

The Postwar Return of Eugenics and the Dialectics of Scientific Practice in China

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Abstract

In communist China, the return of eugenics, together with the one-child policy since the 1980s, was to reverse Mao Zedong's policy of population expansion in order to supply manual labor for productivity. This article explores Chinese geneticists who survived the anti-Rightist campaigns and the Cultural Revolution, reinvented themselves and generated the contemporary revival of eugenics. I argue that Chinese geneticists, far from being victims as their own accounts suggest, survived by overcoming Lysenkoism and transforming themselves into ardent advocates of eugenics. Chinese geneticists, who were deprived of intellectual freedom in the Lysenko controversy, proved unable to respond to others' suffering. I explain this inability by probing its epistemological and historical underpinnings; the former based on how the physician values human life and on the ethical relationship between physician and patient, and the latter on a generational culture drawn from these physicians' Cultural Revolution experience and its dialectic post-Mao offshoot of scientism

that shaped their mentality.

Keywords: Mao Zedong, Lysenkoism, geneticists, eugenics, Cultural Revolution

As part of the Morgan group at the California Institute of Technology in the 1930s, C. C. Tan (Tan Jiazhen 谈家桢, 1909-) helped make *Drosophila pseudoobscura* the leading species used in evolutionary studies and did pioneering work in insect genetics. He subsequently gained international recognition and returned to China to teach at Zhejiang University before the outbreak of the Second Sino-Japanese War (1937-45). When the communist regime took power in mainland China in 1949, he decided to stay rather than make for Taiwan or the United States. The new regime instigated a thoroughgoing intellectual revolution in the early 1950s, and Tan underwent a series of round-the-clock public interrogations. Eventually, in August of 1952, Tan openly renounced his American training, especially the intellectual tie with his mentor T. H. Morgan. He confessed,

I was poisoned by Morgan's reactionary theory of chromosome heredity and intoxicated by the so-called intellectual freedom of scientific research promoted by Euro-American capitalism. Hitler manipulated such reactionary theory to exterminate the Jews and the Americans used it to exploit people of color. . . . Morgan's theory is baseless pseudo-science and I was ashamed that I had bragged about being his disciple. . . . I have ignored scientific practice and application along the way. Instead, I imposed Mendel and Morgan's hypothesis of the gene on any discovered biological facts. I misunderstood and manipulated Michurine Biology. I once mechanically reconciled the Lysenko theory of metabolism with Morgan's gene theory, by simply emphasizing the environmental factors without any passionate faith. How little did I understand that the differences between these two genetic approaches arose from the fundamental polarity of dialectic materialism versus idealism.¹

¹ Tan's self-criticism, "Pipan wo dui miqiulin shengwu kexue de cuowu kanfa 批判我对米丘林生物科学的错误看法" in *Zhongguo dangdai kexue sichao 1949-1991 中国当代科学思潮*, ed. Yan Bofei (Shanghai: Sanlian, 1993), 49-52.

In the heat of the eugenics and population control campaigns of the 1980s and 1990s, C. C. Tan changed his political stance fundamentally. He not only embraced Morgan's chromosome theory and nurtured the establishment of the International Morgan-Tan Life Sciences Center 摩根谈国际生命科学中心 in Shanghai, but also endorsed eugenics as an interdisciplinary field centered on human health and population quality.² He became a member of the Chinese Academy of Sciences 中国科学院 in 1980, a foreign associate of the American Academy of Science in 1985, and a foreign member of the Italian Academy of Science in 1987. The fact that Tan survived and eventually thrived caught the attention of the globally popular magazine *Nature*; such fact also redeems the promise of human genetics as an indispensable discipline for ensuring national wealth and health.³

Tan's dramatic life experience reveals the fluctuating fate of Chinese geneticists, first suffering the loss of their intellectual freedom and later becoming aggressive campaigners for eugenics legislation. This human drama arouses our curiosity not only about Tan's subjectivity and his strategy for overcoming Lysenkoism, but also about the shifting contexts that constituted the dialectics of scientific practice and polarized the meaning of eugenics throughout five decades. According to the 1994-96 comparative survey of world geneticists, Chinese geneticists are the most likely to provide pessimistic counselling on hereditary or congenital diseases. They are prone to urge termination of pregnancy and emphasize negative aspects of fetus development so that couples are likely to opt for termination even without the physician's direct suggestion. This negative attitude may prompt us to wonder if the

² See Tan's biography by Zhao Gongmin, *Tan Jiazhen yu yichuanxue* 谈家桢与遗传学 (Nan Ning: Guangxi kexue jishu chubanshe, 1996), 244-245. This book is basically a combination of Zhao's interview of C. C. Tan and Tan's memoir.

³ David Dickson, "Back on Track: the Rebirth of Human Genetics in China," *Nature*, 396, no. 6709 (1998): 303-306.

dialectical shifts of political context have shaped these cultural differences. It is of particular note that these Chinese geneticists have a median age of 50, and either took part in Red Guard activities or lived through the decade of Cultural Revolution (1967-76) during their formative schooling years. Their cultural difference is unlikely to be the product of traditional Chinese culture, as recently claimed by Chinese bioethicists and other researchers in the face of universalistic criticism by Human Rights activists, but rather of their own generational culture.

To unravel the intricate reality emerging from the dialectics of scientific practice and the polarized signification of eugenics, the first section of this article begins by grappling with the international context of Lysenkoism versus eugenics; it was in this context that genetics became a politically charged subject in the postwar era. The second section sketches the postwar history of Chinese genetics and explores how Chinese geneticists survived the era of Lysenkoism to become the engine of the eugenics movement in the 1980s and 1990s. In this section, I argue that Chinese geneticists, far from being victims as their own accounts suggest, survived by overcoming Lysenkoism and transforming themselves into ardent advocates of eugenics from the late 1970s on. The third section explores the reasons why Chinese geneticists, who had been deprived of intellectual freedom in the Lysenko controversy, proved unable to respond to others' suffering in the same way. I shed light on this inability by probing its epistemological and historical underpinnings; the former based on how the physician values human life and on the ethical relationship between physician and patient, and the latter on a generational culture drawn from these physicians' Cultural Revolution experience and its dialectic post-Mao offshoot of scientism, a development that in turn constituted the milieu that shaped their mentality.

Postwar Conditions: Lysenkoism versus Eugenics

After World War II, the Soviet Union and the United States remade the world by creating two mutually antagonistic zones, the former seeking international communist coalition and the latter sustaining capitalist hegemony. In both zones, the popular eugenics movement collapsed when the world observed the Nazi medical crimes on trial in Nuremberg. The crimes ranged from the killing of the mentally ill and the handicapped, and mass murder of “useless” social elements such as maladjusted adolescents, sick foreign slave laborers, and the mentally retarded in hospitals and foster homes, of which publics around the world were largely aware, to the less well-known abuse of concentration camp inmates and foreign war prisoners in human experiments.⁴

Human genetics and genetics in general were stigmatized along with eugenics through association with fascism. Racial hygiene and racial betterment suddenly disappeared from the realm of public discussion in the mass media. In addition to war trials, the rise of Lysenkoism meant that genetics as a discipline faced a bleak future. Particularly during the heyday of Lysenkoism from 1948-52, official Russian publications often made no distinction between genetics, eugenics, and fascism. The official propaganda administered by Trofim Denisovich Lysenko (1898-1976), on the one hand, denounced geneticists’ scientific studies of *drosophila* as useless and on the other hand promoted “Michurinist biology” as a productive scientific

⁴ Christian Pross, “Nazi Doctors, German Medicine, and Historical Truth” and Robert N. Proctor, “Nazi Doctors, Racial Medicine, and Human Experimentation” in *The Nazi Doctors and the Nuremberg Code: Human Rights in Human Experimentation*, eds. George J. Annas and Michael A. Grodin (Oxford: Oxford University Press, 1992), 17-52.

practice aimed at dramatically improving agricultural yields.⁵ With the political endorsement of Stalin, Lysenko dictated the scientific field of genetics. A number of leading genetics laboratories such as the Eugenics division at the Office of Human Heredity and Constitution, the Genetics Institute of the USSR Academy of Sciences in Moscow, the Eugenics Division of the Koltsov Institute and the Levit Institute, and the Institute of Medical Genetics were simply closed down, and over three thousand biologists were fired. Respected geneticists committed suicide, were persecuted or died mysteriously.⁶ Despite this, Lysenko did not destroy human genetics research, but only undermined the geneticists who had carried out eugenics research in the 1920s and 1930s. Genetics moved underground and survived by infiltrating psychology, physiology and medicine. By 1963, genetics and eugenics had reinvented themselves as medical genetics, in time to tackle newly emerging subjects such as the effects of radiation on humans in an atomic age.⁷

In the 1930s, human genetics in the United States hit a low point, as genetic theories were employed to justify the 1924 Immigration Restriction Act and to sustain the eugenics ideology in subsequent social debates.⁸ The Nazi murder of the Jews in the name of “racial cultivation” alienated the American genetics community. From 1940 to 1970, periodical and newspaper coverage of eugenics and genetics declined substantially. Eugenics, however, remained alive, finding a new focus in the issues of birth control and overpopulation in other countries; this generated a new “ethically sound” form of genetic research and neutralized the

⁵ Mark B. Adams, “Eugenics in Russia 1900-1940,” in *The Wellborn Science: Eugenics in Germany, France, Brazil, and Russia* (Oxford: Oxford University Press, 1990), 199.

⁶ Loren R. Graham, *Science in Russia and the Soviet Union: A Short History* (Cambridge: Cambridge University Press, 1993), 121-134.

⁷ Mark B. Adams, “Eugenics in Russia 1900-1940,” 199-200.

⁸ Kenneth M. Ludmerer, *Genetics and American Society: A Historical Appraisal* (Baltimore: The Johns Hopkins University Press, 1972), 1.

association with Nazism. During this period, as the Soviet Union emerged as a new enemy and the full horror of the atom bomb became apparent to all, American genetics entered a new phase, on the one hand medicalizing human genetics and on the other displacing it in favor of plant and animal genetics.⁹ American revulsion at Nazi racial hygiene shifted to Lysenkoism, which was condemned as another example of Soviet evil. Anti-Nazi sentiments were thus effectively neutralized. American media coverage of Lysenko presented Soviet genetics as the polar opposite of American genetic research, where intellectual freedom supposedly reigned, thus reinvesting it with a moral cause.¹⁰

During this transitional period, most Anglo-American geneticists continued to believe that heredity was a matter of public concern whether or not they called this “eugenics.” The only exception was Lionel Penrose in Britain, appointed professor in eugenics at the Galton Laboratory, University of London. He insisted on replacing “eugenics” with “human genetics” in the title of his new post.¹¹ In the 1950s and 1960s, medical geneticists like Sheldon Reed perceived their genetic counselling as a benign extension of eugenics, or in Reed’s own words, “Counselling in human genetics is the modern way of carrying on a program in eugenics.”¹² Most of the institutions providing funding for medical genetics, such as the Rockefeller, Carnegie, Wenner-Grenn, McGregor, and Rackham foundations, the Commonwealth and Pioneer Funds, and the American Eugenics Society, were motivated by a eugenic concern to improve the human race. Eugenic rhetoric made a comeback among medical geneticists in the postwar decades, but this time around it emphasized the struggle

⁹ Celeste Michelle Condit, *The Meanings of the Gene: Public Debates About Human Heredity* (Madison: The University of Wisconsin Press, 1999), 65-67.

¹⁰ *Ibid.*, 69-70.

¹¹ Diane B. Paul, *Controlling Human Heredity: 1865 to the Present* (Amherst: Humanity Books, 1998), 125-129.

¹² Diane B. Paul, *The Politics of Heredity: Essays on Eugenics, Biomedicine, and the Nature-Nurture Debate* (Albany: SUNY Press, 1998), 134.

against the genetic underpinnings of disease and alleviation of individual suffering, and no longer overtly targeted ethnic and religious minorities and the poor.¹³

In Germany, despite trenchant criticism from the world and pressure from “postwar surgeries” to remove all traces of explicit Nazi propaganda and to cast off the criminal past and the ideology of racial hygiene embedded in medical texts, many of Germany’s racial hygienists were able to continue their careers and maintain their research interests after the war under the name of “human genetics.”¹⁴ The German medical community conservatively claimed that out of a total of 90,000 physicians only 350 doctors had participated in actual medical crimes, and that few others knew about them. Since most of the physicians who took part voluntarily in Nazi medical activities still held leading positions in professional organizations and university chairs, little in the way of apologetic literature appeared on the profession’s past. These physicians were the invisible force obstructing any such revelations.¹⁵ Not until the 1970s did scholars in East and West Germany break the deathly silence surrounding this topic.¹⁶

In postwar Japan, silence has prevailed on the racial hygiene campaigns and wartime medical experiments in Unit 731 Manchuria and other military camps. This, though, is a complex silence. It is a silence imposed through a political transaction: Japanese biological weapons experts handed over data on biological experiments in exchange for immunity in the

¹³ Ibid., 136-142.

¹⁴ Robert N. Proctor, *Racial Hygiene: Medicine under the Nazis* (Cambridge: Harvard University Press, 1988), 308.

¹⁵ Christian Pross provides a historiography of the rediscovery of Nazi doctors’ past in “Nazi Doctors, German Medicine, and Historical Truth” (see n. 4).

¹⁶ Robert N. Proctor, *Racial Hygiene*, 309-312.

Tokyo War Crimes Tribunal held by the American occupation authorities.¹⁷ Some of the Japanese racial hygienists who had staffed the Ministry of Health and Welfare were briefly purged from their posts under directives issued by the occupation authorities. They were soon rehabilitated after the outbreak of the Korean War in 1950. The Japanese government has done little to encourage examination of these topics; few Japanese scholars have explored them. Future generations may have little notion of this dark side of Japan's past.¹⁸

Despite the Japanese government's discouragement, recent studies of postwar eugenics in Japan testify that eugenics was never abandoned within the domain of public policy.¹⁹ Japan's defeat and postwar occupation by the Allied forces, led by the U.S., caused Japanese political leaders and intellectuals to reflect on the country's economic ruin and impoverishment. Such reflection instilled in them a sense of "racial crisis." The minister of Health and Welfare, Ashida Hitoshi 芦田均, argued for more aggressive eugenics legislation to replace the Japanese National Eugenics Bill (*Kokumin yūseihō*, 国民優生法) of 1940 in order to achieve the goals of "racial revival" and Japan's reconstruction. Ashida's proposal for legal enforcement of compulsory sterilization in the new eugenics bill was supported not only by conservatives but also by the left. The new Eugenic Protection Law (*Yūsei hogohō*, 優生保護法) was introduced in the Diet by members of the Japanese Socialist Party in August 1947 and was passed in June 1948. The law, as a revised version of the 1940 National

¹⁷ For the story of Japanese biological warfare, see Sheldon H. Harris, *Factories of Death: Japanese Biological Warfare 1932-45 and the American Cover-up* (London: Routledge, 1994), and Yuki Tanaka, *Hidden Horrors: Japanese War Crimes in World War II* (Boulder: Westview Press, 1996).

¹⁸ In Japan, Tsuneishi Keiichi is one of few scholars, who has devoted his life to researching this particular topic. See his works such as *Igakushatachi no soshiki hanzai: Kantogun Dai 731 Butai* 医学者たちの組織犯罪：関東軍第七三一部隊 (Tokyo: Asahi Shinbunsha, 1999) and *Saikinsen butai to jketsu shita futari no igakusha* 細菌戦部隊と自決した二人の医学者 (Tokyo: Shinchōsha, 1982).

¹⁹ Matsubara Yōko, "The Enactment of Japan's Sterilization Laws in the 1940s: A Prelude to Postwar Eugenic Policy" in *Historia Scientiarum*, 8, no. 2 (1998): 187-201.

Eugenics Bill, had three important aims: enlarging the target group for eugenic sterilization; simplifying the procedures for voluntary sterilization; and enforcing compulsory sterilization.²⁰ The law also placed increased emphasis on motherhood protection (*bosei hogo* 母性保護), in order to prevent unwanted pregnancies amid the postwar chaos—a result of widespread adultery and interracial affairs between American soldiers and Japanese women—and to stem the tide of illegal abortion.²¹ This law has stood without further amendment since 1952.²² According to the law, there are five justifiable grounds for voluntary sterilization: 1) when an individual or his or her spouse suffers from a hereditary disease, mental illness, deformity or feeble-mindedness; 2) when a blood relative (within the fourth degree) of an individual or his or her spouse suffers from a hereditary disease, mental illness, deformity or feeble-mindedness; 3) when an individual or his or her spouse has contracted leprosy; 4) when the continuation of the pregnancy or childbirth would be detrimental to the health of the mother; and 5) when childbirth would significantly impair the health of a mother who already has several children.²³ On the basis of this law, in the decade 1950-1959, there were 321,342 cases of sterilization on grounds of maternal health protection, as opposed to 3,353 for hereditary diseases, 1,135 for leprosy, 648 for nonhereditary mental illness and 8,408 cases of compulsory sterilization. 9,762,093 pregnancies were terminated on grounds of maternal

²⁰ Ibid.

²¹ See Yoshimasu Shufū et al., *Yūseigaku* 優生学 (Eugenics) (Tokyo: Nankōdō, 1961), 188-196, and also Matsubara Yōko, “Nihon ni okeru yūsei seisaku no keisei: Kokumin Yūsei hogo-hō no seiritsu katei no kentō 日本における優生政策の形成：国民優生保護法の成立過程の検討” (PhD diss., Ochanomizu University, 1998), 98-107.

²² See Sandra Buckley, “Body Politics: Abortion Law Reform” in *The Japanese Trajectory: Modernization and Beyond*, eds. Gavan McCormack and Yoshio Sugimoto (Cambridge: Cambridge University Press, 1988), 205-217.

²³ Yoshimasu, *Yūseigaku*, 189 and 191. The grounds for pregnancy termination differed from those for sterilization in that they included economic factors. Pregnancy termination was granted when the pregnancy had been induced by coercion or violence or when resulting from a woman being forced into adultery without opportunity to resist. Also, see Buckley’s “Body Politic,” 209.

health protection, compared with 30,318 for hereditary diseases, 5,112 for leprosy and 8,324 for rape and adultery.²⁴ Evidently, sterilization and pregnancy termination were performed predominately on the grounds of maternal health protection. The practice of maternal health protection has thus molded eugenics in postwar Japan.

Against this historical backdrop, the significance of the introduction of Lysenkoist agrobiology and Michurinist genetics into postwar Japan becomes apparent: these subjects provided an intellectual framework for reflection not only on eugenics and genetics but also on science and society, particularly in terms of social responsibility and political action. When Lysenko's vernalization theory, based on manipulating the environmental factors of light and temperature in order to improve crop production was promoted by Japanese communists in 1946, Japanese biologists energetically took it up; they used it to reconnect intellectual inquiry and social participation, theory and reality, and science and democracy in the face of the distressing postwar U.S. occupation. Japanese supporters of Lysenko were especially keen on Lysenko's critique of the Darwinian claim of intraspecies competition, used by some to justify class domination, imperialism and racial discrimination.

When Stalin made Lysenko the leader of Soviet biology and banned classical genetics in 1948, the worldwide intellectual debate on Lysenko's theory was electrified and subsequently ideologized. In the setting of Cold War politics, Lysenkoism was used by the Japanese Marxists as leverage to resist the American dominance in technology and science, especially in radiation biology. Among the Japanese Lysenko supporters, Communist Party members argued strenuously that the confrontation between Morganism and Lysenkoism was the manifestation of class struggle. Among them, some Marxist biologists had had a long-time

²⁴ Ibid., 197. These figures were based on the statistics provided by the Ministry of Health and Welfare in 1960.

interest in Lysenko's scientific theory, which informed their socialist stance of combining knowledge and social production since the 1920s and tried to separate Lysenko's environmental approach from Lysenkoism.

Opponents of Lysenko such as Komai Taku 駒井卓 (1886-1972), Tanaka Yoshimaro 田中義麿 (1884-1972), and Oguma Mamoru 小熊捍 (1885-1971) were geneticists active in the wartime eugenics movement. Rather than challenging the content or experimental results of Lysenko's hypothesis, they contended that Lysenko was encroaching on scientific research freedom. In addition to these two contending wings, a third group tried to correct both the reductionism of classical genetics and the dogmatism of the Lysenko theory among Japanese and international supporters.²⁵

These three approaches to the Lysenko theory energized the field of genetics and unleashed a wave of experimentation. Between 1950 and 1951, two Japanese geneticists, Kiyosawa Shigehisa 清沢茂久(1928-) and Shinoto Yoshito 篠遠喜人(1895-1989), conducted experiments to test the Lysenko theory of vegetative hybrid. Kiyosawa, though sympathetic to Lysenko, did not observe genetic variation and therefore could not verify Lysenko's theory. Shinoto, as a classical geneticist, tried to falsify Lysenko's theory and grafted together both roots and grains of green and dark purple eggplants. The result produced a second generation of dark purple seeds, and as they grew they subsequently reproduced both dark purple and blue seeds. However, Shinoto did not accept Lysenko's explanation and concluded that the resulting variation occurred when the dominant element in the formation of purple pigment

²⁵ This reductionism sees a one-on-one correspondence between gene and character without considering environmental factors. See Nakamura Teri 中村禎里, "Nihon no Rūsenko ronso 日本のルイセンコ論争" in *Seibutsu gaku to shakai* 生物学と社会 (Tokyo: Misuzu shobō, 1970), 214-226.

was passed from the roots to the grains.²⁶ This research could thus neither confirm nor falsify Lysenko's theory.

For about a decade, Lysenko's agrobiology was extremely popular among the Japanese Marxists and in the agriculture sector in the form of the Michurin movement, but it declined after 1957. In 1953, James Watson and F. H. C. Crick discovered the manner of DNA replication and identified its molecular structure as a double helix. In 1956, S. Kornberg discovered the biosynthesis of DNA. These scientific breakthroughs within classical genetics contributed to Lysenko's loss of appeal. In 1955, Lysenko resigned from the post of director of the Academy of Science. Subsequently, reports of the possible rehabilitation of Nikolai Vavilov, who died in 1943 after accusations of espionage and of leading a counter-revolutionary organization, reduced interest in Lysenko in Japan. Whereas in China Lysenkoism was swept under the historical rug, in Japan it is an intellectual inspiration for exploring the historiography of biology and eugenics. Ironically, the Japanese Marxist biologists constituted an internal critical force; upon the basis of their work, a critique of eugenics can be constructed.²⁷

Chinese Geneticists and the Overcoming of Lysenkoism

²⁶ Ibid., 227-228.

