CHEN LI: CHINA'S ELDER PSYCHOLOGIST[1]

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[1] This work was supported by grants from the CRCG and the HK-China Travel Fund of the University of Hong Kong. I am grateful to Cheung Chin and Ronda Cheung for their translation of documents, Shen Heyong, Ma Jianhong and Jing Qicheng for sharing their knowledge of Professor Chen's work, and Bruce Bain for permission to quote from an extensive unpublished interview conducted with Professor Chen in October 1994. Thanks are also due the University of London thesis division for locating and providing me with a copy of Chen Li's 1933 doctoral thesis, Elisabeth Brauner of Humboldt University for information on Ida Frischeisen-Köhler, and Konrad Reschke of Leipzig University for information on Chen's visit there. I am indebted to Professor Chen himself for his correspondence, unpublished memoir, anecdotes, and generous hospitality offered me on three occasions during the development of this project. Much of the paper was written while I was a recipient of a USIA Exchange Fellowship at the Centre of East Asian Studies, University of Kansas.

ABSTRACT

Chen Li is one of a small group of Psychologists in China who trained abroad early in their careers, returned to teach and do research, and continued doing so into later life beyond normal retirement age. His contacts with a number of prominent psychologists in England and Germany in the 1930s, and his being inadvertently at the centre of a political row in China in the 1960s, leading to psychology shutting down for ten years, make him historically important. Known for his work in organizational psychology and education, he is a distinguished psychologist and educational leader. Although trained as an experimentalist, he now embraces a broader view of psychology but remains emphatic it should be applied to real life problems.

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Like only a handful of China's psychologists, such as Gao Juefu, Guo Renyuan, Pan Shu, Zuo Renxia and Wu Jianglin, Chen Li[2] belongs to that special group who were academically successful at school, secured scholarships to study abroad, returned to teach and practice their discipline, and remained doing so for the whole of their lives, well beyond the point at which most retire. Over the years he has built up a formidable body of work, ridden the storms of political controversy, and emerged as a respected elder psychologist. His lifelong devotion to experimental work, both pure and applied, has ensured his reputation in psychology in China, but, having brushed shoulders in his postgraduate student days with some of the most significant pioneers of psychology in the West, and had his own worked severely criticized in a political row in China, he is also a figure of some historical importance.

Early Years

He was born in Hunan province, Southern China, in 1902. His mother died when he was five and his father remained a widower. His primary education was in his village boarding school. In 1918, he went to Wesley College, a Methodist Missionary school, in Wuchang City, in Hubei province, where he received six years of secondary education. His Chinese teachers there had adopted the Dalton method of education whereby each child is allowed to proceed at his own pace.[3] This afforded him a liberal education and he read widely with great enthusiasm. It was the period of the new "Chinese Renaissance" flowering in the light of the May Fourth Movement and its

[2] In keeping with Chinese convention, the family name appears first. The phoneticisations are Mandarin and except for well-known names, are expressed in pinyin romanized form.

[3] Named after Dalton High School in New York, where Helen Parkhurst, employing "courageous good sense", first introduced this radically new style of teaching. It was embraced by many schoolteachers in America and England in the early twenties who were of the view that "...corporate oral instruction is an educational instrument whose predominance has increased, is increasing, and ought to diminish" (Nunn, 1925).

aftermath,[4] and the opening up of China to foreign ideas particularly in schools and universities. He excelled in science subjects at school and went on to pass the matriculation examination of the University of Hong Kong, but was too poor to take up a place there. Instead he opted for Shanghai University, which he chose, he tells us,[5] solely on the basis of having taken a liking to a picture of its science building in a book on scientific education.[6] Most of his courses were in physics and chemistry but he also studied biology, bacteriology and genetics. Much of his time was understandably taken up with laboratory work and he had little to spare for reading.

Coming to psychology: London, Edinburgh, Cambridge

After graduation he returned to his alma mater to teach natural sciences and take up administration duties. Two years later, in 1930, he won a prestigious scholarship to pursue advance studies abroad. Although this award was to take him to England, he had not given any thought to what he might study or where. However, once he had arrived, he made use of his former secondary school principal's connection to the London Institute of Education to secure an interview with its director, Sir Percy Nunn, who advised him to pursue advanced studies in psychology and recommended him to Charles Spearman at University College, London. Spearman readily accepted Chen to read for a Ph.D once he realized he intended to return to China to become a university professor, though he needed to sit in on courses in the College and pass a qualifying examination at the end of the first year.

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[4] The name derives from the date -- May 4th, 1919 -- of a protest launched by students of Peking University against China's signing of the Paris Peace treaty which provided for the transfer to the Japanese of property and rights in Shandung province held by Germany. Fürther demonstrations by students across the country followed, along with strikes by workers and businessmen in the new economic centres, and Japanese goods were boycotted. China, although friendly to Japan at the time, felt obliged to give way to public opinion and Chinese representatives in Paris did not sign the treaty. However the term is more broadly linked to the climate of reform which the protest signified. Students and others wanted changes to the social structure, a broadening of curriculum reform, and changes to the language itself. There was also call for more knowledge based upon science and democracy (see for example, Chow, 1964, Francke, 1967, Israel, 1966, Pepper, 1978, Spence, 1990).

[5] Taken from Chen Li's "A personal reminiscence", an unpublished manuscript from which I have drawn much of the factual material in this paper.

[6] Chen tells us this was a book by Twiss, probably, *Textbook in the principles of science teaching*. The book does not contain any photos in its English edition. Chen probably read it in Chinese translation.

Spearman had trained in Leipzig under Wundt, interrupted by a spell of military service; he studied in Wurzburg with Wundt's student, Kulpe, and in Gottingen with G.E. Mueller. He had developed a research program looking at relationships between measures of sensory discrimination, and scores on a wide range of tests associated with intellective functioning (Spearman, 1922). His position was that there exists a general factor of ability (subsequently called general intelligence or *g*) varying in performances and from one individual to another, and a large number of specific abilities (collectively called *s*). He was of the view that *g* was related to energy, while *s* to particular structures of mind (Flugel, 1948). Parallel to his theoretical work, he pioneered a method of identifying consistencies in relationships between test scores which he assumed were a reflection of mental activity and worked out a technique of making a hierarchical matrix of correlation coefficients to separate varieties of performance into those influenced by *g* and those by *s* (Spearman, 1904a,b).

Chen was instructed in these pioneering statistical manipulations from the master himself, but was later to grow dubious of the weight Spearman attributed to his primary factor, *g*, as this, seemingly, could be used by Spearman to justify a world order predicated upon Victorian Empire values. His reactions to Spearman's entry in Carl Murchison's *Psychologies of 1930* entitled, "g and after -- a school to end all schools" (Spearman, 1930), was one of astonishment, because, as he says in his interview with Bain,

"...the title sounded too highhanded. I felt very uneasy. I was deeply involved in seeking democracy for China, and I simply could not accommodate myself to such a slogan in psychology. I remain a devoted student of Spearman's two-factor model of intelligence. I have nothing that can surpass it in concept or specificity, but his views on life and society are unacceptable in modern society" (Bain, 1994).[7]

[7] Quoted with permission. A copy of this interview may be obtained from Professor Bruce Bain, Department of Educational Psychology, University of Alberta, Alberta, Canada, T6G2G5. E-mail: bruce.bain@ualberta.ca

He retained, nonetheless, considerable respect for Spearman and his ideas on *g*, especially those concerning the apprehension of relations, will, and motivation and personality. As Spearman's student, he investigated the relationship between fluctuations in sensory thresholds and mental ability as judged by performance across a range of mental tasks. This was done ostensibly as a fürther test of the stability of a generalized factor of *g* accounting for consistency of performance across a range of different tasks.

The lab at UCL was poorly equipped as Spearman operated under a tight budget. "Most of the equipment", Chen tells us,

"...was purchased from Munsterberg when he left Freiburg to go to America some years earlier. But it was mostly odds and ends...Typically Professor Spearman found the money for me to carry out my research…All of the tests needed apparatus, e.g. Seashore's audiometer for auditory threshold, dotting with MacDougal's doting machine, Kraepelin sheets with electric pen connected to a metronome to record time interval, and so on." (Bain, 1994).

At the end of 1931 Spearman retired from UCL to take up a teaching position in America, leaving the young Chen to his own devices. In the Easter break of 1932 Chen visited Edinburgh University and was shown around the psychology department by James Drever whose post of Director of the Combe laboratory of experimental education that year had been just been upgraded to a chair. Under Drever, the department became one of the vigorous centres of psychology in the country (Hearnshaw, 1964). Drever suggested that Chen visit Cambridge to see if he could study there under Bartlett. It is a measure of Chen's adventurousness and youthful confidence that in the summer break he took himself off to go there. At Cambridge he met Drever's son who, having obtained his M.A. from Edinburgh, was working on a Ph.D. in neurophysiology and who later succeeded his father at Edingburgh.

Dedicated to his work, and serious in his intention to pursue intellectual lines of enquiry, Chen spent a term at Cambridge and discussed his ideas frequently with Bartlett who, even as Head

of the laboratory, seemed always prepared to talk at length with his students. He clearly favoured methods of natural observation over strictly controlled conditions of the laboratory but, nonetheless, encouraged Chen to pursue his experimental studies and even suggested a topic: "Perseverance, facilitation, adaptation, and fatigue" which he set about with little guidance. The shortness of the Cambridge term meant that Chen could not pursue this in much depth and he left for the summer to return to London.

Once back he was regarded with some suspicion as he had been absent a whole term, and was in a quandary about whether to continue his Ph.D. at University College without his supervisor, Spearman, or return to Cambridge. He wrote to Bartlett who advised him to complete his Ph.D. first. He spent the whole of the next term finishing his experimental work and writing it up. In the wake of his departure Spearman had entrusted Chen to his colleague at UCL, J.C. Flugel, who read Chen's completed draft and approved it, making only one suggestion, the title: "Oscillation at the threshold and in mental work". Flugel had worked in this field himself and it was his close reading of Chen's draft which enabled him to see that its main thrust was examining the shifting of attention during tasks requiring concentration to changing sensory thresholds (Flugel, 1928). As it turned out Chen's results were, in the main, statistically non-significant. He was able to demonstrate oscillation as a phenomenon but the central factor, *o*, accounting for it across the range of different sensory tests, remained submerged beneath the peripheral factors affecting the individual tasks. Nevertheless the enthusiasm with which he accomplished this work, and the very careful attention he paid to its details, was to foster in the young Chen a penchant bordering on zealousness for experimental approaches to the analysis of psychological problems. The work was subsequently published (Chen, 1935).

At this point it would appear that Chen was giving some thought to his future as a career psychologist in China and was looking for how he might best prepare himself for his return. He briefly toyed with the idea of receiving a psychoanalytic training at the Tavistock Clinic, but when

informed of how long the training would last, and how much it would cost, looked elsewhere for a quicker means of obtaining some practical skills. He found it in a course offered by the National Institute of Industrial Psychology (NIIP) run by C.S. Meyers. Like Bartlett, Myers had run the laboratory of experimental psychology at Cambridge (and both had been students of W.H.R. Rivers) before resigning his post in 1921 to take up the directorship of the newly founded NIIP - the first institute in Britain devoted wholly to research in industrial psychology. Myers would also appear to have been impressed by the young Chen and was prepared to help a China student who would return to his homeland and advance the subject. While there he learned advanced statistics and how to administer recently developed psychological tests (Chen, 1934). This training was to arm him for later opportunities after his return to China.

The beckoning of Berlin

The stint at the National Institute put paid to his plans to return to Cambridge in the autumn term, and while he might have gone back to pursue postdoctoral studies there, opted instead to go to Germany, when an opportunity to visit Wolfgang Köhler at Humboldt University in Berlin presented itself. By the time Chen arrived in late 1933, Köhler had succeeded Carl Stumpf as director of Humboldt's Institute of Psychology then the centre of Gestalt Psychology. Max Wertheimer had already left to take up the chair at Frankfürt. Kurt Lewin had also just departed for America. Köhler was still working on chimpanzees but also producing papers on perception and other topics. According to Chen's memoir, Köhler went out of his way to make him welcome, even waiving the entrance fees with a warning that if anyone questioned him on this he was to say he was Köhler's guest.

After Köhler's initial overture however, Chen found he had to adapt to the fiercely bureaucratic and hierarchical order of the German University system where students were discouraged from dropping by their professors' offices for a chat, and instead were expected to

make appointments. Köhler had suggested to him a study of pitch perception to work on, and then left him to his own devices. It turned out to be one in the standard psychophysical paradigm of comparing objective measurements of pitch with their judged sensation. Chen had to make his own equipment as his initial demand for funds for an oscillograph exceeded the department's annual budget. This he proceeded to do with some ingenuity:

"I had to make a very crude tonoscope which was very clumsy to use. The speaker tube was connected to a gas tube leading to a Bunsen burner. A Mason disc was made to synchronize with the flickering flame by adjusting its speed with a rheostat. From a speedometer connected to the turning disc, one could then calculate the frequency of the tone. The subject was instructed to sing a tone at will and also a tone to match the key tone from a resonator made by Stumpf during the First World War from cigar boxes." (Chen, unpublished ms.)

Köhler was not very forthcoming about what he wanted Chen to do but directed him to a paper written by another of his research students, Ida Frischeisen-Köhler, on reaction time.[8] Chen tells us that after a preliminary investigation examining individual differences in pitch perception, which failed to impress Köhler, the study turned on the vexed question of the mind/body relationship: in this instance of the relationship between the tone generated by the subject's larynx, and the mental adjustment in pitch that was necessary to effect it. The study called for subtle changes to be made to the tone generated by the voice box, which Chen seemed unable to achieve by any conventional physical means, and he rejected Köhler's suggestion that he inject strychnine into the subject's throat to bring this about. The study thus ended in failure.

Chen's knowledge of German, although not good, was sufficient for him to read *Die physischen Gestalten in Ruhe und im stationarem Zustand* in which Köhler expounds his theory of how the mind processes and perceives the physical world by a principle of psychophysical

[8] . Ida Frischeisen-Köhler had taken her doctoral exam in 1932. Her thesis was entitled, "Eine erbpsychologische Untersuchung". The following year she had two papers published from this work in *Psychologische Forschung*, (Frischeisen-Köhler, 1933, a, b). Chen claims not to have seen the full papers, only her notebook (*heft*). Had he have done, he claims, his work might have gone in a different direction.

isomorphism, but did not find himself in agreement with Köhler's views. Fürther dialogue, in anyway was cut short by the intervention of cataclysmic historical events. Hitler had already assumed power and had begun a campaign of ethnic cleansing. Loyalties were being tested. German professors had to make a perfunctory salute to their Fuhrer at the start of each lecture, a dictate which Köhler seemingly ridiculed by comic displays before those sitting in the front rows of his lectures (Henle, 1986). As he was shortly to make his own departure for the United States, he called Chen to his office in the autumn of 1934 to advise him to return to China for his own safety as the Gestapo were targetting non-Aryans, including Asians (though Chen had so far escaped notice because they had assumed he was a Japanese, and hence a German ally).

Returning home

Early in 1935 Chen returned to China and secured a joint appointment in Beiping (now Beijing) teaching at the prestigious Qinghua University which had been set up to train students for fürther study abroad, and doing research at the Institute of Psychology, Academia Sinica, which had opened in 1929. He engaged in these activities in alternate terms. His teaching involved a course in industrial psychology, for which he wrote a small text, *Essentials of Industrial Psychology* which was published the following year by the Commercial Press - the first of its kind in China (Chen, 1935b). He also taught statistics -- a subject he had been skilled in by his teachers at UCL, Charles Spearman and Karl Pearson -- and test construction. Although the load was heavy he still found time to do some research and was consulted by two railway factories. While working at one of these, Chen noticed that the engines and their parts had been purchased from different countries, each foreign power exercising its right to buy machinery from its homeland. Spare stock was housed according to different countries' purchasing orders with little regard for servicing needs, so it frequently occurred that some parts were overstocked and others unavailable.

His statistical calculations, which involved matching estimates of purchase to rates of engine failure, ended up saving these factories considerable sums of money.

Wartime research

By 1939 the penetration of the Japanese into the interior of South West China had made the region around Qinghua unsafe, so Chen left to join the Faculty of Education at Zhejiang University where he would remain for the remainder of his life. This school, initially a provincial college, would undergo a series of metamorphoses to become what is now the highly prestigious Hangzhou University (see below). For the first six years he taught general psychology, educational psychology, mathematical statistics and theories of testing. Most of this was done in a remote spot of Zunyi as the entire university, books, equipment, and personnel had to be moved by boat from Hangzhou to ensure the safety of the students while the war was being waged in the interior. During this difficult period, he still found time to do research (Chen 1944). He had become acquainted with Thurstone by letter, and had become a member of the Psychometrika Society.[9] He decided to return to one of his abiding preoccupations: the nature of intelligence, the stability of *g*. He had been at odds with Spearman over the latter's insistence that *g* was stable over time so that, whatever the age of the population tested, the factor would show up with the same relative weight.

