando, an instructor at the torpedo school starting in 1915. Kwanichi Tanaka was temporarily hired to do experimental psychology research at the torpedo school in 1916 (Tanaka, 1932). Because naval authorities recognized Ando's efforts, a "Navy Experimental Psychology Application Investigation Committee" was established

with Matataro Matsumoto being commissioned as an advisor from the navy in 1918. Connection between the navy and Matsumoto was strong, so when Matsumoto went on a one-year overseas project trip in April 1918, the navy commissioned him as a “military experimental psychology application investigator.” The Navy Experimental Psychology Application Investigation Committee ended its activities in October of 1921 and following that, a temporary aptitude test research department was established at the navy education headquarters, and its office was placed at Yokosuka, home to a large naval seaport in Kanagawa prefecture. Koreshige Masuda, one of Matsumoto’s students, was also carrying out intelligence tests for the selection of naval sailors in his position as a temporary employee for the navy technical research center in 1922. Eventually, a temporary experimental psychology research department was established at the navy technical research center and subsequently its “temporary” status was eliminated and it became a permanent research center in 1931.

According to Tsuruta (1980), who participated in psychological naval research, the navy’s psychological research can be separated into 3 periods (Table 2).

In the first period the navy did not employ full-time psychologists for research, although

naval officers were dispatched to the imperial universities to conduct research. However, in 1931, the number of such military officers was reduced to only one, due to the influence of arms reduction. The second period began with the establishment of the experimental psychology room at the physical research department of the navy technical research center and the hiring of a full-time psychologist as a civil servant. The first full-time psychologist working for the navy was Hiroshi Kaneko. In 1941, an individual research building for experimental psychology was completed and approximately 20 psychologists were hired to work in this center. In the third period, influenced by research including the “Report regarding military and psychology in overseas countries” by Tsuruta (1941), this system was altered and manpower was further increased. In 1942, the Naval Aviation Aptitude Research Center was established at Tsuchiura in Ibaraki Prefecture. Section 1 in this facility concentrated on psychology, Section 2 focused on medical science and Section 3 oversaw issues concerned with physical fitness. Psychology was at the center of these studies, and graduates with psychology majors were hired as civil servant operators and backup officers. One reason why such expansion was made in the third period was the aptitude test developed by Kwanichi Takagi during his work at the aviation research center, which received positive appraisal from the navy high command. Takagi was later transferred to a temporary position in the army’s general department, then to the Naval Aviation

Table 2 Periods of naval psychological research (Tsuruta, 1980)

1st Period	1916 (Taisho 5) ~1931 (Showa 6)
2nd Period	1932 (Showa 7) ~1941 (Showa 16)
3rd Period	1942 (Showa 17) ~1945 (Showa 20)

Aptitude Research center during this third period. Another reason for the expansion was that Takagi and his team developed several innovative methods to select and train artillerymen and pilots (Tsuruta, 1963).

Part of the research conducted during this period was published as reports from the research center (for details, refer to Tables 3 and 4 in Sato, 1995). Much of this research was destroyed during the war, but the acquired techniques were later used by Japan National Railway (currently JR, or Japan Railways) for traffic psychology research.

2-2. Exchanges between the army and research psychologists

After the WWI, there was also an awareness of the necessity to introduce pedagogy and psychology into the curriculum at the military academy. Pedagogy classes started in October 1920 and psychology courses began in April 1921 (Endo, 1981). The person in charge of this curriculum was Raio Nishizawa, who graduated with a psychology major from the Philosophy Department at Tokyo Imperial University in 1916, and took the position of army professor in 1920. Nishizawa later wrote "Psychology Course."

During this period, there were primarily two types of people involved in the relationship between the military and psychologists. Some studied psychology after joining the military and others studied psychology first and then were later employed by the military. Army captain Yujiro Uchiyama is good example of the former. Uchiyama learned the intelligence testing method developed by Yoichi Ueno in 1918 and conducted intelligence tests on radio

operators for the navy. For four years, starting in 1927, he was ordered to audit pedagogy and psychology lectures at the Faculty of Literature at Tokyo Imperial University, and during this time he studied psychological examinations and other subjects under Matataro Matsumoto. According to a recorded talk by Tachibana (1931) which focused on details of this period, there were seven to eight officers from the army or navy who were auditing psychology major classes at the Faculty of Literature between 1920 and 1930 (Tachibana, 1931).

In the miscellanea column of issue 2-2 of "*TEST KENKYU* (テスト研究): Test Research" (1924), there is an article stating that a "military checkup" was conducted on 6,000 soldiers by Tokyo Imperial University, involving the Psychology Research Laboratory, the Aviation Psychology Laboratory, and Pedagogy Laboratory. Subsequent "checkups" were conducted at the Tokyo City Juvenile Vocational Bureau and the Palace Guard Division. During the course of these assessments comparisons of assignments, classes, educational degrees, and hometowns were conducted.

The army did not use psychology as seriously as psychologists in the academic field did, instead using it in a comprehensive manner rather than dealing with detailed techniques and matters of visual perception. Furusawa (1998) examined this and concluded it was because the army assignments didn't require as much specialized and segmented techniques as naval ones did. The same can be seen in the relationship between aviation and psychology.

Both the navy and army used aircraft, but the establishment of the army's aviation technique research center in 1935, lagged far behind that of the navy's. It is necessary to have proficient technique in the operation of aviation instruments when navigating over the ocean, but over land, it is possible to fly using visual markers, so the required flight operation technique is different. Therefore, army pilots probably didn't need as much aptitude for the job as navy pilots did.

Thus in the army, it was not as necessary to improve detailed techniques and select personnel suited to particular tasks. The role of psychology then was to roughly assign the men to duties and then to provide education that would enable them to carry these duties out. This role of psychology in assigning duties was not limited to the Japanese army, and the U.S. military also developed a process for mass intelligence testing, known as the Army Test.

Later, in 1938, a Battlefield Psychology Group was established at the Education Superintendent Department, which controlled education at each army branch. The group conducted paper questionnaires to improve the education of the soldiers. The supervisor was Yoshizo Kuwata, then a professor at Tokyo Imperial University, with much of the work being done by Kwanichi Takagi and Hachizo Umezu, who conducted research as members of the Battlefield Psychology Group (Furusawa, 1998). According to Umezu (1963), the purpose of the Battlefield Psychology Group was to examine if it was possible to propose "some kind of psychological indicators in the education of

soldiers." Toward that purpose, the group members collected data directly from the battlefield. Paper and pencil type, questionnaires, containing up to 40 topics were used to examine conditions that affect soldiers' morale and/or trigger actions that led to success, failure or error.

2-3. Development of psychology at Tokyo Imperial University's Aviation Research Center

The Aeronautical Research Institute was established in 1918, at the same time an Aviation Division was created in the Faculty of Engineering and an Aerophysics Division was created in the Faculty of School of Science, respectively. This Aeronautical Research Institute was an affiliated organization of Tokyo Imperial University, but it was planned as a center that would be in contact with various organizations related to aviation. This was taking place around the time when events in World War I had lead to increasing attention being placed on military aircraft. At the research center, institute members were appointed as professors and associate professors employed as full-time research staff members, which made it an innovative research center in terms of personnel systems in Japan at that time. In the Physical Department, a noted physicist and essayist, Torahiko Terada was listed as a professor.

Kenjiro Yamakawa, the chief of the research center, suggested establishing the Aviation Psychology Department. After consulting with Matataro Matsumoto, research was commissioned to Matsumoto, Kwanichi

Tanaka and Izuo Terasawa in 1920 (Matsumoto, 1937). In the “Official Gazette” dated May 30, 1923, there was an article regarding aviation psychology research, a report about 5 research areas which included aviator selection methods, motion perception during aircraft operation, psychological and physiological processes at high altitudes, perception of aircraft inclination during operation, and degrees of physical stability. The third topic in this list, psychological and physiological processes at high altitudes, was the subject of experimental research done by Kwanichi Tanaka at Oxford University. The research had initially been conducted under the hypothesis that air pressure variation would be the main factor affecting the subjects, but the results concluded the main factor was oxygen deprivation.

When Koreshige Masuda became Associate

professor at the Faculty of Literature of Tokyo Imperial University in September 1922, he joined the Aviation Psychology Department as a temporary employee. Starting in 1928, Enjiro Awaji was employed as a full-time associate professor at the Aeronautical Research Institute. These moves seemed to have ensured that research by the Aviation Psychology Department would receive a certain amount of recognition.

The Aviation Psychology Department building was completed in 1922. It was designed by Masuda and was connected by a hallway to the psychology laboratory of the Faculty of Literature.

Subjects under research at the Aviation Psychology Department listed in the “Annual Report of the Aeronautical Research Institute (1925)” are shown in Table 3.

Table 3 Research subjects at the Aviation Psychology Department of the Aeronautical Research Institute of Tokyo Imperial University (1925)

Personnel selection of aircraft operators
Effects of various aviation conditions upon the efficacy of mind and body
Analytical research of aviation tasks
General psychological matters related to aviation
Training methods of aircraft operators

Table 4 Research conducted at the Aviation Psychology Department of the Aeronautical Research Institute, Tokyo Imperial University by 1925

1. Pilot selection methods
2. Psychological and physiological experiments under the condition of low barometric pressures and oxygen deprivation at Mt. Fuji
3. Experimental research regarding kinesthetic sense
4. Experiments regarding physical stability
5. Experimental Study on the Effects of Low Barometric Pressures and Oxygen Deprivation upon the Efficiency of Mental and Physical Work.
6. Research regarding physical position sensations

Note: Other than project 5, these were collaborative researches by Matataro Matsumoto, Kwanichi Tanaka and Izuo Terasawa. Project 5 was a solo research conducted by Kwanichi Tanaka in UK.

Furthermore, in the detailed research contents, there were reports on six finished projects and seven ongoing projects in the “Annual Report of the Aeronautical Research Institute (1925)” (Table 4).

As described by the note in Table 4, the same three people conducted six of these projects. This group was led by Professor Matataro Matsumoto of Tokyo Imperial University with Kwanichi Tanaka and Izuo Terasawa providing support. Tanaka and Terasawa were both professors at Tokyo Higher Normal School and pupils of Matsumoto at Kyoto Imperial University.

The research related to oxygen deprivation conducted at Oxford University used a low pressure chamber to examine how low pressure at high altitudes weaken the abilities of one’s mind and body. Table 5 shows ongoing research at the time.

It is apparent that the researchers put a great deal of effort into practical studies regarding the relationship between flight and visual perception, and the creation of evaluations to select pilots using these findings. Research was conducted by Matataro Matsumoto, Kwanichi Tanaka and Izuo Terasawa with the participation of Koreshige Masuda. Matsumoto attained the

rank of professor at Tokyo imperial University in 1913 and retired in 1926.

2-4. Research concerning wounded soldiers at the Health and Welfare Ministry and disaster prevention research at the Interior Ministry

Among organizations other than the military that were part of the war bureaucracy, the ones where psychologists were active were the Health and Welfare Ministry and the Interior Ministry (Takasuna, 1997). The works of psychologists in these fields constituted, in a broad sense, logistic support.

The Health and Welfare Ministry was separated from the Interior Ministry in 1938 (currently, it is known as Ministry of Health, Labor and Welfare), and this new ministry oversaw the Vocational Department and the Wounded Soldier Division as subordinate divisions. The Vocational Department handled matters related to the vocational aptitude of the general public as well as vocational issues related to returning wounded soldiers. According to the report column in volume 13 of “*SHINRIGAKU KENKYU*(心理学研究); Japanese Journal of Psychology,” Yasusada Takase, a graduate of Kyoto Imperial University, was working as a scientific officer

Table 5 Ongoing research at the Aviation Psychology Department of the Aeronautical Research Institute, Tokyo Imperial University in 1925

1. A collection of reports regarding pilots’ psychological and physiological experiences
2. Experimental research on nystagmus
3. Experiment about visual-spatial perception
4. Standards settings for physical and mental functions
5. Experimental research regarding air reconnaissance
6. Research regarding a method to test the flight ability of pilots
7. Research on standard of troop performance

at the Wounded Soldier Division of Health and Welfare Ministry. In the Vocational Department, Shin Suzuki and Hiroyuki Karino were working as scientific officers and Kazunari Misumi was hired as a staff member on a short-term contract (Activities of Psychologists at the Health and Welfare Ministry). In 1941, Shiro Morinaga became a scientific officer for the Wounded Soldier Division, conducting research on the psychology of soldiers with brain damage and rehabilitation at Shimofusa sanitarium in Chiba prefecture. Likewise, Shozo Tsuji conducted intelligence tests and research of valetudinarian patients as an assistant at the psychology research laboratory in the Public Health Division of the Health and Welfare Ministry (Takasuna, 1997).

Originally in prewar Japan, as the basic state policy was that of a military nation, the welfare of wounded soldiers was a very important subject in the conduct of war. Especially, after the second Sino-Japanese War in 1937, new measures to address this issue were urged (Kim, 2000)³⁾, as the number of wounded soldiers drastically increased. This need led to the request for the

corporation of the nation's psychology community.

The involvement of psychologists led to a movement to create a group within the "*SHINRI GAKKAI* (心理学会); Psychological Association of the great Japan" for the protection of wounded soldiers. It also led to the publication of a chapter in an issue of "*KOKUBO SHINRIGAKU* (国防心理学); Psychology of National Defense" entitled "Psychology of Wounded Soldiers and Vocational Protection." According to Tsujimura (1942), this chapter gained the reputation as being a superior report among those that preceded postwar rehabilitation psychology because it deals not only with the psychology of the war wounded, but also their lives and human rights (Mamiya, 1998).

At the Interior Ministry, Zensho Yokose, who was conducting camouflage research at the aerial research center of Tokyo Imperial University, was appointed a science officer at the Aerial Defense Research Center. As the war continued, the bombing of mainland Japan became a constant threat, so in addition to camouflage, he conducted research on aerial defense observers (Yokose, 1941).

3) According to Kim (2000), the expansion of the second Sino-Japanese War caused quantitative and qualitative changes in the measures for wounded soldiers and in 1938, the "Wounded Soldiers' Protection Measure Council" was established. Based on their report, the Wounded Soldier Protection Division was established by the former Ministry of Health and Welfare. It was reorganized as "GUNJI HOGON (軍事保護院); Administration for Military Convalescent Hospital" in 1939. At the time, it directly operated a large national facility and conducted comprehensive rehabilitation, including medical protection, job training, employment procurement and job protection. Under these conditions, the knowledge and techniques of psychologists were required.

3. Prewar Education and Psychology

One of the foundations of Japanese psychology was its recognition of educational value. This was especially true in the teachers college system (Sato, 2001). Furusawa (1998) noted that there were two ways that psychologists were involved in education at this time.

Tokyo Higher Normal School, which later became *TOKYO BUNRIKA DAIGAKU* (Literature and Science University; 東京文理科大学), conducted research and published literary works that was in line with the interests of the government at the time. An example of this research was the aforementioned Tanaka's comparative study of the intellectual facilities of various races (Tanaka, 1936, etc.). An example of the literary work is "Japan, Educational Psychology" by Asataro Narasaki (1933) which will be covered in more depth later in this paper. Narasaki studied under Matataro Matsumoto at Kyoto Imperial University. He became a professor at Higher Normal School and later at Tokyo *Bunrika* University. Since Narasaki was an ultra-nationalist before the second world war, he presented unique viewpoints apart from empirical psychology at academic contexts.

On the other hand, a group of students interested in child psychology formed at Tokyo Imperial University. These were generally members of the graduating classes of 1928 and 1929, and included Kanji Hatano, Toshiro Yamashita and Arata Yoda. The leader of this group was Mantaro Kido, who had graduated from the same university ten years earlier. His leadership was probably main impetus behind the formation of this academic circle. The members chose to operate at educational and childcare sites due to their interests and liberalistic beliefs, and formed an educational science research group in 1937. Members included Toshiro Yamashita, who quit his service at the Aviation Psychology Department and went

into the field of child psychology. This educational science research group expanded, incorporating a childcare issues research group and a child psychology research group, but their adoption of scientism was equated with Marxism. This accusation forced them to dissolve the group in 1941 (Furusawa, 1998), and Kido and Yoda were even arrested. During this time, the National Mobilization Law (1938) and Taisei Yokusankai (association of all political parties) (1940) were established. The educational science research group joined *TAISEI YOKUSANKAI* (大政翼賛会), but even that could not stop the dissolution of the organization (regarding this issue, refer to Sato, 1997).

Many psychologists were involved in the publication of the series "*KYOIKU KAGAKU KOZA* (教育科学講座); Educational Science Lectureship," which contained articles based on the ideas and research done by Kido's group, and a total of 20 volumes of were published from 1931 to 1933. Not only did members of the educational science research group participate, but the series also made an effort to incorporate various philosophical theories from many different fields. This represented a large-scale effort involving psychologists that focused on the issue of education. Also, the appendix of this lectureship series, "*KYOIKU*(教育); Education" was turned into a separate magazine and published its first issue in 1933. This new publication also included many articles regarding psychology.

The aforementioned Narasaki wrote "Psychology and Education of Individual Development" in the first issue of the

"*KYOIKU*" (1926). The article details the educational measurement movement during the Taisho Era (1912–1926). Immediately prior to the outbreak of the Pacific War, he wrote an article entitled, "Philosophy of Education as a New Order of the Great Eastern Asia" for the same magazine, but it must be noted that this article was playing to the current political climate⁴⁾. In 1933, he published "Japan, Educational Psychology," which was seen be the apex of the educational psychology writing that promulgated the ideology of a nation governed by an emperor (Yamashita, 1982). However, hardly any psychologists took the initiative to critically analyze whether or not the attitudes expressed in the paper were related to psychology and what theoretical problems were contained in this work (Sato, 2002)⁵⁾.

4. Conclusion: Psychology in Wartime, it's light and shadow

When eugenics becomes entwined with real-world politics, or involved in other matters of society or the state, eugenists argue for increasing the numbers of superior people and eradicating those deemed inferior. Normally, the call for increased superiority is

viewed as mainstream eugenics (positive eugenics), but in actuality, the matter is more complicated and it is easy to slip into policies that sterilize people or races who are considered to be inferior or carry genetically-transmitted illnesses (I repeat that here, I use the concept of inferiority against dominance. Refer to Note 1). Compared to other countries that executed policies aimed at those deemed inferior, there seemed to be fewer occasions when Japanese psychologists were involved in such movements. This could be seen as a byproduct of the expansionism of the Empire of Japan with its policy of "*HAKKO ICHIU*" (八紘一宇) which can be translated as "all eight corners of the world under one roof." It is difficult to provide definitive evidence that this policy led to less negative use of eugenics, but it did provide at least superficial benefits for the psychological community.

The relationship in Japan during this period between the military and psychology can be seen as, for better or worse, having been preoccupied with technical matters. It was difficult for psychology/psychologists to directly contribute to strategic concepts in the war, not only in diplomatic negotiations, but also on the battlefield. It can though be said that there were many psychologists who offered indirect technical support that had strategic/tactical value. In his interview work on five psychologists who work for the military during the war, including some who were not actual member of the military. Yamashita (1987) noted that it was common for psychologists involved in military matters to have an "awareness of neutrality"⁶⁾.

Psychological developments at the navy,

4) From his background as a one of Matsumoto's students at Kyoto Imperial University, Narasaki's academic affairs were, although gradually, certainly changing. However, the direct turning point seems to be his research activity in Germany for two years, starting in 1928. Narasaki participated in Heidegger's lectures and practices and struck up a personal friendship with him. Thus Heidegger can be seen as an important influence on Narasaki.

5) However, one of the few exceptions was Amano's (1936) criticism to Narasaki.

army, and aviation research center covered in this paper have been examined in chronological order and one psychologist who was active in all of these organizations was Kwanichi Takagi. He started his career at the aviation research center, then later worked for the army and then the navy. It is difficult to discern the trajectory of his career, as in he put these organizations in inverse order in his writing (Takagi, 1963), but he was successful in increasing trust in the science of psychology at all three organizations, particularly with the navy. By the end of the war, 118 psychologists with 1,100 assistants were working on research (Tsuruta, 1963). Psychologists like Takagi could analyze subjects' behavior through aptitude and create aptitude tests based on experimental psychology. They then proved adept at selecting manpower with these tests, so the numbers of dropouts during training would lessen and the amount training hours could be decreased.