²⁷ For instance, Suzuki Zenji 鈴木善次 shows his genealogical connection to Marxist biologists of the 1930s such as Yamamoto Senji 山本宣治 and his cousin Yasuda Tokutarō 安田徳太郎, and Zenji's peer historians of science such as Nakamura Teri 中村禎里, Tsukuba Hisaharu 筑波常治 and Yonemoto Shōhe 米本昌平, in his important work on the Japanese eugenics movement, *Nihon no yūseigaku: so no sishō to undō no kiseki 日本の優生学：その思想と運動の軌跡* (Tokyo: Sankyō, 1983). In the acknowledgment and epilogue, Suzuki mentions his intellectual affiliation with Nakamura Teri, the author of *Rūseiko ronso*, and a series of articles on Marxist biology, Tsukuba Hisaharu 筑波常治 (1930-) a historian of Japanese agricultural technology, and Yonemoto Shōhe 米本昌平(1946-), a researcher at the Mitsubishi Life Science Institute, all of whom have explored the history of Japanese eugenics.

Having outlined an overview of the international context of “Lysenkoism versus eugenics” since 1945, it is now possible to focus on how Chinese geneticists overcame Lysenkoism and laid the ground for the triumphant return of eugenics in China in the 1980s and 1990s.

A. *One-Child Policy and the Comeback of Eugenics*

The development of the Chinese eugenics movement in the Republican era helped provide the momentum for a eugenics bill. The eugenics bill, part of the Guideline on National Population Policy (*minzu baoyu zhengce gangling* 民族保育政策綱領), was passed on 5th May 1945, but was dropped when the Nationalist government fled to Taiwan and the communist regime took over mainland China.²⁸ Eugenic concerns, however, did not disappear in China; eugenic elements were already present in the marriage regulations of the Communist Border Area Governments during the war. For instance, the 1931 marriage regulations of the Chinese Soviet Republic stated that persons suffering venereal disease, leprosy, tuberculosis, mental disease or paralysis were forbidden to marry, unless it was considered permissible after medical examination.²⁹ The same regulations appeared in the 1934 marriage law, the 1939 marriage regulations of the Shanxi, Gangsu and Ningxia Border Areas, and other revised provisional marriage regulations.³⁰ In 1950, the National Marriage Law prohibited marriage if one party suffered from venereal disease, mental disorder, leprosy

²⁸ See Yuehtsen J. Chung, *Struggle for National Survival: Eugenics in Sino-Japanese Contexts, 1896-1945* (New York: Routledge, 2002), 161.

²⁹ See M. J. Meijer, *Marriage and Policy in the Chinese People's Republic* (Hongkong: Hongkong University Press, 1971), 61, and appendix 1.

³⁰ *Ibid.*, see the appendices 2, 3, 4, 5 and 6.

or any other disease regarded by medical science as rendering a person unfit for marriage.³¹

Despite persisting legal interest in marriage regulations, eugenics was dropped as a scientific subject in the Chinese context and did not re-emerge until the early 1980s.

From the late 1970s, China has had to confront the pressing problem of population growth and the limits of its resources. In 1979, the “one-child” policy stipulated that couples in urban areas may have no more than one child, while families in rural areas may have up to two children in very limited circumstances. Since then, eugenics has been recognized as an indispensable body of knowledge. It has been meshed with population control in order to achieve the goal of fewer but healthier babies through the prevention of birth and genetic defects. At the first annual meeting of Human and Medical genetics in Changsha in 1979, Chinese medical geneticists introduced newly developed chromosome technology for prenatal screening to detect possible birth defects and congenital mental illness. These medical geneticists suggested offering a diagnosis and genetic counselling for an abortion as a last resort.³² This was the first time since 1949 that “eugenics” had reappeared, refashioned as a reproductive technology for enhancing population quality.

In 1980, the People’s Daily 人民日报 published a list of people considered unproductive and a danger to society, and who therefore should not be allowed to breed, including the mentally retarded, haemophiliacs, and the color blind.³³ Eugenics advocates considered them an obstacle to Chinese economic development, a financial burden, and a

³¹ Ibid., appendix 8.

³² Li Chonggao 李崇高, “Pan Guangdan jiaoshou yousheng sixiang tantao” 潘光旦教授思想探讨 in the special issue commemorating the one hundredth anniversary of Pan Guangdan’s birth, *Zhongguo yousheng yu yichuan zazhi* 中国优生与遗传杂志, 7, no. 4 (1999): 11-15 and 34.

³³ Veronica Pearson, “Population Policy and Eugenics in China,” *British Journal of Psychiatry*, 167 (1995): 1-4.

source of undesirable population growth, because couples who had a disabled or retarded child would invariably want to have a second child.³⁴

On October 31, 1981, the National Committee of Birth Control 国家计划生育委员会, together with the Chinese Medical Association 中华医学会, organized a five-day national eugenics convention; seventy-one national representatives and scientific experts participated in a discussion on how to rehabilitate eugenics and cast off its dark past. They reached a consensus that eugenics knowledge should be disseminated among the populace and general medical staff at the entry level. The convention emphasized the importance of obtaining a eugenic census of the population, to provide a scientific basis upon which the eugenics protection law could be drafted in the near future. At the final session, a motion was passed that professional eugenics workers should enhance their technological resources, especially in the services of genetic counselling, marriage counselling, and prenatal and postnatal care. In order to popularize eugenics, primary and secondary schools should incorporate eugenics into their curricula. Arts, multimedia and literature should be mobilized to turn a taboo subject into practical commonsense.³⁵

In 1984, the Eugenics Science Conference was convened in Chongqing to promote eugenics studies and exchange information on different approaches to the application of eugenics. It was decided that a Conference would be held every four years. So far, national eugenics organizations such as the Chinese Eugenics Science Association and Chinese

³⁴ Sun Dong-sheng 孙东升, "Popularizing the Knowledge of Eugenics and Advocating Optimal Births Vigorously" 普及优生知识 积极提倡优生 in *Renkou Yanjiu* 人口研究, no. 4 (1981): 37-41.

³⁵ See the collection of birth-control documents *Zhongguo jihua shengyu qianshu* 中国计划生育全书, ed. Peng Peiyun 彭佩云 (Beijing: Zhongguo renko, 1997), 904-905. For the English readers, Susan Greenhalgh has explored a detailed process of Chinese population policymaking, see specifically the chapter "Scientific Policymaking in Zhongnanhai" in her insightful book, *Just One Child: Science and Policy in Deng's China* (Berkeley: University of California Press, 2008).

Eugenics and Superior Nurture Association have been formed along with regional eugenics societies at almost every genetics institute of universities or medical schools.³⁶ In July 1986, the National Committee on Birth Control proposed preventive eugenics, especially the identification of genetic diseases and disabled birth, as the main goal of scientific research for the seventh Five-Year Plan.³⁷

The eugenics discourse that suddenly burst upon the scene in the 1980s made no mention of the history of the Chinese eugenics movement or of its historical significance in the Republican era. 1980s eugenics literature described how Francis Galton began heredity studies and coined the new term of eugenics; apart from the Nazi extermination of the Jews, it was as if nothing else had happened for a century. One of the articles in the collection entitled *Sexual Education and Eugenics* (*Xingjiaoyu yu yousheng* 性教育與優生), published in 1985, pleaded for legislation on a eugenics bill, since some of the approaches such as school education and community values were social exhortation and would not be enforced without laws. This article stated that the first eugenics bill was enacted in 1909 in the U.S. state of Indiana and that countries such as Denmark, Sweden, Norway, Finland, Iceland, Switzerland, Canada, Mexico and Japan had enacted eugenics bills. China had not except for the marriage regulations preventing carriers of hereditary diseases and leprosy from marriage. In addition to marriage prohibitions, the author pleaded for a eugenics bill entitling the state to make sterilization compulsory for individuals classified as medically unfit. Marriage prohibitions were aimed at those who would directly endanger their spouses through a sexual relationship, whereas sterilization sought to prevent dangers to the next generation.

³⁶ Peng Peiyun, *Zhongguo jihua shengyu qianshu*, 904-5.

³⁷ *Ibid.*, 933-934.

The author encouraged emulation of the Japanese Eugenics Protection Law 國民優生法 in the public interest and to prevent transmission of hereditary diseases. According to the Japanese Eugenics Protection Law, hereditary diseases include schizophrenia, manic depression, psychosis, epilepsy, mental retardation, myotonic dystrophy, amyotrophic lateral sclerosis, Huntington's chorea, haemophilia and color-blindness. The author suggested focusing on these congenital and hereditary diseases as the basis for further research, in order to determine what diseases should be considered for compulsory sterilization in China. The author also suggested that the eugenics bill include other measures such as "euthanasia," with the consent of parents or on the recommendation of medical professionals, for infants with congenital diseases or other serious deformities that had not been detected in prenatal tests. The author considered euthanasia humanitarian: it would spare the family, society and nation unnecessary burdens and guarantee every couple a smart and healthy child.³⁸

The emergence of the 1980s eugenics discourse went hand in hand with "civilizing" campaigns to enlist popular support for improvement of population quality and national/racial prosperity. The civilizing campaigns for enhancement of cultural substance and spirituality since the early 1980s, like the "New Life Movement 新生活运动," their 1930s forerunner, aimed to rearm socialist morality after the chaotic Cultural Revolution 文化大革命 and the subsequent profit-driven economic reforms. The campaigns targeted the return of so called "feudal" customs: superstitions, traditional wedding and funeral ceremonies, especially the traditional idea that "the more children the greater the blessing" (*duozi duofu* 多子多福). The

³⁸ Ruan Fangfu 阮芳赋, "Weile minzu fanrong, yousheng yinggai lifa 为了民族繁荣,优生应该立法" (For the sake of national prosperity, eugenics should be legally enacted) in *Xingjiaoyu yu yousheng* 性教育与优生 (Shanghai: Kexue jishu chubian, 1985), 137-141.

civilizing goal of reproducing less in order to breed future generations of better quality (*sushi* 素质) in terms of morality, discipline, health, culture and ideas, was deemed the responsibility of every Chinese citizen.

In 1986, the Ministry of Public Health 卫生部 and the Ministry of Civil Affairs 民政部 issued a Circular Concerning Premarital Medical Check-ups, which included three stipulations affecting marriage: “Marriage is prohibited between close relatives and between mentally retarded people. Marriage is to be postponed when one or both parties are suffering from schizophrenia, manic-depression or other psychoses. Marriage is permitted but childbirth forbidden [when] either party’s inherited disease, such as schizophrenia, manic-depressive psychosis, or other types of psychosis as well as congenital heart disease is in a stable condition.”³⁹ This Circular served as a preliminary draft for the later Eugenics Law, and a blueprint for experiments in other provinces. Gansu Province was chosen as a testing ground, because it is one of the poorest provinces and is well known for its large population of people with learning disabilities. Historically, Gansu has been the gateway to Central Asia along the Silk Road, and suffered more droughts, earthquakes, landslides, poverty, environmental degradation and endemic diseases than any other part of the nation. With a multi-ethnic population of Han 汉族, Hui 回族, Tibetan 藏族, Dongxiang 东乡族, Tu 土族, Yugur 裕固族, Manchu 满族, Baoan 保安族, Mogolian 蒙古族, Salar 萨拉族 and Kazak 哈萨克族, and uneven geographic distribution of natural and human resources, Gansu is facing increasing developmental disparity between urban and rural areas and among the various ethnic autonomous regions.