Chen took groups of schoolchildren from primary to senior secondary schools, and university freshmen, in age ranges parallel to those in Spearman's earlier work. He administered nine tests in all, several of which had come directly from Thurstone's test battery. Age corrected partial correlations of test scores were subjected to a factor analysis using Thurstone's Centroid method with orthogonal transformations. Across the range of verbal, non-verbal, and numerical tests, a general factor emerged which accounted for most of the variance; other factors played a significant role in younger age groups, less so in older ones. Chen concluded from this study that

[9] Thurstone had offered Chen a free membership in the Society and he also received their journal. They continued to correspond until the USA and China broke relations in 1949. Thurstone is acknowledged in Chen's paper published in the *Journal of Genetic Psychology*.

"there is a tendency for the factor patterns to become simpler as one advances in the developmental level" (Chen & Chow, 1948). In spite of the study's limitations, (too few tests, and few samples) the results concurred with his general position, that intellectual development involves an integration process at different educational levels due to "a transfer of training at different areas of schooling". As he went on to say,

"I still cling to my former conjecture that intelligence is a chaotic mass at birth, then differentiated to different aptitudes, and at last again fused into one -- *g* factor -- as the nucleus. In fact I am inclined to single out the verbal factor to this role." (Chen, unpublished ms.)

Intelligence then, for Chen, is more a matter of process than one of content. His expertise in statistics and testing have drawn him widely into the educational field but it is his skills in these areas and experimental design which have occupied the lion's share of his scholastic time. In spite of this concentration, his duty as a teacher has been to teach testing in the context of diagnostics, for, without therapeutic measures, testing is "worse than useless" (*Ibid*).

Chen's memoir does not tell us anything about his life during the turbulent years following the Japanese defeat prior the formation of the People's Republic in 1949, but, for everyone in China it was a period of intense uncertainty. In 1945 the Japanese had not looked like losing the war there. It was only the atomic bombing of its own cities in Hiroshima and Nagasaki which had brought about a total surrender. The uneasy alliance between the communists and the Guo Min Dang that had persisted during the war years turned into a policy of non cooperation shortly after, in spite of American efforts for it to continue. The communists, under Mao, gathered support among the populace in the northern and eastern regions of the country with their land reform policies, while the Guo Ming Dang, under the president of the republic, Chiang Kai-shek, failing to stem the currency crisis that ensued at war's end, had to contend with the falling morale of its own supporters. By 1948, Mao had gone on full military offensive and secured a conclusive victory within 18 months - a period which also saw the resignation of Chiang Kai-shek as president and his

departure to Taiwan with 300,000 loyal troops to rule militarily over that island. Mao announced the founding of the People's Republic on October 1st 1949.

During this difficult period Chen, like other psychologists of his generation, notably the translator, Gao Juefu, and the Head of Central (later, Nanjing) University's psychology department, Pan Shu (see Blowers, 1995, Yu, 1994a,b) was caught up in the debates of those intellectuals who were concerned to ponder the consequences for "Science and Democracy" in a proposed new type of Government. Out of a seminar convened by Pan in Chongqing in 1944, the *Jiu San*[10] society was formed a year later to commemorate the Japanese defeat, and to bring intellectuals of all persuasions under a common umbrella for the debate and dissemination of these ideas. It eventually evolved into a kind of academic political group (Editorial Board, 1991). Its membership is made up primarily of scientists and technologists with a membership of 50,000 today. Chen is now the Vice Chairman of the national advisory committee, and the honorary chairman of its Zhejiang provincial branch.

Senior academic in the new PRC

In the early years following the formation of the People's Republic, Russian influence bore down heavily on China's academies discouraging western ideas and promoting Soviet ones. This led to Russian advisors coming to China, even into the classrooms to engage directly with Chinese pupils. These visits were intended not only to raise the level of awareness of the students themselves, but their teachers who were supposed to follow instruction along pre-formulated party lines. Chen recounts how an expert in pre-school education was watching a class of preschoolers who were observing a goldfish. The teacher of the class instructed the children what to observe. This prompted the expert to level a series of criticisms at the teacher for interjecting since,

[10] Chinese for "nine-three". The numbers refer to the date on which the Society was officially formed (3rd September – the ninth month, of 1945).

according to the expert, based on sound Pavlovian principles, the instruction should evoke an excitation in one part of the cortex, which in turn should exert an external inhibition to observation, i.e. would work against the intention of the lesson to improve observation skills. This stimulated Chen, with his assistant Zhu Zu Xing, to research the effects of instruction on experimental observation. They concluded on the basis of their study (never published) that instruction enhances observation which "...indirectly supports my claim that *V* [the verbal factor] is the nucleus of intelligence" (Bain, 1994). This was reported at the 1960 National Congress of Psychology.

In the meantime Chen had become Vice-President of his University which had seen several changes to its structure in the early post-49 years. In late 1949 the new government had appointed a mixed group of officials and scientists to manage Zhejiang University, under Professor Chen's leadership. In 1952 a new Zhejiang Teacher's College was established out of some faculties at Zhejiang University and other colleges in the province and Chen was appointed its president. In 1958 this was reorganized into Hangzhou University with Chen as its Vice president (the president being a government official).[11]

By now he was a figure of some status and influence, and had recently had an opportunity to renew his connection to Humboldt University. Although Russian experts had come to visit classrooms, and advise on educational principles, the Academia Sinica did not receive any Russian psychologists. However, a few from other socialist countries came for short visits (Petzold, 1987). In 1956 Kurt Gottschaldt, who had been Köhler's assistant and was now the Director of the Institut für Psychologie, visited China's Institute of Psychology in Beijing and extended an invitation for a reciprocal visit by some of its workers. That same year Chen, in the company of three of the Institute's researchers, Pan Shu, Long Shu Xiu and Wu Jiangling, revisited Humboldt, and also met

[11] A highly regarded provincial university, Hangzhou University in 1998 was given the green light by the Central Committee of the Communist Party to integrate with two neighbouring universities - Zhejiang Medical College and Zhejiang Agricultural College - to form what will be Zhejiang University -- the largest in China.

