

# The China Survey Course in the Age of STEM

By Barry C. Keenan

Assistant professors in humanities fields are facing new enrollment pressures as humanities majors are shifting to majors with more concrete job prospects. A beginning history professor made a careful examination of reliable statistics on college majors in 2018 that revealed, “A lower share of newly graduated Americans earn humanities degrees today than did so in 1970 or 1990.”<sup>1</sup> The reason for the decline was explained by the perceived lack of job prospects, especially in the four humanities fields of philosophy, history, languages, and English. Meanwhile, college degrees nationally in the sciences, technology, engineering, and mathematics (STEM) have increased.

This transformation has raised public discussion of whether the broad curriculum of liberal arts colleges needs to be reevaluated. The governors of four states announced they do not intend to keep subsidizing the liberal arts at state-funded institutions.<sup>2</sup> A report analyzing twenty-eight four-year liberal arts colleges in 2014 diagnosed the problem this way: “Enrollment has declined at liberal arts colleges, and these campuses must now compete against one another, and against low-cost public colleges and universities, for student enrollment. To effectively compete for students, liberal arts colleges have met student demands, introducing new vocational and professional academic programs.”<sup>3</sup> The student (and parent) demands are coming from the reality of student debt that needs to be paid back after graduation. So vocationalism is not only threatening humanities majors, but even the broad nature of liberal education itself. So, one might ask, why not let the job market reorient the curriculum?

## Learning from China's Experience

What will happen has already been tested in Chinese history. In the Song dynasty (960–1279), the great educator Zhu Xi (1130–1200) exposed the issue by taking a stand countering the public school system, whose aim was the vocational preparation of students. The vocation anticipated was to become officials in the governmental bureaucracy by preparing to take the civil service examination. As the appointed prefect controlling three

poor counties at age forty-nine, Zhu Xi took the confrontational step of not funding the existing government schools, but instead rebuilding an academy that became a model for personal moral growth. The court of the emperor resisted, but Zhu threatened to resign office and become an academy headmaster. His continued persistence succeeded in gradually getting state funds to support nonvocational academies as a dual system alongside public schools. By the end of the Song period, Zhu's ideas spread through more than sixty such academies, internalizing a new message: moral authority emanates from self-cultivation.<sup>4</sup>

His model academy opened and published its pedagogical precepts, which appeared again and again in the founding documents of new academies down to the nineteenth century. While in residence on campus, academy students were to conduct themselves according to certain self-cultivation guidelines, including “(a) When in your conduct you are unable to succeed, reflect and look [for the cause] within yourself; (b) do not do to others what you would not want them to do to you; (c) curb your anger and restrain your lust; turn to the good and correct your errors; and (d) be faithful and true to your words and firm and sincere in conduct.”<sup>5</sup> Zhu also added a personal comment that made explicit his intention in making public the *Articles of the White Deer Grotto Academy*:

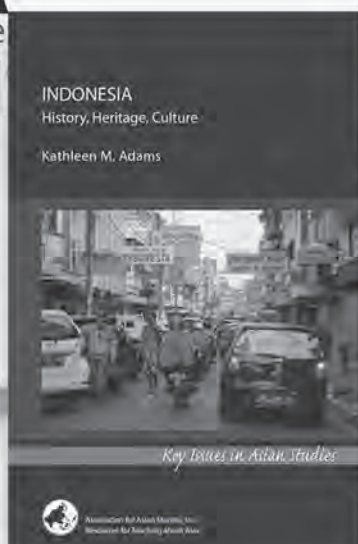
*I (Zhu Xi) have observed that the sages and worthies of antiquity taught people to pursue learning with one intention only, which is to make students understand the meaning of moral principle through discussion, so that they can cultivate their own persons and then extend it to others. The sages and worthies did not wish them merely to engage in memorizing texts or in composing poetry and essays as a means of gaining fame or seeking office. Students today obviously act contrary [to what the sages and worthies intended].<sup>6</sup>*

Following his death, official Mongol adoption of Zhu Xi's commentaries on the Confucian classics for the new civil service examination system in China of 1315 CE seemed, on the surface, to be an ironic posthumous

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The reconstructed headmaster's residence of Yuelu Academy. The academy was founded in 976 CE. Zhu Xi held scholarly discussions at Yuelu Academy in 1167 CE and briefly taught there in 1194 CE. Source: *Zhongguo shuyuan cidian*, ed. Ji Xiaofeng (Hangzhou: Zhejiang jiaoyu chubanshe, 1996).

victory for the antiforeign scholar Zhu Xi. But major jobs were usually filled by non-Chinese through other recruitment methods under the Mongols. In the end, the goal of the new examination system truncated the personal development aims so dear to Zhu Xi, as dependable and able Chinese employees did not need to demonstrate self-cultivation. Chinese candidates lacked a nonvocational public school system dedicated to personal ethical understanding. Despite their exposure to Zhu's interpretation of the classics, candidates studied to pass the official recruitment, and their ambition for officialdom came to overwhelm the goal of personal moral education. Candidates were increasingly training themselves to write formal literary exercises in order to pass a recruitment examination to enter the bureaucracy. Both Khubilai and the autocratic founder of the following Ming dynasty turned Zhu's individually tailored program of humanistic education into a vocational credential in the service of bureaucratic recruitment that was to last until the civil service examinations were abolished in 1905.<sup>7</sup> The job market over the final 600 years of China's dynastic history destroyed the laudable aim of personal development.

#### **The Chinese Humanities and STEM: Three Case Studies for a China Survey Course**

##### **(Which Might Be a Component of an East Asian Survey)**

So if vocational distortion is the real enemy, can removing the pressure of the job market from the current college curriculum recast the relationship of the humanities to the STEM fields, which are not the real enemy? Can incorporating scientific insights into general humanities courses on China even facilitate collaboration with STEM fields to the benefit of both?

#### **Myth, Legend, and the Origins of Chinese Civilization: Correction of the Written Record**

Asking students to play roles in the legendary cultural hero stories accounting for the first state in Chinese history dramatizes the inherited traditional account. Besides a short selection from the *Classic of Documents* (*Shu jing*), a textual analysis in "Myths in Ancient China" by Derk Bodde can introduce a scholarly evaluation of the traditional account.<sup>8</sup> Bodde, using the scientific research of twentieth-century of historian Gu Jiegang (1893–1980), demonstrates that in each of the origin legends, the earlier a supposed progenitor accounts for a given development at the beginnings of Chinese civilization, the later that story was actually written.

The sequentially earlier accounts, Bodde further suggests, were also humanized from myth into human stories probably so the noble houses of the feudal early Zhou (ca. 1046–256 BCE), when they were written down, could claim genealogical connections to the families in those stories.

What can be also added to this exercise is the analysis of the subfield of anthropology called origin of state theory. