Historical Psychological Instruments of the old Taihoku Imperial University preserved in the National Taiwan University

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A preliminary investigation had been conducted by Dr. Shojiro Sakurai, Kaohsiung Medical University, on Historical Psychological Instruments of the old Taihoku Imperial University (1928-1945) preserved in the National Taiwan University. Tadasu Oyama, Nihon University, and Naoyuki Osaka. Kyoto University, were interested in the photographs of these instruments taken and displayed by Dr. Sakurai on his Website：
http://www.psy.kmu.edu.tw/~sakurai/japanese/jpa-history/kikai.html
and conducted some preliminary estimation on them comparing them with old catalogues of Zimmermann and Stoelting Co. and the historical instruments preserved in Kyoto University. http://www.psy.bun.kyoto-u.ac.jp/museum/

From 14 to 18 February, 2006, Yasuo Nishikawa, University of the Air, Ayumu Arakawa, Ristumeikan University, and Oyama visited Taipei, together with Dr. Sakurai, and saw, measured and photographed these instruments stored in the meeting room on the basement of the Psychology Building, National Taiwan University, with the kind and thoughtful cooperation of Professor K-C Liang and other members of the Department of Psychology. Comparison was also made with the old Chinese list of psychological instruments (probably made around 1948) found in the central library of the university.

About thirty historical instruments were guessed to be taken over from the Imperial University. These were classified into 7 for vision studies, 4 for audition studies, 1 for weight perception, 5 for time measurements, 4 for recordings, 6 for motor-skills, 1 for animal study, 3 miscellaneous as shown in Table 1.

Figures show photographs of these instruments taken by Dr. Sakurai and us, with some related pictures.

Some German classical experimental tradition on vision and audition studies and some American tradition on behavioral studies and tests are found in these instruments. It is quite natural because one of founding staff members, Professor Ryo-on Iinuma studied at a German University after his graduation from the Tokyo Imperial University and another member, Associate Professor Jien Rikimaru, got

his Ph.D. degree at Clark University, US.

On many instruments, maker's plates of Zimmermann Company, Berlin & Leipzig, Shimadzu Seisakusho, Kyoto, Stoelting Company, Chicago were found. In some cases, two plates, e.g. Zimmermann and Shimadzu were found on the same instruments. Recently, it was confirmed that Shimadzu Company served as an importing agency of Zimmermann, Max Kohl, Spindler and Hoyer and other European companies around 1930 from an old catalogue of Shimadzu Company by courtesy of the Shimadzu Foundation Memorial Hall, Kyoto.

http://www.shimadzu.co.jp/forest/

The Instrument No.1 is identified as Wundt's Pendulum Tachistoscope as the same as that preserved in Kyoto University, whereas the Pendulum Tachistoscope in Taipei has a plate "imported by Shimadzu Seisakusho" and that in Kyoto has a mark of Zimmermann. Both are very similar to No.39 in a Zimmermann Catalogue (1928).

The instrument No.2 looks similar to the Schumann's Rotation Tachistoscope used by Max Wertheimer, the first Gestalt psychologist, in 1910 in Frankfurt a. M. for his famous apparent motion experiment. However, details of slit arrangement are different from that in Frankfurt, now preserved in University of Passau, Germany. The Rotation Tachistoscope in Frankfurt has two circular lines of adjustable apertures, whereas that in Taipei has a circular line of apertures of a fixed size and adjustable covers on them. Recently, Professor Gundlach. University of Passau, kindly identified the photograph of the instrument in Taipei as an old type of Schumann's Tachistiscope, No. 226 shown in a catalogue of Spindler & Hoyer Company in 1908 . The instrument No.9 should be a double sound pendulum made by Zimmermann for the sound intensity discrimination experiment, though it is lacking a pendulum. The instrument No.10 was identified as a Stern's Tone Variator made by the Zimmermann and very similar to those in Kyoto which were made by Max Kohl. The instrument No. 11 was judged as a Seashore's Audiometer made by Stoelting, but slightly different from that in Kyoto made by the same company.

Visual measurement tests, auditory sensitivity tests, motor-skill tests might be used to test differences between Japanese, Chinese and Taiwan original peoples. Effects of high temperature and high humidity on human psychological achievements might also be tested with some of these instruments. According to a report by Iinuma in ***Japanese Journal of Psychology*** (1934), the original laboratory had a special experimental room in which the temperature and humidity were

controllable. Yoshitada Imai, assistant, reported in 1942 that the correlation between temperature and rat activity was being studied by means of activity wheels in the laboratory. The instrument No.28 may have been used in that time.

The instrument No. 4 should have been used by Shigeru Fujisawa in his experiment on the vertical and horizontal errors in center estimations of disks of various sizes reported in 1935. The instrument No.5 was judged as the same as that in a Catalogue of Shimadzu Company named Eye-measurement test. The instruments No.24 and No.27 with the plate of Shimadzu Company correspond to the "Match Board" and the two-hand coordination (engine-lath) test material in another Shimadzu Catalogues. Samples of these materials are being still displayed in the Shimadzu Foundation Memorial Hall, Kyoto. The "Match Board" is supposed to be the origin of the manual dexterity test that has been used until the present days. http://www007.upp.so-net.ne.jp/tkk/product/personality/psn1302.htm

As Professor Horst Gundluch, Institute for the History of Psychology, University of Passau, Gemany, pointed out in his E-mail, many of these instruments are very important for the history of psychology, because there are only a few specimens left on this globe.

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Recently Professor Liang sent us pictures of additional 5 historical instruments: Reflexohmeter, Lehmann' Eye Estimation Test Apparatus, Ebbinghaus' Aesthesiometer, Schultze's Touch Tester, and Galton's Whistle.