³⁹ Veronica Pearson, “Population Policy and Eugenics in China,” 1-4.

According to Qiu Renzong 邱仁宗, a bioethicist I interviewed in November 1999, the high rate of mental retardation in Gansu stems from the custom of village inbreeding and an inability to meet the costs of bringing in healthy brides from other areas. After years of inbreeding, some villages were named by eugenics health workers “Imbecile Villages (*Sharen cun* 傻人村),” a term that exudes urban elitism. Incestuous unions, and the resulting decrease in the effective labor force, became a heavy burden for the provincial government. In Gansu, the Circular ruled that intellectually impaired persons considering marriage must be sterilized, and if already married but pregnant must have an abortion. It has been reported that 1,000 women were sterilized in the first year of implementation.⁴⁰ According to Qiu, informed consent was frequently not obtained in many counties and retarded women were more likely to be sterilized than men. About 5,000 people with an I.Q. below 49 had been sterilized between 1986 and 1991, when Qiu journeyed to Gansu.⁴¹

As reports of coercive abortion and involuntary sterilization mounted, the U.S. Senate, after years of the United States withholding contributions to the United Nations Fund for Population Activities, approved twenty million dollars for the fund in July 1991, demanding that no money be used for China. In the same month, the Senate used the Most Favored Nation trade status to force China to improve human rights; China refused to make any commitments. From 1991 on, the U.S. Government took a year-by-year approach to reviewing China’s preferential trade status. The administration’s efforts to alter the Chinese government’s population policies were largely ineffective.⁴²

⁴⁰ Ibid.

⁴¹ Qiu Renzong did not account for the way in which he acquired the statistics of roughly 5,000 with low I.Q.

⁴² Daniel S. Gewirtz, “Toward a quality population: China’s Eugenic” *New York Law School Journal of International and Comparative Law*, 15 (1994): 139-162.

In the early 1990s, Chinese eugenics advocates espoused Deng Yingchao's idea that euthanasia is a scientific and practical view of the world that sees life and death as part of an unbreakable natural cycle. Once again, they promoted euthanasia as a reliable means of relieving families, society and the state of a heavy burden. In order to rationally redistribute limited medical resources, these advocates recommended euthanasia be applied to people of inferior birth (*liesheng* 劣生) including seriously disabled infants and patients with incurable diseases. They argued that terminating these inferior lives without pain and suffering would save millions suffering from hunger. They thus considered euthanasia morally tolerable and as a necessary eugenic measure. Euthanasia as "*yousi* 优死" (opportune death) is conceived of as a progressive step, preferable to the conventional practice of "*zisheng zimie* 自生自灭" (seemingly natural death caused by destitution).⁴³

Facing the financial burden of 10 million people with learning disabilities and another 10 million disabled from birth, contributing to a total of 56 million disabled, the Ministry of Public Health issued a draft Eugenics Law in December 1993, intended to "prevent new births of inferior quality," particularly in economically underdeveloped areas. Restrictions on marriage and childbirth apply to those with hereditary, venereal, or reproductive ailments, severe psychoses or contagious diseases. Despite criticism and protests in the Western media, the law was promulgated on October 27, 1994, and took effect in June of 1995. While the Chinese named the law the Maternal and Infant Health Care Law 母婴保健法, the Japanese Eugenics Law (the Eugenics Protection Law from 1947, the Maternal and Infant Health Law

⁴³ Tian Jian 天健, "Zong 'zisheng zimie' dao 'yousheng yousi' 从自生自灭到优生优死" *Renko yu yousheng* 人口与优生 (Population and Eugenics), no. 3 (1992): 14, and He Zhongwei 何忠伟, "Tan Yousi 谈优死," *Renko yu yousheng* 人口与优生, no. 4 (1992): 13.

from 1966) was renamed the Protection Law of the Maternal Body (*Botai hogohō* 母体保護法) in 1996. The content changed little and media coverage was minimal.

The Maternal and Infant Health Care Law requires physicians to recommend that a couple postpone marriage if either partner is found to have an infectious, contagious disease or an active mental disorder. If one partner is diagnosed with a serious hereditary disease, the couple may marry only if they agree to use long-term contraception or to give up childbearing by undergoing voluntary sterilization. Human Rights activists in particular criticized China over this issue: 80% of the 10 million mentally disabled, according to a report by the U.S. Embassy in Beijing, were victims of iodine and folic acid deficiency disorders. The Chinese government had been attempting to tackle this particular problem since 1994. In January of 1994, the Ministry of Public Health, together with the Bureau of Commerce and Administration, the China National Council on Light Industry, the Ministry of Internal Trade and the State Bureau of Technical Supervision, jointly issued a Circular to regulate the management of the salt market and ban the sale of non-iodized salt in iodine-deficient areas such as Inner Mongolia, Sichuan, and Fujian. This regulation of the iodized salt supply under the supervision of the public health authorities was approved by Premier Li Peng 李鹏 on August 23, 1994. The central government, apparently, was fully aware of the difference between “congenital” and “genetic” and of the fact that the mental retardation was caused by cretinism and underdevelopment when they drafted the Maternal and Infant Health Care Law

母婴保护法; local officials, meanwhile, lacking such awareness, may often have perceived mental retardation persisting over three generations as genetic.⁴⁴

In 1997, the British Genetics Society and other international genetics associations threatened to boycott the 1998 International Congress of Genetics in Beijing.⁴⁵ Under pressure from the foreign media and international community, the Ministry of Public Health and the Legislative Affairs Commission of the National People's Congress issued an announcement stating that sterilization should be allowed only with the subject's consent or the consent of a guardian; this was announced to scientists attending the International Congress of Genetics in Beijing on August 3, 1998. This announcement has the force of law until the National People's Congress formally revises the original statutes. The announcement also makes clear that people who have tested positive for the human immunodeficiency virus (HIV) do not require permission to marry; however, patients diagnosed as suffering from AIDS are still banned from marriage.⁴⁶

The law has seven chapters and thirty-nine articles, most of which deal with the government's responsibility at various levels to provide pre-marital and perinatal care (19 articles), procedures and qualifications (7 articles), incentives (1 article), ethical requirements (3 articles), legal liabilities (3 articles), definitions (1 article), and timing of implementation (1 article). According to Qiu Renzong, articles 10 and 16 are both ambiguous about the nature and status of the physician's advice on litigation and long-term contraception to married couples, one or both of whom suffer from a serious genetic disease. The article says, "The

⁴⁴ Qiu Renzong, "Does Eugenics Exist in China?: Ethical Issues in the Law on Maternal and Infant Health Care," (paper delivered at the meeting of the HUGO Ethical Committee in San Francisco on November 25, 1996).

⁴⁵ Tim Beardsley, "China Syndrome: China's eugenics law makes trouble for science and business," *Scientific American*, March, 276, no. 3 (1997): 33-4.

⁴⁶ *Xinhua News*, August 11, 1998.

physician shall give medical advice to couples and couples of child-bearing age shall take appropriate measures on the basis of the physician's medical advice." It is not clear what measures the physician is entitled to pursue and to what extent the patients should comply with the physician's advice.⁴⁷ Chinese scholars tend to present the Chinese version of eugenics as different from the genocidal Nazi experience and favor the Chinese term "yousheng 優生," literally "healthy birth." This reflects their desire to put a positive spin on eugenics, especially in the face of foreign antagonism.

These incidents reveal that the Chinese state has hastily enacted eugenics legislation and has been insensitive to critical issues, including the moral implications of eugenics in the historical past and has failed to base its actions on a thorough public debate and solid scientific evidence; international pressure groups such as human rights organizations, on the other hand, ignored China's financial difficulties, the government's drive to reduce the incidence of disability and the fact that no western-style philanthropic enterprises exist in China. Most crucially, international critics think of the Chinese state as a monolithic entity and fail to consider possible mismanagement at various levels of the state. Understanding the various levels at which the Chinese state in fact operates and identifying which level is responsible for what would enable international critics to put together constructive proposals for change. Their failure to do so incites avoidable local resentment of "hegemonic" foreign intervention.

B. The Overcoming of Lysenkoism and the Survival of Genetics

As Chinese eugenics has evolved through the 1980s and 1990s and embraced "euthanasia of inferior births," its reception as a scientific discipline has undergone a seismic

⁴⁷ Veronica Pearson, "Population Policy and Eugenics in China," 1-4.

shift. Genetics has now become an effective tool for “cleansing” the national population or, euphemistically, enhancing reproductive health. Genetics has become a productive tool, saving the nation 180 million kilos of food consumption each year and 5 billion RMB (c. US\$604 million) in annual medical expenses (based on an estimated one million children with serious birth defects); geneticists, meanwhile, have become enthusiastic advocates of eugenics research. They have played an important role in drafting the eugenics law. In addition to their focus on poverty, underdevelopment and population quality, “their emphasis on genetic factors in determining human traits such as intelligence and behavior can be understood in part as a reaction to the biological doctrine of Lysenko, once favored by the Communist Party.”⁴⁸ Geneticists disagreed profoundly with the Lysenko doctrine and suffered terribly as a result, but now they are back with a vengeance. The irony is that geneticists, like the Lysenkoists before them, have been closely involved with the state as a field of negotiation and intervention.

Among these eugenics advocates, the internationally renowned geneticist C. C. Tan is the most vocal representative. However, during the high time of Russian Lysenkoism, things were very different. As described above, Tan was singled out as the most formidable barrier to propagating Michurinist biology in China, because Tan was trained by the great masters of classical genetics, T. H. Morgan and Theodore Dobzhansky. In August 1952, Tan made a public “self-criticism” on the mistakes in his classical genetics training and resistance to Michurinist biology. In the “self-criticism,” he denounced himself as a reactionary, ignorant of the true nature of “intellectual freedom,” propagated by American imperialism as a pretext

⁴⁸ Veronica Pearson, “Population Policy and Eugenics in China,” 1-4.

to neglect the people's need. Tan confessed his ignorance of the class interests behind science and politics, and recognized the need to relearn Michurinist biology.

Given the fundamental shift in the position of genetics in China, what are the mechanisms enabling genetics to remove its stigmatized past and reclaim public trust? How did Chinese geneticists manage to survive under Lysenkoism and give eugenics a new positive image? There are three answers to this question. First, the comeback of eugenics and the push for reinstatement of a eugenics bill in the 1980s and 1990s not only represent a satisfying solution to the domestic problem of population pressure, but also an effective approach to population quality, through which Chinese labor can compete more effectively in the global market.⁴⁹ In a sense, a national eugenics bill gains China a ticket to developed world status, side by side with the United States, Denmark, Sweden, Norway, Finland, Iceland, Switzerland, Canada and Japan. The state's hegemonic approach to raising the quality of the people has not only been welcomed by scientists and other related professionals, who have proved themselves the willing instruments of state policies, but has also encountered little domestic resistance or social protest, which often surprises Western researchers.⁵⁰ With the help of a high population quality a few years down the line, the Chinese modernization project can finally make China wealthy and powerful.

The return of eugenics since the 1980s in the urban setting has been devoid of the concern for racial purity or exaltation of a superior blood. Instead, as the eugenics slogan “*yousheng youyu* 优生优育” (superior birth, excellent nurturing) suggests, the eugenics

⁴⁹ Ann Anagnost, *National Past-Times: Narrative, Representation and Power in Modern China* (Durham: Duke University Press, 1997), 118-128.