Gottschaldt's assistant Friedhart Klix (see below). Prior to their return the party also paid a visit to the Soviet Academy of Sciences.

This trip had been made in the heightened, if brief, period of post revolutionary liberalism known as the Hundred Flowers Movement ["Let a hundred flowers bloom, let a hundred thoughts contend..."], where Mao had invited intellectuals of all persuasions to voice criticisms of their disciplines, but it was quickly followed by attacks from many quarters as a result of the Anti-Rightist or Criticism Movement which opposed psychology for its "bourgeois class character" and its tendency to academicism. Chen appears not to have been attacked personally but in the heated discussions to which psychologists contributed at this time, about whether psychology was to be a natural science unrelated to social problems, or a social science under Marxism, his friend, Pan Shu formulated a compromise position. On his view, psychology should dialectically combine social and natural sciences methods (Petzold, 1987) treating man as a social being whose thought was a reflection of social reality. These issues were to emerge again a few years later, by which time Chen was to play a more central role.

At the 1960 National Congress[12] Chen unfolded a blueprint for a large scale comparative study in intellectual development which would involve the cooperation of all schools of education. He proposed to start with some experimental investigations of abstraction, along the lines of the experimental psychology of the Wundtian pupil, Oswald Kulpe, with suitable procedural modifications to enhance their validity. Both Liu Fan, then a research fellow of the Institute of Psychology of the Chinese Academy of Science, and Pan Shu, President of the Chinese Psychological Society, strongly endorsed it. The studies were carried out under Chen's supervision by his assistant at the time, Wang An-sheng, and were published several years later (Chen and Wang, 1965). This would have been the moment at which deliberations with educational planners on the use to which the results might be put, take place, had not the political climate been set to

[12] In his article in *Guangming Ribao* of December 3rd 1965, in reply to criticisms of one of his published studies, Chen mentions that the date of the congress was February 1962.

rapidly alter and inadvertently propel Chen into the spotlight, onto a stage far bigger than the humble, if earnest, experimental psychologist might have imagined.

Inadvertent antagonist: the row with Yao

In 1965, Yao Wenyuan, soon to become a leading light in the politburo and later branded as a member of the "gang of four", was writing occasional critical articles under the pseudonym "Ge Mingren" ["Revolutionary man"] in the daily paper, *Guangming Ribao.*[13] These articles drew to the attention of the general public the activities of intellectuals across a range of disciplines, particularly to what were then perceived, in certain quarters, as their errors in politically correct thinking. This was the eve of the Cultural Revolution, as it came to be known. Masterminded by Mao himself, its aim was the reconstruction of a new "proletarian culture". All cultural practices, including the disciplines of science, were to be analyzed by the method of class analysis, and young people, including intellectuals, were encouraged in this activity.

For his critique of the discipline of psychology, Yao chose to tackle the research of Chen himself; specifically, his study on differences in color and shape preferences amongst schoolchildren and undergraduates (Chen and Wang, 1965, Ge, 1965). In a series of controlled studies, Chen and his associate, Wang An-sheng, showed children of different ages two boards, one containing four pieces of paper cut in the same shape, e.g. circles, but of different colours, the other having four different shapes (circle, square, rectangle, triangle) in the same colour. They were asked which they preferred. If they were not able to immediately fathom the question it was followed by another: which is more beautiful, and then the first question repeated: which do you prefer. The children were classified according to age ranges, under 3 years old; 3-5 years; 6 and above. According to Chen, the initial results showed how preferences for colour and shape appear

[13] An English translation of Yao Wen-yuan's article can be found in Ko Ming-jen, (1965) Is this a scientific method and correct direction for studying psychology? A question for psychologists. *Survey of Chinese Mainland Press* (SCMP) No. 3587 pp 918. I am grateful to an anonymous reviewer for pointing this out. My comments are taken from a privately commissioned translation.

developmentally as abstracting processes in young children such that, for three-year olds and under, shape is the preferred mode of discrimination; for those between 3 and 5 it is colour; 6 year olds and above were split equally between colour and shape. A fürther analysis of the actual colour preferences of children was not reported in detail.

Yao's criticisms of this work, couched in the then prevailing political ideology, focused on Chen's general approach and his conclusions. From the standpoint of historical materialism, people's activities, including their mental activities, are a reflection of social reality. They are determined by their personal developmental histories and by the sum of their experiences of everyday life. This means, Yao implied, that questions about people's preferences for colours and shapes cannot be addressed without considering the developmental histories of the participants on the one hand, and the putting of the questions into concrete contexts on the other (preferences for *which* colours/shapes, under *what* circumstances?) Expressed like this the answers to questions of preference, according to Yao, will be as varied within the same people depending upon the circumstances and their upbringing, as they are between different people. To conclude otherwise is to conceptualize "preference" as an abstract entity residing in the heads of individuals in a socially isolated way, which evolves of its own urging independently of the particular life circumstances of the individuals concerned. Such theorizing was thought to be "metaphysical" and not in keeping with dialectical doctrine, the main source for which was then Mao's essay, *On Contradiction*, in which, following Lenin, Mao opposed the "vulgar evolutionist world view" of seeing things as static, isolated, and one-sided, rather than as unitary opposites (Mao, 1965). According to Yao, both Chen's conclusions and his method were in error as they did not address the everyday realities of people.