Such achievements by psychologists were used to nurture soldiers for the battlefield, and by extension, for to create military strategies for use against other armies. Therefore, while it is necessary to have certain reservations in evaluating this work, those engaged in these activities should not be criticized. Not so many psychologists who were involved in state policy were purged in the post war era⁷⁾. This indicates there are

serious issues involved and the psychological community should take a stance.

Taking advantage of a time when the government pushed for a full mobilization of national spirit in 1937, Matataro Matsumoto, Toru Watanabe, Kwanichi Tanaka and Torao Obonai sent out questionnaires asking what psychologists should do regarding this initiative. Based on the answers they received, Watanabe announced a "Preface of psychologists' response to full mobilization of national spirit" at the 12th meeting of the Japan Association of Applied Psychology. According to this, many psychologists responded that they should "continue usual research" and conduct "research on national character," as well as research related to military matters. Nevertheless, psychologists' activities related to war died down when the war situation was deteriorated.

In July 1941, with the future of military activities in mainland China still unclear and Japan on the brink of war with the United States, four associations related to psychology united to form a new society. Thus, the Japanese Psychological Association(日本心理学会), the Japan Association of Applied Psychology (日本応用心理学会), the Kansai Association of Applied Psychology (関西応用心理学会) and the Psychotechnics Association (心理技術協会) combined to create the Psychological Association(心理学会). Six departments were established in this integrated society. The first department dealt with general psychology and the remaining

6) A technical relationship didn't mean a guarantee of "neutrality," but for those were involved, neutrality was accepted without any doubt. Therefore, we need to examine the flow of such thoughts coming from psychologists.

7) Regarding this matter, it can be said psychological techniques were useful to occupation forces, too (Furusawa, 1998).

departments were concerned with psychological aspects of education, industry, law, protections for sick and wounded soldiers, and military matters. In emergency conditions such as wartime, psychologists could help society prepare in the 5 applied fields above, 2 of them involved with military.

With the raid on Pearl Harbor, Japan entered into war with the United States. Following this The Amalgamated Psychological Association held 2 biennial meetings, the final one being at Tokyo Bunrika University in 1943.

A great deal of perception research published in “*SHINRIGAKU KENKYU* (心理学研究); Japanese Journal of Psychology Research,” an academic journal established in 1926. However as the political situation became more authoritarian during wartime, new editorial rules (“temporary rules regarding editing and writing”) were established in issue 19 (1944). These new rules, were intended to be a “response to reduce papers policy due to current affairs and to set up a priority system for publishing articles.” Under this new system the first priority were “papers directly useful for improving military service,” the second was “other papers” followed by “introductory reviews,” “reports from academic societies” and a “lists of documents.” This outline effectively gives us a view of the priorities of the time. Actually, the most effective elements of these new guidelines were the sections that limited articles to seven pages. After issue 19-1 of “Japanese Journal of Psychology Research” (the volume in which the above editing rules were published) was issued in

September 1944, the journal was actually suspended without announcement.

The effects of the wartime conditions were not limited to researchers, indeed, the influence was far greater on students. University students were obliged to participate in the military due to wartime regulations, which included a military draft of students. Universities, including Tokyo Imperial University and private universities as well as other schools, found themselves in the middle of this draft. Recalling the situation facing psychology students of that day, Tanaka (1963) wrote, “many students finished great reports and left school saying they were joining the military the next day.” According to research detailing war casualties from all departments at Tokyo Imperial University from 1926 to 1945, entitled “Recruited Students Who Went to the War,” 8 out of 399 students of department of psychology were killed in the war.