⁵⁰ For instance, Tyrene White, an author of several articles on China's one-child policy, complained at Harvard in 2000 that the policy has remained unchanged for twenty years, and women's movement activists are not sufficiently critical of the official stance. There were cases of rural protests to mishandling and fining local villagers who had third or more children. However, there was no protest to the eugenics ideology.

aspects of China's urban population discourse focus on improving education and nurture. As part of the Modernization project, the meaning of “*yousheng youyu*” refers to “concentration of resources in childbearing and -rearing that will produce a higher-quality population through improved medical care, nutrition and education.”⁵¹ In the urban areas characterized by consumerism and concentrated resources, reproducing less in order to reproduce better is more than feasible. However, in the remote and “backward” rural areas such as Gansu and other ethnic minority regions, negative eugenics would be more practical than the *youyu* 优育 approach given the reported high rate of mental retardation and genetic diseases resulting from the common practice of consanguineous marriage in these areas. C. C. Tan recommends prenatal screening, genetic counselling and selective abortion to eliminate deleterious genes from the population pool. In this regard, genetics functions not only as a technical tool but also as the bodyguard of the Chinese population, urban and rural.⁵²

Political economic factors are thus contributing to the recognition of genetics' value, while major breakthroughs in the field since the 1950s have aroused interest and enhanced its social prestige: in the 1950s, James Watson and F. H. C. Crick identified the DNA molecular structure; C. E. Ford and P. A. Jacobs discovered the role of the Y chromosome in determining human sex; Peter Nowell and David Hungerford discovered the first specific chromosomal aberration associated with cancer in humans; Jérôme Lejeune discovered that “Down's syndrome” is caused by a chromosomal abnormality. Ironically, the growth of human genetics and radiobiology was a product of the atomic age, Hiroshima and Nagasaki,

⁵¹ Ann Anagnost, *National Post-Times*, 127.

⁵² Zhao Gongmin 赵功民, *Tan Jiazhen yu yichuanxue* 谈家桢与遗传学, 245.

Russia's development of the atomic bomb in 1946, the development of the hydrogen bomb in the 1950s and a series of accidents caused by nuclear test detonations.⁵³

In the 1960s, geneticists successfully cloned an amphibian and discovered that Phenylketonuria (PKU), an autosomal recessive disease, is caused by enzyme deficiency. In 1970, British physiologists reported the successful artificial fertilization of human embryos, and H. Gobind Khorana synthesized the first gene by linking one nucleotide base-pair to another to construct a specific strand of DNA. Test-tube babies and gene therapy in the 1980s, Dolly the cloned sheep in 1998, more than 2,800 monogenic diseases discovered, and the Human Genome project's sequencing of three billion nucleotide base pairs, completed in 2001, demonstrate that genetic technology has been accelerating at a stunning speed. These breakthroughs in genetics, though, lead many to question what genetics is in fact contributing and what the scientific endeavor itself is really about.⁵⁴ Geneticists, almost inevitably, are once again indulging in the rhetoric of enhancing life. Meaning, application value, and return of scientific interest have fused together and are reinforcing one another. Chinese geneticists have the most advanced, technologically correct genetics at their disposal. It appears that to be politically correct in the Chinese context, geneticists need only embrace one aspect of the Lysenkoist legacy: condemnation of German misuse of science for racial hygiene. Having got that out the way, genetics can leave its past behind and move into a shining new era.

The third reason Chinese geneticists managed to survive under Lysenkoism and then gave eugenics a new, positive image, is related to Chinese classical geneticists' survival under

⁵³ Kenneth M. Ludmerer, *Genetics and American Society*, 188-201.

⁵⁴ However, the tremendous achievements of genetics have gone beyond our ability to handle the ensuing ethical issues such as how we should use information predicting disease at birth to improve the care provided to the individual, the implications for privacy, potential for later discriminatory use in employment, health insurance, and law enforcement. See Everett Mendelsohn, "The Eugenic Temptation: When Ethics Lag Behind Technology," *Harvard Magazine*, 102, no. 4 (2000): 39-41 and 105-106.

Lysenkoism. Unlike in the Soviet Union, Lysenkoism in China did not result in death, jail, or even unemployment for geneticists, just in false hopes for miraculous increases in agricultural output.⁵⁵ In contrast to the accounts of victimization provided by fifty classical geneticists who received their doctoral training at American universities, I would like to explore their survival strategies, which help illuminate their subjectivity. C. C. Tan made his “self-denouncement” in August of 1952, two months after the *People’s Daily* had harshly criticized the Chinese Lysenkoist Le Tianyu 乐天宇 (1900-1984) for manipulating ideological correctness to terrorize and eliminate his political opponents. Le was a Chinese Communist Party cadre from the early 1940s and had embraced Lysenkoism since then. In 1949, Le commanded the Lysenkoist campaigns and established the grass-roots Michurin Societies throughout the nation under the administration of the Ministry of Agriculture. Le started to terrorize American-trained geneticists, one of whom was Li Jingjun 李景均 (Ching Chun Li, a Cornell Ph.D.). Li left China and started a new life in the United States, declaring in the spring of 1950 that Chinese genetics was dead.⁵⁶ In March 1951, Le lost his post as President at Beijing Agricultural University. The Party conducted three consecutive meetings to denounce Le Tianyu’s dominating interpretation of the Michurin line through the Lysenko dogma. The result of these three meetings was made public in the *People’s Daily* and was endorsed by Chairman Mao. This public criticism of Le Tianyu’s appropriating of Lysenko’s

⁵⁵ Laurence Schneider, *Lysenkoism in China: Proceedings of the 1956 Qingdao Genetics Symposium* (Armonk: Sharpe, 1986) and “Learning from Russia: Lysenkoism and the Fate of Genetics in China, 1950-86,” in *Science and Technology in post-Mao China*, eds. Denis Fred Simon and Merle Goldman (Cambridge: Harvard University Press, 1989), 45-65. Schneider’s recent book, *Biology and Revolution in Twentieth-Century China* (Lanham: Rowman, 2003), provides an overview of genetics development from the 1920s, through Mao’s China, to the present post-socialist era. For the disastrous application of the Lysenko theory to Chinese agriculture, see Jasper Becker’s *Hungry Ghosts: China’s Secret Famine* (London: John Murray, 1996), chapter V, “False Science, False Promises,” 58-82.

⁵⁶ C. C. Li, “Genetics dies in China,” *Journal of Heredity*, 41, no. 4 (1950): 90.

doctrines represented to some degree the promulgation of the Michurin line as the State orthodoxy.⁵⁷

Tan's subsequent self-criticism was in fact a way of enabling Morganist genetic studies as one possible option within the framework of the state orthodoxy. He confessed that he had been trying to reconcile Morganism with Michurinism by emphasizing simultaneously the environmental factors in species variation and the gene theory. In his experiment on the effect of silver nitrate on color change in *drosophila*, Tan confessed that he was motivated by a desire to falsify the Lysenko theory. Tan also confessed that in his teaching of Michurin biology he smuggled classical genetics texts into his teaching materials.⁵⁸ Tan's smuggling strategy was adopted by other classical geneticists, most of whom were removed from their original research activities and reassigned to teaching general biology courses in the universities. One case in point was the botanist Hu Xiansu 胡先驌 (Sc.D. Harvard 1925), who compiled a textbook of botanical taxonomy in 1954 and included mention of a critique of the Lysenko theory by Russian botanists.

Mobilizing personal networks was another strategy for conserving intellectual vitality. Bao Wenkui 鲍文奎 (Ph.D. Caltech 1950) was one of very few classical geneticists that managed to continue his polyploid experiments with black wheat hybrids until 1954, by getting the support of local cadres.⁵⁹ In the same fashion, C. C. Tan used Chairman Mao as his personal shield after he first met Mao on August 26, 1956, a day after the Qingdao Genetics Symposium 青岛遗传学会议. Encouraged by Mao's determination to catch up with the West,

⁵⁷ See C. C. Tan's biography, *Tan Jiazhen yu yichuanxue*, 130-135. According to the Party critique, Le's agrobiolgy book was basically plagiarizing and copying Lysenko's works.

⁵⁸ Tan's self-criticism, "Pipan wo dui miqulin shengwu kexue de cuowu kanfa 批判我对米丘林生物科学的错误看法" in *Zhongguo dangdai kexue sichao* 中国当代科学思潮, 49-52

⁵⁹ Laurence Schneider, *Lysenkoism in China*, vii-xi.

Tan complained to him of the ideological barrier hindering Morganist research. Mao made a commitment. In 1957, Tan was able to escape the anti-Rightist campaigns due to Mao's protection. After four personal meetings with Mao, in 1958 Tan was able to set up the genetics major program at the biology department of Fudan University. His courses on Morganist genetics peacefully co-existed with courses based on Michurinism in the same department. In 1961, the University established the Institute of Genetics and Tan was appointed Director. He was provided with three labs to conduct research projects on radiation genetics, medical genetics, and molecular and evolutionary genetics. During the Cultural Revolution, Tan was sent to reform camps, but was released in 1974, two years earlier than his colleagues, when Mao remembered him on his deathbed and expressed concern about his career.⁶⁰ In the post-Mao era, Lysenkoism in China became a moral lesson alluded to by geneticists in particular and scientists in general to warn against any imposition of ideological doctrines and government interference with scientific practice and institutions.⁶¹ Laurence Schneider's approach to Lysenkoism in China was to recount tales of persecution of scientists in the era of political movements, because he bought into the personal accounts of the Chinese scientists he interviewed in the 1980s. In comparison, my position is more skeptical due to the scientists' outspoken encouragement of the state's population policy and their eugenics ideology from the mid-1980s to the 1990s when they enthusiastically embraced the state's intervention into the individual's reproductive rights. Furthermore, the question emerging at the current time, with great relevance for the future, is: what happens if the government becomes a technocracy staffed by scientists?

⁶⁰ *Tan Jiazhen yu yichuanxue* 谈家祯与遗传学, 110-144.

⁶¹ Laurence Schneider, "Learning from Russia: Lysenkoism and the Fate of Genetics in China, 1950-86," 45-65.

Scientific Practice, Social Suffering and Bioethics: A Lesson in Scientists' Responsibility

Intriguingly, Chinese geneticists have not only kept quiet about the state's promotion of eugenics campaigns and legislation, but have in fact embraced the state's agenda. In my interview with Qiu Renzong in 1999, former director of a bioethics program and senior research fellow at the Institute of Philosophy of the Chinese Academy of Social Sciences in Beijing, Qiu mentioned his own interesting encounter with geneticists. At the first national workshop on Ethical and Legal Issues in Limiting Procreation held in November 1991, Qiu argued with geneticists who insisted on compulsory sterilization for the severely mental retarded in the name of the social good. He suggested to these scientists that in the name of the social good they be compelled to donate 50 RMB per month to the community. The scientists responded with protests and demanded their informed consent. Qiu asked how it could be that a trifling donation for the social good requires consent from those affected, yet an invasive operation could be carried out on a mentally retarded individual without his or her consent or that of the guardian.

This anecdote raises a disturbing question. Chinese geneticists may have learned a moral lesson through their deprivation of intellectual freedom, but have they acquired the capability to extend their compassion to other people? The obvious answer, as seen from the geneticists' response to the anecdote above, is "No." But why not? In the following, I address this disturbing issue by exploring the epistemological rationale underpinning the physician's valuing of human life and informing the ethical relationship between physician and patient; I also probe the generational culture that has shaped the mentality of Chinese geneticists.