Chen's reply to this spirited attack was to come just five weeks later, in the pages of the same newspaper.[14] Acknowledging that development and practice are important in attempting to answer psychological questions, and reminding readers that experimental psychology is but one way of conducting psychological research, he defended his studies by placing them in the wider context of their genesis. They were part of a national research strategy in the field of education. Their purpose was to uncover information about the general conceptual abilities of children of different ages in order to speculate upon the *causes* of differentiation. By such theoretical work, educational planners would be able devise pedagogical strategy in the classroom more effectively. This is because the results of studies like Chen's could be used to predict the limits (and possibilities) for teaching styles in kindergarten and elementary school pupils. Far from avoiding the way reality might shape our perceptions of the world, Chen's claim is that his studies *do* address the reality of schoolchildren because their classroom environment (with its materials of differing shapes and colours in cut-out form, dotted around the school, on walls, and in picture books of all shapes, colors and sizes) impacts upon them and affects and shapes their perceptions. Thus, he argued, his studies did not warrant Yao's criticisms.

Although Yao's argument has a contemporary ring to it, as current mainstream psychology is under scrutiny for what are seen in some quarters as its socially constrained and limited experimental methods (see, for example, Billig, 1994, Danzinger, 1990), he clearly intended political mischief by writing it. At that time he was relatively unknown writer living in Shanghai. But he soon worked his way up to become the minister of propaganda, science and culture in the

[14] . Yao's article is dated October 28th, 1965; Chen's December 3rd, the same year. Chen's would have appeared sooner had he not been away from Hangzhou at the time. In western accounts of this incident, these dates have been overlooked, and hence the event misunderstood. Western sources have relied extensively on Lawrence Brown's book *Psychology in Contemporary China* (1981) which contains many translations of psychological articles written in Chinese between 1949 and 1979 including two of Chen's. Stevenson, in his review of Brown's book (1982) obviously relies on Chen's account written in a 1979 paper, mistakenly assuming this was Chen's formal reply to Yao, coming after the fall of the Gang of Four. Chen's 1965 *Guangming Daily* article was subsequently republished in *The Chinese Psychological Bulletin, no. 1* in 1966, and in several other places as interest in the debate swelled.

Central Committee of the Communist Party (Ching, 1980). From there however, as Chen was to note later, he was able to make it,

"...a political issue of unwarranted importance, propounded by political zealots who had their own agenda. Very soon, bulletins were published, a shower of commentaries written, mostly harsh criticisms, and the atmosphere became very charged. In a very short period any commentary with a touch of sympathy with my view would be condemned as anti-revolutionary...[which] was punishable followed by severe physical and mental consequences -- especially at the start of this period, when the brutal "Gang of Four" came to power...the National Institute of Psychology was dissolved, psychology was banned, and forbidden to be taught in any school, and any institution...contaminated with disbanded..." (Bain, op.cit)

With Hangzhou University shut down, Chen, in keeping with many intellectuals, was sent to the countryside to labour alongside peasants, an experience he recalled not minding since, unlike many others, he was treated quite leniently. Later, he was sent to a "May 7th University"[15] in Wuyi county, Zhejiang province, where he was assigned as an assistant to a teacher of mathematics, which turned out to be first year geometry. His excellent teaching skills won over the students which enraged the guards who perceived the assignment as a punishment, and he was transferred to kitchen duties after that. Here, he tells us, no job fitted him, so he became isolated and aloof until the day he caught a cold, was refused hospital attention, and sent home.

The return to grace

With the overthrow of the Gang of Four in 1976, psychology became respectable again. This reversal in the discipline's fortune was but one instance it which it suffered upheavals in its all too short development in China, due in part to the contrasting views of significant politicians within the Communist party itself (Petzold, 1987). While some, such as Deng Xiaoping and Zhou Enlai,

[15] . May 7th Universities were the cadre schools brought into existence under Mao's directive issued on the 7th May 1966. Their intention was to remold teachers' world outlook through work in the countryside.

had thought that intellectuals should be conceded a degree of freedom in determining the direction of their own discipline's development, others, such as the ultra-leftists to which Yao Wenyuan had been aligned, thought psychology a bourgeois pseudoscience in need of closing down, and sent uneducated political cadres to run research institutes and universities. With Yao's arrest however, along with Mao's widow, Jiang Qing, Zhang Chunqiao and Wang Hongwen, in October of 1976, that position began to change. Following a national science conference in Peking in March of 1978 a modernization program was announced at which 88 key universities were to reopen with admission only by rigorous competition. Scientists sent to the countryside in the previous few years were recalled and reassigned to professional jobs (Spence, 1990).

Chen was invited that year by the Institute of Psychology at the Chinese Academy of Sciences to a committee to draft a new program of psychology in China. Back at Hangzhou University he was elected its new President, and a new psychology department opened shortly thereafter with a concentration in Chen's specialist area: industrial psychology.

In 1979, in conjunction with his former assistant, now Professor, Wang An-sheng, he published another article reprising the faults of Yao's criticisms of his work on colour and shape preferences, entitled, "Hold on to scientific experimentation in psychology" (Chen and Wang, 1979). Although this was primarily Professor Wang's paper, it was one of the earliest opportunities, following the fall of the gang of four, for psychologists to discuss their recent past in an open and unrestrained way, having been publicly vilified for the best part of ten years, and the tone of the piece is, understandably, more aggressive and retaliatory than his earlier newspaper article. Wang's rhetoric reflected the times, as China began shaping up for an open-to-all policy, industrial and economic reform, and a reopening and expansion of universities, including an increase in translation of foreign materials and the encouragement of academic exchanges with scholars abroad (Wang, 1993).

This period has turned out to be one of great productivity for Chen, who, as respected elder psychologist, has held several honorary presidencies including those of the newly formed Behavioural Sciences and Ergonomics Associations, as well as continuing in an honorary presidential role at Hangzhou University. As such he has been able to oversee exciting new developments in industrial and educational psychology, two fields where it is felt that psychology can make a big impact in the present climate. He has begun to write again about the use of psychology in industry, producing three books in five years (Chen, 1983, Xu & Chen, 1987, Chen, 1988a). In these and other publications he has introduced to a new generation of psychologists and future managers the value of psychology in studying organizations. Stressing the need to define objectives, promote good leadership yet encourage active participation, he is giving voice to the spirit of the times (Xu, Chen, Wang & Xue, 1985, Chen, 1989).