Japanese psychology (like all other areas academic discipline) was a victim of circumstances, in this case, the war, which initially greatly affected its research activities. And as the war continued, research activities themselves were obliged to be halted. During this time, a total of 12 issues of “Contemporary Psychology (現代心理学)” were planned by the publisher, Kawade Shobo, starting with the issue of “Psychology of National Defense” in 1941. However, due to writing delays and inspection procedures at that time, only 9 issues, up to “Industrial Psychology I” in 1944 were published (Ohizumi, 1998). These examples probably reflect the conditions in the academic field of psychology at that time

of the war.

This paper is originally a part of Sato (2001) and its scale is limited to events taking place before 1945, so I cannot deal with postwar psychology. However, if one continues to research the history of Japanese psychology in the postwar era, I feel the content of all 12 of these issues of “Contemporary Psychology” would connect prewar and postwar research content. This is because while the issues “Psychology of National Defense” and “Folk Psychology,” were affected by the political situation surrounding the war, two issues were planned for “Educational Psychology,” and there even were issues planned for subjects that were not very popular at the time, such as “Social Psychology” and “Cultural Psychology.” Therefore, for the purpose of future research on the postwar history of Japanese psychology, I’d like to list the names of all 12 issues of “Contemporary Psychology” in Table 6.

There was no real mention of modern psychology in Japan before the Meiji

Restoration (1868). However, systems of research were being implemented and the importance of this field was beginning to be recognized at high schools and normal schools. In society, psychology began to fulfill certain roles, but the in direction society itself was heading, political aggressiveness and isolation, it was apparent that there was a limit to the “useful role” this science could play in a state that had to run on the rail of the military. However, that limit was difficult for psychologists to define (and for a majority of citizens, as well).

Psychologists could of course lend their abilities to the newly developing fields of children’s development and the rehabilitation of wounded soldiers. It is important to note that those who challenged the legitimacy of such new fields were not academics from other subject areas but were themselves psychologists. Their background in psychology allowed them to challenge these new fields. It is necessary to keep in mind one can place too much confidence in technical neutrality. However, it is quite conceivable that the development of new

Table 6 Titles of all 12 issues of “Contemporary Psychology” (Kawade Shobo)

1. Review of Contemporary Psychology (not published)
2. Social Psychology (published in 1942)
3. Cultural Psychology (not published)
4. Personality Psychology (published in 1942)
5. Folk Psychology (published in 1943)
6. Law/Politics Psychology (published in 1943)
7. National Defense Psychology (published in 1941)
8. Industrial Psychology I (published in 1942)
9. Industrial Psychology II (published in 1943)
10. Educational Psychology I (published in 1943)
11. Educational Psychology (published in 1942)
12. Physical Exercise/Hygiene Psychology (not published)

fields and viewpoints based on these techniques found in these studies contributed to the development of postwar psychology.

As we saw in the third part of Sato (2001), two of the basic duties of psychology discipline are experiments and practical training. This concept was (as seen in the second part of Sato (2001)) introduced to Japan by Yujiro Motora in 1888 and is an essence of modern psychology.

5. Additional Note

This writing is a slightly altered section of Part IV, Chapter 6 of "Reception and Development of Psychology in Japan (Sato, 2001)," which was the writer's academic thesis submitted to Tohoku University (In detail, major alterations were made due to a newly written 3rd clause). Part IV deals with the relationship between psychology and society in various phases and in this paper, I talked about cooperative work done by psychologists that today is considered in a negative light. That this work would not be condoned today is a given, but this doesn't imply that the people of that time deserve condemnation. I think there is a lot to learn from the experience of these psychologists.

In the 21st century, people encourage cooperation between academic and the society, and say that scholarship needs to be conducted in a way that connects to societal needs. However, is this any different from what was occurring in the prewar era? We may say that these current activities are now harmless compared to those undertaken in

prewar times, but in doing this we only ask questions and make judgments from our own historical perspective. Problems that existed in the prewar era were not pointed out until after the war ended.

I think it is required to take current conditions into consideration in a relative manner, and in doing this we should take note of psychological history.

Finally, the author's Ph. D. thesis, "Reception and Development of Psychology in Japan (Sato, 2001)" was published as a book with the same title in 2002 (佐藤達哉 2002 『日本における心理学の受容と展開』 北大路書房).

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