In 1999, the debate between Qiu and other critics such as Mao Xin 毛新 and Guo Sun-Wei 郭孫偉 has focused on such issues as: the terminological definition of “*yousheng* 優生” as genetic testing; whether eugenics in the Western sense exists in China; and whether Chinese geneticists’ promotion of eugenics legislation reflects their backwardness in genetic knowledge compared to their Western counterparts.⁶² Rhetorically the critics and geneticists perceive themselves as representative of Chinese culture and yet the culture they try to represent is no longer a living tradition. None of them touch upon the paradoxical issues of ethics and the epistemology informing geneticists’ lives and knowledge. Traditional Chinese medical texts such as the well-known classic *Beiji qianqin yaofang* 備急千金藥方 by Sun Simiao 孫思邈 (581-682), primarily encourage physicians to develop a sense of compassion, an acute sense of the pain the patient is going through. Physicians should devote themselves to humanity and should not destroy life in order to save life. In the chapter “On the Absolute Sincerity of the Great Physician 大醫精誠,” Sun states:

If someone seeks help because of illness or on the ground of another difficulty, [a Great Physician] should not pay attention to status, wealth or age, neither should he question whether the particular person is attractive or unattractive, whether he is an enemy or a friend, whether he is Chinese or a foreigner, or finally, whether he is uneducated or educated. He should meet everyone on equal ground; he should always act as if he were thinking about himself for others. He should not desire anything and should ignore all consequences. He is not to ponder over his own fortune or misfortune; thus he will preserve life and have compassion for it. He should look upon those who have come to grief as if he himself had been struck, and he should sympathize with them deep in his mind. Neither dangerous mountain passes nor the time of day, neither weather conditions nor hunger, thirst nor fatigue should keep him from helping

⁶² Mao Xin 毛新, “Chinese Geneticists’ View of Ethical Issues in Genetic Testing and Screening: Evidence for Eugenics in China,” *American Journal of Human Genetics*, 63 (1998): 688-695; Guo Sun-Wei 郭孫偉, “Cultural Difference and Eugenics Law: Letter to the Editor,” *ibid.*, 65 (1999): 1197-1199; Qiu Renzong et al, “Chinese Geneticists are Far from Eugenics Movement: Letter to Editor,” *ibid.*, 65 (1999): 1199; Mao Xin, “Reply to Guo and to Chen et al,” *ibid.*, 65 (1999): 1199-1201.

whole-heartedly. Whoever acts in this manner is a Great Physician for the living. Whoever acts contrary to these demands is a great thief for those who still have their souls.⁶³

In this theory of what it means to become a great physician, one has to erase self-concern and self-interest, and identify the patients' pains and ailments as one's own before one can commence treatment. Every treatment is a self-treatment. The technical is the ethical. There is no status distinction or dichotomy between self and other. This explains why, from the perspective of the modern Euro-American medical experience, critics often find subjectivity elusive and hence invisible in Chinese healing traditions.

In practice, Chinese medical traditions, informed by the concept of "*jingyan* 經驗" (no comparable English term exists),⁶⁴ emphasize that the efficacy of a physician's knowledge should be achieved through continual refinement. This refinement is based on a process of ongoing learning from clinical case-studies, and on the physician's continuous trials to identify more effective drugs, trials which he carries out in his own bodily system, by emulating the exemplary practice of the legendary medical sage Shen Nong 神農, who, as the vast majority of Chinese medical classics report, ingested all kinds of herbs. Regardless of how effective and dominant this medical paradigm may be, the ethical and epistemological implications underlying its medical approach mean that the physician places his importance

⁶³ This paragraph is excerpted from Paul U. Unschuld's translation of Sun's chapters on medical ethics. See Unschuld, *Medical Ethics in Imperial China* (Berkeley: University of California Press, 1979), 30-31.

⁶⁴ The dissertation "When Chinese Medicine Encountered the State: 1910-1949" (University of Chicago, 1999) and the Chinese article "Accountable Doctor and Loyal Patient: Transformation of Doctor-Patient Relationship in the Republican Period," *New History* 新史學, 14 no.1 (2003): 45-96, by Hsiang-lin Lei 雷祥麟 provide an interesting case of "*jinyan* 經驗" being used as a conceptual apparatus by doctors practicing traditional Chinese medicine to argue with Western-style doctors during the Republican era: they constituted "*jinyan*" as a Chinese equivalent to the western "experiment." Judith Farquhar gives a broader account of recent Chinese medical practice in which healing power comes from the specificities of lineage knowledge and the refinements of personal experience, in addition to the unifying physician-patient relationship. See her article, "Multiplicity, Point of View, and Responsibility in Traditional Chinese Healing," in *Body, Subject and Power in China*, eds. Angela Zito and Tani E. Barlow (Chicago: University of Chicago Press, 1994), 78-99.

beneath that of the patients and that knowledge is unattainable unless the physician builds an interpersonal relationship with his patients. The physician's authority is generated first inside and then outside the patient-physician relationship. Without the moral imperative, namely that the physician dedicates his life to the patient's well-being, knowledge remains incomplete and thus ineffective.

This unifying vision of morality and knowledge embodied in traditional Chinese medical practice marks a diametrical contrast with the actions of the Japanese and German doctors who carried out experiments on humans. From 1942 through the end of WWII, hundreds of Russian prisoners of war and concentration camp inmates were experimented on in various ways:

Prisoners were immersed in ice water to discover how long German pilots, downed by enemy fire, could survive in the icy waters of the North Sea; they were forced to drink seawater to determine how long a man stranded at sea might survive without fresh water; they were subjected to mutilating limb transplants to improve techniques that might prove valuable in genuine medical emergencies; and they were wounded or injected with infectious bacteria to determine the effectiveness of new antibacterial drugs.⁶⁵

German physicians saw these experiments as a source of knowledge that could be used to protect German soldiers. In the testimony given at the Nuremberg trials, physicians justified their experiments on prisoners on the grounds that these could save the lives of more "valuable" individuals; the prisoners in concentration camps, they explained, were condemned to die anyway.⁶⁶ Likewise, hundreds of Japanese physicians justified their vivisection of war prisoners by claiming that it would save Japanese lives and advance science. These Japanese physicians stated that autopsy was insufficient to observe the normal

⁶⁵ Robert N. Proctor, *Racial Hygiene*, 217.

⁶⁶ *Ibid.*, 219-220.

or abnormal function of the internal organs, and the changes occurring from the moment living specimens were dissected.⁶⁷ These physicians violated their victims' right to live because they did not regard them as fellow human beings and demanded them to forgo their lives for a higher goal of scientific progress.

In light of these two extremes, that is, WWII experimentation on the one hand and traditional Chinese medical ethics with its potential for critiquing such practices on the other, the recent Chinese discourse on euthanasia, local discrimination against the disabled and “quick fix” sterilization of the mentally retarded are not far removed from the dark side of twentieth-century biomedicine: the disabled are denied normal citizenship and yet are expected to be docile bodies. Historically, disabilities have been associated with disease: the Chinese characters “disfigured” (*can* 殘) and “disease” (*ji* 疾) or “disabled” (*fei* 廢) were often used together as a special category for the government to devise social relief assistance. Regardless of whether disabilities are caused by congenital or postnatal factors or by accidents, disabled people in China have been combating the social stigmatization of their bodily differences. They have been deprived of dignity, and of the right to marry and get an education, rights often taken for granted elsewhere.

The historical records show that the imperial courts strategically provided the disabled with tax exemption, relief funds, temporary shelters, health care and lenience in cases of crime conviction. Other social elites, especially the Confucian gentry, took up social philanthropy as a virtuous embodiment of extended brotherhood. They regularly or irregularly gave food, clothing, medicine, coffins, books, stationeries, and housing spaces to the poor and

⁶⁷ Akimoto Sueo 秋元寿恵夫, *I no rinri o to: dai nanahyaku sanjuichi butai deno taiken kara* 医の倫理を問う : 第731部隊での体験から (Tokyo : Keisōshobō, 1983), 123-128. Akimoto repudates such vivisection theories as scientifically baseless and condemns such practices as a mere satisfaction of these physicians' sinister curiosity.

needy.⁶⁸ However, it has always been the family's responsibility to take care of handicapped members; their well-being has therefore depended upon the family's compassion and financial status. A bleak future faces disabled persons abandoned by their family. According to the sampling statistics in recent decades, almost 70% of the handicapped depend on family support, while 30% depend on their own labor and income, and less than 3% on state welfare and social philanthropy.⁶⁹

Owing to the personal endeavors of the formidably well-connected Deng Pufang 邓朴方, Deng Xiaoping's crippled eldest son, China's Disabled Persons' Federation 中国残疾人联合会 was established in 1988 to fight for basic rights for the 56 million disabled (estimate for the early 1990s).⁷⁰ According to Deng Pufang's 1993 report, 60% of the disabled population were illiterate, 40% unemployed, while almost 80% of blind, deaf, and mentally retarded children received no schooling.⁷¹ Presently, disabled persons still face problems accessing higher education, despite a regulation passed by the State Council in 1994 stipulating that universities must admit disabled students who meet the state enrolment standard. In practice, most universities are unwilling to accommodate these disabled students and manipulate the guidelines on the Physical Standard for National Higher Education

⁶⁸ Lu Deyang 陆德阳 and Inamori Shinshō 稻森信昭, *Zhongguo canjiren shi* 中国残疾人史 (the history of Chinese handicapped) (Shanghai: Xuelin chubanshe, 1996), 44-70. Angela Leung 梁其姿 provides a highly detailed and original study of the social activities and transformation of these philanthropic associations organized by local elites during the Ming and Qing periods. See her book, *Shishang yu jiaohua: Ming Qing de cishang zuzhi* 施善與教化：明清的慈善組織 (Taipei: Lianjing chuban, 1997).

⁶⁹ Lu and Inamori, *Zhongguo canjiren shi* 中国残疾人史, 200. Lu and Inamori do not specify the date of this statistic sampling.

⁷⁰ Matthew K. Kohrman's *Bodies of Difference: Experiences of Disability and Institutional Advocacy in Modern China* (Stanford: Stanford University Press, 2005), focuses on how the Federation was formed and its transforming impact on two Chinese local settings, in urban Beijing and rural Hainan.

⁷¹ Deng Pufang 邓朴方, *Rendao zhuyi de huhuan* 人道主义的呼唤 (The Call for Humanism) (Beijing: Huaxia chubanshe, 1999), 425.

Enrolment, produced by the Ministry of Education, to bar disabled students.⁷² If the disabled are denied full citizenship within the frame of constitution and hence beyond the state's sovereign domain, on what legal basis can the state exercise authority over their bodies? If the state has abrogated responsibility for their living, why is it so keen to meddle in their dying? Such questions open up complicated constitutional issues touching on the State's legitimacy and reveal an urgent need for open debates.