In other writing of this period too, he draws to the attention of younger researchers the need to develop Chinese models of psychological theory by taking a more holistic approach to their work, and to be careful in the standardization of tests, an activity becoming popular amongst psychologists in Hangzhou as they apply them in much of their industrial research (Chen, 1988b). Chen has called for a comprehensive item analysis, and attention to methodological issues: validation was generally weak even when large samples were used for standardization (Chen, 1982, 1990, 1992a).

In 1980 he headed a delegation of psychologists from China to the Wundt centennial celebrations held in Leipzig as part of the International Congress of Psychology. It was at this conference that the Chinese Psychological Society was formally admitted to the IUPsyS. Chen presented a paper on Wundt's influence on Chinese psychology, which had stemmed in part from Wundt's only Chinese pupil, the democratic reformer, Tsai Yuan-paiööö (Cai Yuanpei), having been influential in opening the first psychology laboratory in China at Peking University in 1917 (Pan and Chen, 1983). In his address to the Congress, appreciating

diversity in unity, he called for hard efforts by all psychologists to establish a genuinely scientific psychology. Prior to the conference, Chen had been invited by the West German Psychology Society to visit a number of Max Planck research institutes, from which he gleamed a closer picture of psychological research in that country, noting it had become stuffed with "American products" [*Meiguo huo*] (Chen, 1981).

In 1983 he made yet another trip abroad, this time to several Universities in the United States and England as part of a delegation of senior university administrators under the sponsorship of UNESCO. While his reputation as a psychologist is largely unknown in America, in England he was welcomed back to University College London at a special ceremony to make him a Fellow of the College. Vice Chancellor Audley, in his address, spoke of Chen's "very splendid Ph.D. dissertation" and of his "enormous influence on Chinese psychology".

Chen trained as an experimental psychologist in the days when that sub-discipline spearheaded exciting new work in psychology as a whole, but he has since become a zealous proponent of a rather different approach. In his latest paper bluntly entitled, "Plain talk on wither psychology", (Chen 1997) he laments the mechanistic legacy of experimental psychology, since taken up by cognitive psychology, and calls for psychologists in China to take a more hermeneutic orientation to the problems of today. Critical of the fragmentation of the discipline into independent activities which he likens to "skirmishes" (*zao yu zhan*) he proposes a more integral cooperative stance or "campaign" (*zhan yi xing de yangjiu*) by which psychologists can come together to deal with real life problems.

Acknowledging the necessity to apply psychological theory to work and educationally related problems, he says, in the preface to a selection of his works, printed in a volume at the urging of his friends on the occasion of his ninetieth birthday, "I deeply believe science should be rooted in the public mind" (Chen 1992b). The breadth of material covered in this volume reveals a scholar of wide ranging concerns, from general psychology, through industrial and managerial

psychology, to educational psychology and "the science of science" -- commentaries on the social nature of science.

Chen's broadening view of psychology is a sign of his continuing activity and stance. As he wrote most recently, "I believe that a man does change, because he is a living being. Without evolution or progress in prospect, I do not think one can understand a man in full" (Chen, personal communication).

As China's psychologists gear themselves up to expanding the discipline on a number fronts (see Wang, 1993, Blowers, 1996) it remains to be seen whether his lifetime of work in teaching and training others to this point of view produces the yield that he himself has so earnestly cultivated all his life.

REFERENCES

Bain, B. (1994) An Interview with Chen Li. Unpublished ms.

Billig, M. (1994) Repopulating the depopulated pages of social psychology, *Theory and Psychology, 4*, 307-335.

Blowers, G.H. (1995) Gao Juefu: China's interpreter of western psychology. *World Psychology, 1* (3):107-121.

Blowers, G.H. (1996) The prospects for a Chinese Psychology, in M.H. Bond (Ed.), *The Handbook of Chinese Psychology*, London and New York: Oxford University Press. 1-14.

Brown, L.B. (1981) *Psychology in Contemporary China.* New York: Pergamon.

Chen, L. (1933) Oscillation at the threshold and in mental work. University of London, Unpublished PhD thesis.

Chen, L. (1934) Precision screw-driver in small assembly work, *N.I.I.P Human Factors*, February.

Chen, L. (1935a) Periodicity in Oscillation, *British Journal of Psychology, 25* (3) January.

Chen, L. (1935b) *Gong ye xin li xue gai guan, shuang wu yin shu guan*, ['Essentials of Industrial Psychology'] Shanghai: Commercial Press.

Chen, L. (1944) The correction formula for matching tests, *Journal of Educational Psychology*, Vol. XXV, (9).

Chen, L. (1965*)* Dui xinlixue zhong shiyan fa de gujia wenti, ['The evaluation of experimental methods'] *Guangming Ribao* December 3rd.

Chen, L. A personal reminiscence of Chen Li. Unpublished ms.

Chen, L. (1981) Fang wen xi de gui lai [Back from a visit to West Germany] *Wai guo xin li xue 1.*

Chen, L. (1982) Wo dui ce yan de kan fa [Opinions on testing]. *Xin li ke xue tong xun. 3,* 1-4.

Chen, L. (1988a) (Ed.) *Gong ye guan li xin li xue* ['Psychology of Industrial Management']. Shanghai: Shanghai People's Press.

Chen, L. (1988b) Gong ye xian dai hua zhong de hong guan gong xiao xue, ['Macroergonomics in industrial modernization']. *Chinese Journal of Applied Psychology, 1*,1, 1-4.

Chen, L. (1989) Jing ji ti zhi gai ge zhong de zhu zhi fa zhan yan jiu ['Organizational Development in China: Chinese version'].*Chinese Journal of Applied Psychology, 1*, 1-5.