As mentioned above, geneticists have played an aggressive role in the eugenics legislation campaigns. These geneticists show no trace of the traditional Chinese physicians' practice of compassion and knowledge; they are also different from geneticists in other nations. Dorothy C. Wertz's 1994-96 questionnaire survey of 2,901 medical geneticists in 36 nations reveals that, of a total of 252 Chinese respondents, 96% would counsel negative aspects in cases of Down's syndrome, as opposed to 23% in Germany, 73% in India, 13% in the U.S. and 14% in Britain. The high incidence of pessimistic counselling among Chinese geneticists' applies also to other diseases: 97% for Hurler syndrome, 99% for trisomy 13, 95% for cystic fibrosis, 98% for anencephaly, 71% for sickle cell anaemia, 84% for predisposition to mental illness, 94% for Huntington disease, 78% for HIV infection in the fetus, and 86% for PKU in the fetus. Chinese geneticists thus tend either to urge termination of pregnancy or paint such a negative picture that the couple opts for termination without prompting. In addition to this pessimistic and direct approach, most Chinese geneticists think that parents should follow the doctor's advice and few (14%) would support patients'

⁷² See <http://www.nytimes.com/2001/05/23/world/23CHIN.html?ex=991641203&ei=1&en=ac5e774240a57fb4>, *The New York Times*. Accessed 9 January 2002. To defend Nanjing University 南京大学, the Chancellor clarified that the University did not admit the disabled student because her entrance examination scored lower than the admission standard. Personal phone calls of inquiry were placed by my husband Professor Chih-Yung Chien to the Chancellor of Nanjing University on January 31, 2002.

decisions with which they disagreed; 93% agree that “It is socially irresponsible knowingly to bring an infant with a serious genetic disorder into the world in an era of prenatal diagnosis”; 92% agree that “persons who carry a recessive disorder should not mate with another carrier”; 94% agree that “people at high risk for serious disorders should not have children unless they use prenatal diagnosis and selective abortion.”⁷³ The incidence of unfavorable judgments among Chinese geneticists is the highest among all the nations surveyed.

Moreover, 82% of Chinese geneticists believe that governments should intervene by sterilizing some people who would otherwise have children with genetic disabilities; India had the second highest rate at 50%. Together with geneticists in India (87%), Turkey (73%), Peru (71%), Spain (67%), Poland (66%) and Greece (58%), 89% of Chinese geneticists agree that “An important goal of genetic counselling is to reduce the number of deleterious genes in the population.” In this questionnaire survey, most Chinese geneticists define the goal of genetics as increasing population quality and decreasing population quantity, and openly approve of eugenics as a goal of genetics; this is echoed by geneticists from India, the Czech Republic, Hungary, Thailand, Russia and Greece.⁷⁴

Wertz’s findings reveal the hollowness of the argument, made by Qiu Renzong among others,⁷⁵ that Chinese geneticists are culturally different because of traditional medical ethics

⁷³ Dorothy C. Wertz, “Views of Chinese Medical Geneticists: How They Differ from 35 Other Nations” in *Chinese Scientists and Responsibility: Ethical Issues of Human Genetics in Chinese and International Contexts*, ed. Ole Döring (Proceedings of the ‘First International and Interdisciplinary Symposium on Aspects of Medical Ethics in China: Initiating the Debate,’ Hamburg, April 9-12, 1998, published in 1999), 141-160. Wertz sent out the questionnaire to a total of 4592 geneticists in 36 nations and the average responding rate is 63%, while the Chinese rate is 64%.

⁷⁴ Ibid.

⁷⁵ Qiu has been trying to bring traditional medical ethics into the ethical code for modern Chinese medical professionals since the 1980s. See his articles, “Medical ethics and Chinese Culture” in *Transcultural Dimension in Medical Ethics*, ed. Edmund Pellegrino et al. (Frederick: University Publishing Group, 1992), 155-174, and “Dui zhili yanzhong dixiazhe shixing jueyu zhong de lunlixue wenti 对智力严重低下者施行绝育中的伦理学问题 (the ethical issue in sterilization of the mentally retarded)” in his edited volume, *Shengyu jiankang yu*

and hence mistake “social good” as “rightness.” Cultural difference is indeed significant, but this has little to do with tradition and much more to do with generational experience. The geneticists in the survey have a median age of 50, and were adolescents during the Cultural Revolution. I believe that the cultural difference they display emerged from the milieu of the Cultural Revolution, in which the blood lineage discourse (*xuetong lun* 血統論) was meshed with the dialectic outcome of scientism in the post-Lysenko, post-Mao era.

Although it is impossible to know exactly how many people died in the Cultural Revolution, it is generally held to have been an unprecedented human catastrophe. Millions of lives were ruined by a crude, dichotomous discourse of class struggle: red/black, socialist/capitalist, progressive/reactionary, leftist/rightist, hero/beast. Mao Zedong’s theory of contradiction saw class struggle as a means to energize Chinese politics and accelerate social progress. For Mao and the Chinese Communist Party, class struggle was not only the vehicle on which they rode to power but also a strategy for keeping power. The social struggles of the Cultural Revolution, rooted in a dichotomous vision of the world, were thus nothing new, and featured in previous political campaigns.⁷⁶

In June of 1966, the young students of the preparatory high school of Peking University promulgated their establishment of a Red Guard organization and circulated a

lunlixue 生育健康与伦理学 (Beijing: Beijing yike daxue and Zhongguo xiehe yike daxue 北京医科大学与中国协和医科大学, 1996), 319-328.

⁷⁶ Elizabeth J. Perry and Li Xun, “Revolutionary rudeness: the Language of Red Guards and Rebel Workers in China’s Cultural Revolution,” in *Indiana East Asian Working Paper Series on Language and Politics in Modern China* (Bloomington: East Asian Studies Center, Indiana University, 1993). Coarse language and crude behaviour were new: a vocabulary of condemnation fuelled the widespread mistreatment of fellow human beings. Posters displaying massive characters, penned by Beijing Red Guards and emulated by rebel organizations, appeared nationwide; “Damn it” became a hallmark of Red Guard phraseology as these young rebels adopted popular swear words, in southern or northern dialects of Chinese, to berate their enemies. The cruder one’s language, the closer one felt to the workers, peasants and soldiers. By using such swear words and vulgar postures, these Red Guards identified with their fathers’ generation, whose origins lay in the rural areas, and who were once Communist Revolutionaries and then high-ranking party cadres.

couplet: “If the old man is a hero, the son is a brave fellow. If the old man is a reactionary, the son is a bastard.” Together with the level couplet of “Rightly So, Indeed!” or “Gloomy Ghosts!” the couplet evoked the centrality of blood lineage and opened the first page of the Cultural Revolution. Supported by Chairman Mao, the Red Guards classified people into two separate groups, five kinds of red (*hongwulei* 红五类, soldiers, cadres, revolutionaries, workers and petty peasants) and five kinds of black (*heiwulei* 黑五类, landlords, rich peasants, counter-revolutionaries, bad elements and rightists), and declared war against the five kinds of black.⁷⁷

In July, the Red Guards circulated another document stating “The old men took power, and their sons in turn take over. This is called generational transmission.” In August of 1966, the composer of the above couplet, Tan Lifu 谭立夫, issued another big-character poster to promote his theory of blood lineage and the hereditary nature of power succession as the base line of party policy. In the public debate on blood lineage on August 20, Tan incited his fellow students to harass and beat up other students considered to belong to the “five kinds of black” category as a means of thought reform. Tan’s theory coincided with the political struggle between Mao, Liu Shaoqi 刘少奇 and Deng Xiaoping 邓小平, who used Tan’s theory to protect their own political careers. Tan’s statement in the public debate was well received among the Red Guards; with the implicit support of the upper echelons of the Chinese government, it was put into print and reprinted nationwide. Within days, Tan became a celebrity and his fellow students and followers became the vanguard of red terror. Over the

⁷⁷ Ren Songlin, “Lun ‘xuetonglun论血统论’” in *Hongse geming yu hese zaofan* 红色革命与黑色造反 (Red Revolution and Black Rebellion), ed. Yang Jianli 杨建利 (Pleasant Hill: Foundation for China in the 21st Century, 1997), 379-390.

following forty days, the Red Guard ravaged the city. According to the official statistics, in Beijing, 1,700 people were beaten to death, 33,600 household properties were confiscated and 84,000 residents classified as five kinds of black were expelled from the city.⁷⁸

The Red Guards' public verbal abuse, brutality, and massacres were tolerated by Mao until the theory of blood lineage was made an explicit tool for political coalition by Liu, Deng and other high-ranked cadres. In October 1966, Mao's mouthpiece, Chen Boda 陳伯達, began to denounce blood lineage as unorthodoxy and the Red Guards became the object of public criticism.⁷⁹ However, the dehumanizing terminology such as "Sweep away all cow-devils and snake-spirits 掃除一切牛鬼蛇神," metaphors of vampirism and bestiality, and the color coding of good and evil, friends and foes, politically correct and incorrect, which were generated from the discourse of blood lineage, followed the Red Guards as they were sent to the countryside or factories, and permeated the language of mass criticism movements and political campaigns, such as the Criticize Lin Biao-Criticize Confucius Campaign.⁸⁰

Stigmatizing their fellow human beings as subhuman through their use of language expressed the Red Guards' class consciousness. All sorts of mistreatment, ranging from public execution to social discrimination in terms of employment, marriage, schooling, and political participation were consequently justified as class struggle. The blood lineage theory, according to Yu Luoke's critique, amounted to the re-creation of a caste system and

⁷⁸ Song Yongyi 宋永毅 and Sun Dajin 孙大进, *Wenhua da geming han ta de yiduan si chao* 文化大革命与它的异端思潮 (Heterodox Thoughts During the Cultural Revolution) (Koolong: Tianyuan shuwu, 1997), 80. This book includes all the documents mentioned above. It is not clear to me how severe the red terror was in other areas of the country.

⁷⁹ Ibid. It is important to note that at the same time there was a counter-argument called "*Chushen lun* 出身论" (On Backgrounds) by Yu Luoke 遇罗克, a worker of age 25, who criticized the social injustice and inequality in the blood lineage theory. Yu's critique was also denounced by the Central authorities as heterodox thought, and Yu was arrested in 1968, framed and executed in 1970.

⁸⁰ Elizabeth J. Perry and Li Xun, "Revolutionary Rudeness."

reproduction of social outcasts. Millions of victims suffered over a decade; their social stigma was finally removed after the Cultural Revolution. However, the Red Guards never faced criminal charges for their political and social atrocities. They returned to school and later formed the social elite, taking up professions of all kinds during Deng's reform era. In the end, they confirmed the theory of blood lineage and heredity of power. Since their wrongdoings were never confronted and indicted, their class culture and mentality of blood lineage faced no challenges. The traditional Confucian ethic of extended brotherhood may mean little to such people.

The so-called "Chinese geneticists' cultural difference" is thus, I argue, the recent outcome of the Cultural Revolution. I believe, moreover, that the dialectic emergence of scientism from the Lysenko experience generated social capital for these geneticists and meant that their opinions carried weight in the reform era, which explains their aggressive role in the eugenics legislation campaigns. In 1978, Deng Xiaoping proclaimed that the modernization of science and technology would take priority over the modernization of industry, agriculture and national defense. Hu Yaobang 胡耀邦, then Secretary General of the party, echoed Deng's message and advocated "Smash Superstition, Master Science." According to Hua Shiping 华世平 who belongs to the generation of the Red Guards, superstition here refers to the Mao cult and science to the guiding principles of the reform campaigns. Science was not only freed from previous ideological restraints, but was now embraced unequivocally, as the foremost productive force. In line with this fashionable view, the central bureaucracy found new blood in the form of science professionals, decreasing the proportion of ministerial staff with revolutionary backgrounds from 60% to 21% and increasing those with science training from 2% to 45%. From 1978-85, among 38,000

students receiving an overseas education, 90% studied science and technology, 3% humanities and 7% social sciences. In the intellectual arena of the 1980s, leading thinkers such as Fang Lizhi 方励之, Wen Yuankai 温元凯, Jin Guangtao 金观涛, and Su Shaozhi 苏绍智 had backgrounds either in natural sciences or statistics and were respected as public spokesmen and commentators on state policies.⁸¹

Viewing “scientism” and humanism as two poles of a political barometer, Hua Shiping divides the overwhelming enthusiasm for science into three types of scientism, each opposed to a version of humanism: Marxist scientism versus Marxist humanism; technological determinism versus Confucianist humanism; and empirical scientism versus critical humanism.⁸² In addition to the traditional Chinese holistic-monistic mode of thought that often leads to totalitarian political action, Hua explores reasons why scientism has triumphed over humanism in the post-Mao era and seeks to grasp why contemporary Chinese thought

⁸¹ Shiping Hua, *Scientism and Humanism: Two Cultures in Post-Mao China, 1978-1989* (Albany: SUNY, 1995), 1-2.

⁸² *Ibid.*, 49-138. The six conceptual parameters analyzed by Hua consist of six intellectuals’ scholarly works as concrete embodiments of the intellectual matrix in the post-Mao era. Those who adopt Marxist scientism deny the role of human will in historical change and tend to hold the elitist view that people are incapable of knowing their own interests and hence have to be led by supermen, i.e., the communist leaders and technocrats. In contrast, Marxist humanism, as a developmental strategy used by Mao to inspire people’s morale in the Great Leap Forward 大跃进 production campaigns, resists Leninist reductionism and emphasizes the ultimate interests of people. Technological determinism sees productive forces and economic developments as indispensable to ensuring socialism and avoid capitalism. Accentuating material civilization rather than spiritual civilization, technological determinism is well received among the reform faction and has become mainstream after the 1989 Tiananmen incident 天安门事件. Since technological determinism has a single set of means (productive forces) and ends (socialism), Confucian humanism provides an alternative form of ends and tries to install “shan 善” (benevolence) and “ren 仁” (humaneness) within the modern mode of production and human relationships. Without specifying which Confucian elements should be institutionalized in Chinese modern life, however, the Confucian unity of ends and means is in reality vulnerable to manipulation to justify political incompetence under the pretext of the rule of the people. Empirical scientism as a methodology rejects reductionistic materialism and follows a Baconian deductive approach involving experimentation, verification, falsification and normalization. Empirical scientism as advocated by thinkers Jin Guantao 金观涛 and Yan Jiaqi 严家其 clings to the belief that science as rationality generates the humanism, democracy and freedom enjoyed in Euro-American political systems. Critical humanism, informed by postmodern pessimism, is critical of both imported scientism and the Confucian revival, and does not take freedom and democracy as natural outgrowths of rationality. Without articulating any particular vision for the Chinese future, critical humanism does not endorse or engage in any political agenda.

has been insensitive to and hence uncritical of the inhuman aspects of the Cultural Revolution. Hua suggests that the declining influence of Marxist humanism after the mid-1980s is the result of government repression and the gradual erosion of Marxism in general. In spite of the state's interest in revitalizing Confucianism in order to legitimate its one-party rule and certain intellectuals' belief that Confucian values persist in Chinese hearts, Confucian humanism is unlikely to resurface as a major cultural force because it is often linked with China's feudal past and also because of the memory of its recent confrontation with May Fourth iconoclasm. Critical humanism, meanwhile, is limited within a small academic circle and does not even try to appeal to the general population.⁸³

Scientism is filling the intellectual vacuum created by a fragmented, intolerant, and indifferent political culture in the post-Mao era. The suffering and social dislocation caused by the Cultural Revolution, together with the social distress generated by reforms, have brought to an end the exclusive domination of Marxism-Leninism. The enthusiasm for Marxism among Chinese youth, seen in the Yanan era, is long gone. However, Marxism has not been replaced by Confucianism, western liberalism or the altruistic communist culture found in the 1950s and 1960s. Although different values are in conflict with one another in contemporary Chinese society, the level of tolerance of diverse opinions is low and the desire to seek political unanimity, dictated by the traditional holistic-monistic mode of thought, remains strong. Science speaks to such a habit of mind and promises solutions to all problems. The three kinds of scientism promise the inevitable success of communism as an objective law, improvement of living standards through productive forces, and a better understanding of

⁸³ Ibid., 141-148.

history.⁸⁴ Scientism in the post-Mao era, together with a mentality rooted in the Cultural Revolution that privileges blood lineage, shaped the cultural milieu in which Chinese scientists morphed into the policy makers and managers behind the strident eugenics laws introduced from the early 1980s to 1995.

As a result of international pressure and the Chinese government's promise to revise the 1995 Maternal and Infant Health Care Law 母婴保健法, Chinese ethicists and geneticists, encouraged by the state authorities, have begun to debate bioethics. According to the report of Yang Huanming 杨焕明, the Director of the Human Genome Center at the Chinese Academy of Science, Chinese geneticists have recognized their social responsibility and are committed to better lab facilities and staff training to ensure an accurate and cost-effective genetic counselling service. In order to minimize the abuse of genetic information and interventions, Yang and his colleagues have proposed two fundamental principles: "informed choice and informed consent" and "privacy." They include ethics in the curriculum of medical students and encourage clinicians to participate in the worldwide bioethics discussion. Chinese geneticists, along with their counterparts abroad, appear to recognize that we in fact know remarkably little about our genes, and need to examine carefully the observable or unobservable effects of genetic measures and their impact on human society. Geneticists are just beginning to explore the secrets hidden in the 3 billion base pairs of alleles from which human beings have been evolving; they have not yet been able to distinguish a normal genome from an abnormal or diseased genome.⁸⁵

⁸⁴ Ibid., 150-154.

⁸⁵ Yang Huanming 杨焕明, "The Social Responsibility of a Human Geneticist in China: Personal Points of View" in *Chinese Scientists and Responsibility: Ethical Issues of Human Genetics in Chinese and International Contexts*, ed. Ole Döring (Proceedings of the 'First International and Interdisciplinary Symposium on Aspects of

Yang highlights the history of abuse of science during the Great Leap Forward and Cultural Revolution and delegates responsibility to various generations of scientists during these campaigns for endorsing state ideology, willingly or under duress. Yang's proposed ethical principles will however amount to little as long as the power relationships based on the binary pairs state/political subject, institution/individual, doctor/patient, subject/object remain unchallenged. In the current hospital system, informed choice does not necessarily provide options other than death and enduring suffering; informed consent for medical treatment often amounts to little more than a fig-leaf for physicians and clinical staff in case of legal disputes.

Conclusion

The sterilization of mental patients and the retarded in the 1980s and early 1990s was mishandled by different levels of state authority, central and regional, because mental retardation and illness were predominately a result of iodine deficiency and a vicious cycle of social distress. It is unfair and counterproductive for international human rights activists to demonize the Chinese State for these unintended consequences. As Chinese eugenics was attacked by Western interventions in the 1980s and 1990s, the antagonism and nationalistic sentiments expressed by both Chinese eugenics advocates and the general public is understandable. Whereas Westerners see health as personal security and as a human right, Chinese consider health protection for the entire population as a political legitimation of the communist regime.

Medical Ethics in China: Initiating the Debate,' Hamburg, April 9-12, 1998, published in 1999), 56-65. Yang was one of the participants in the first *International and Interdisciplinary Symposium on Aspects of Medical Ethics in China: Initiating the Debate* sponsored by Hamburg University in 1998.

Chinese geneticists learned from Lysenkoism in the same way the Lysenkoists learned from gene theory, eliminating Lysenkoism from textbooks just as the Lysekoists eliminated gene theory decades ago. The international politics of Lysenkoism stigmatized eugenics without confronting fundamentally its misdemeanors against humanity, and failed to probe thoroughly the role of environmental factors in genetic mutation. Eugenics was popular in early twentieth century China, and has recently staged a dramatic comeback; as a historian, I contend that Lysenkoism should not be dismissed too quickly. Lysenkoism, in many ways the exact opposite of eugenics, can teach us about more than the politics of intellectual freedom; the role of the Michurinist biologists during and after the era of Lysenkoism deserves more scholarly exploration of its theoretical challenges, namely, the interaction of environmental factors. Historian Loren Graham attributes the defeat of Lysenkoism to the discovery of DNA. I believe that the Lysenkoists' Michurinist environmental approach in fact involved a tough scientific battle, because pinning down how the environment has an impact on organisms is more challenging than decoding DNA. The completion of the Human Genome Project will not entirely banish this obscurity for us. As two contradictory global forces, eugenics and Lysenkoism familiarized Chinese geneticists with the language of politics, but taught them only to erase the past.

Confucian ethics and Asian values have featured in the recent debates on bioethics intended to facilitate revision of the 1995 Maternal and Infant Health Care Law. Confucianism may have a role to play in policy formulation, despite the vexing case of Singapore, where it has been used to sanction positive and negative eugenics since the 1980s. Based on the scholarly assertion that Confucian ethics espouses economic achievement, the Singapore National Population Planning Bureau has been encouraging the Han Chinese to

have more children in order to guarantee national prosperity. Minorities view the government's approach as a way of maintaining the economic dominance of the Han Chinese majority.⁸⁶

After a century of attacks and political manipulation, and in the face of rapid social changes and an ever more fragmented human existence, Confucianism has ceased to be a cultural nexus encompassing and governing Chinese social relations. However, if it manages to remain a living philosophy, forgoes claims of territorial authentication, and avoids being essentialized as a pretext for asserting cultural difference and resisting globalization, Confucianism can maintain its critical capital and translocal capacity. Confucian ethics, traditional medical ethics and other cultural resources offer alternative thinking on medical ethics in the challenging modern era of biotechnology; they underlie the concept of “*jingyan* 经验,” which entails the notion that efficacy is the physician's responsibility. Inspired by “*jingyan*,” I urge the Chinese authorities to involve the disabled population in the bioethics debates and ensure their legal representation in the legislation process. Scientists do not have to experience physical disabilities in order to feel compassion for the disabled. Deng Xiaoping did not have to wait until his son Deng Pufang became crippled to realize the importance of supporting the Federation of Disabled People. Not every disabled person has a powerful father to respond to his “humanitarian plea.”⁸⁷ The lack of Chinese public discussion and national debates of bioethics and disability rights derived from the eugenics implementation at the popular level is the most problematic phenomenon. The Western

⁸⁶ See C. K. Chan, “Eugenics on the Rise: A Report from Singapore,” *International Journal of Health Services*, 15 (1984): 705-712; this article is also collected in *Ethics, Reproduction and Genetic Control*, ed. Ruth F. Chadwick (London: Routledge, 1987). Also, John Clammer, “Sociobiology and the Politics of Race: ‘Science,’ Theories of Chineseness and the Management of Pluralism in Contemporary Singapore,” in *Racial Identities in East Asia*, ed. Barry Sautoman (Hongkong: HKUST, 1995), 34-57.

⁸⁷ Deng Pufeng's recent, important work on disabled people's campaigns was entitled “Humanitarian Plea.”

cybernetics may have influenced China's one-child policy as Susan Greenhalgh claims.

However, such innovation of new technology has not fully helped liberate human desires of free expression in China today.