Chen, L. (1990) Ce yan xiao du li lun de xi yi ['Theoretical analysis of the validity of ability tests']. *Chinese Journal of Applied Psychology, 1*, 1-4.

Chen, L. (1992a) Xue xiao xin li xue de zhuan ye hua ['School psychology as a profession']. *Chinese Journal of Applied Psychology, 1*, 1-5.

Chen, L. (1992b) *Chenli Xinlikexue Lunzhuxua* [A selection of my works of psychological science] Hangzhou: Xinhua Publisher.

Chen, L. (1997) Pinghua Xinlixue xianghe chuqu ['Plain talk on wither psychology'] *Psychological Science, 20,* (5), 385-389.

Chen, L. and Chow, H.H. (1948) A factor study of a test battery at different educational levels. *Journal of Genetic Psychology*, *73*, 187-199.

Chen L. and Wang A.S. (1965) Er tong se xing chou xiang de fa zhan yan jiu ['A developmental study of colour and form abstraction in children']. *Acta Psychologica Sinica, 10*, 154-162.

Chen L. and Wang A.S. (1979). Jian chi xin li xue de ke xue shi yan ['Hold on to scientific experimentation in psychology']. English translation in Brown, L.B. (1981). *Psychology in contemporary China (*pp.151-156)]. New York: Pergamon.

Ching, C.C. (1980) Psychology in the People's Republic of China. *American Psychologist, 35,* No.12, 1084-1089.

Chow, T.T. (1964) *The May Fourth Movement: Intellectual Revolution in Modern China*. Cambridge, MA: Harvard University Press.

Danzinger, K. (1990) *Constructing the subject*. Cambridge: Cambridge University Press.

Editorial Board (1991) *Jue san xue she lishi ziliao xuanji* ['Selected historical materials of the *Jiu San* Society'] Beijing: Xue Yuan.

Flugel, J.C. (1928) Practice, fatigue and oscillation. A study of work at high pressure. *British Journal of Psychology* Monthly Supplement, No. 13.

Flugel, J.C. (1948) *A hundred years of psychology: 1833-1933*.London: Duckworth.

Franke, W. (1967) *China and the West*. Oxford:Basil Blackwell.

Frischeisen-Köhler, I. (1933a) Uber die Empfindlichkeit für Schnelligkeitsunterschiede", *Psychologische Forschung, 18,* 286-290.

Frischeisen-Köhler, I. (1933b) Festellung des weder langsamen noch schnellen (mittelmaßigen) Tempos, *Psychologische Forschung, 18,* 291-298.

Ge Mingren [Yao Wenyuan], (1965) Zhe shi yanjiu xinlixue de kexue fangfa he zheng que fangxiang ma?, *Guangming Ribao* October 28th. ['Is this a scientific method and correct direction for studying psychology? A question for psychologists.'] English translation in *Survey of Chinese Mainland Press* (SCMP) No. 3587 pp 918.

Hearnshaw, L.S. (1964) *A short history of British Psychology*. London: Methuen.

Henle, M. (1986) One man against the Nazis--Wolfgang Köhler, in M. Henle, *1879 and all that: essays in the Theory and History of Psychology,* New York: Columbia University Press pp. 225-237.

Israel, J. (1966) The rise of student nationalism 1927-1937 Stanford: Stanford University Press.

Mao, T.T. (1965) On Contradiction. *The selected works of Mao Tse Tung Vol.1*. Peking: Foreign Languages Press.

Murchison C. (1930) *Psychologies of 1930*.

Nunn, T.P. (1925) Preface. In A.J. Lynch, *Individual work and the Dalton Plan* London: George Philip & Son. p.ix.

Pan, S. and Chen, L. (1983) Wilhelm Wundt and Chinese Psychology, in G. Eckardt & L. Sprung (Eds.) *Advances in Historiography of Psychology,* Berlin: VEB Deutscher Verlag Wissenschaften. 146-149.

Pepper, S. (1978) *Civil War in China: The political struggle, 1945-49* Berkeley: University of California Press.

Petzold, M. (1987) The social history of Chinese psychology. In Mitchel G. Ash and William R. Woodward (1987) *Psychology in Twentieth Century Thought and Society*, New York and London: Cambridge University Press.

Spearman, C.S. (1904a) The proof and measurement of association between two things. *American Journal of Psychology 15,* 200-292.

Spearman, C.S. (1904b) "General Intelligence" objectively determined. *American Journal of Psychology 15,* 200-292.

Spearman, C.S. (1922) *The nature of intelligence and the principles of cognition*. London: Macmillan.

Spearman, C.S. (1930) In C. Murchison (ed) *A history of psychology in autobiography*. Worcester, MA: Clark University Press. p. 299-333.

Spence, J, (1990) *In search of Modern China*. New York: Norton.

Stevenson, H.W. (1982) The saga of Chinese Psychology: a review of L.B. Brown's "Psychology in contemporary China". *Contemporary Psychology 27*, 773-775.

Twiss, G.R. (1919) *Textbook in the principles of science teaching.* New York: Macmillan.

Wang, Z.M. (1993) Psychology in China: a review dedicated to Li Chen. *Annual Review of Psychology 44,* 87-116.

Xu, L.C., Chen, L., Wang, D. & Xue, A.Y. (1985) The role of psychology in enterprise management. *Acta Psychologica Sinica, 17* 339-345.

Xu, L.C. and Chen, L. (1987) *Managerial Psychology*, Beijing: People's Daily Press.

Yu, G.A (1994a) Theoretical psychology in China today. *Theory and Psychology Vol.4* (2) 261-275.

Yu, G.A. (1994b) More on Chinese theoretical psychology: a rejoinder to Matthias Petzold. *Theory and Psychology Vol.4* (2) 281-283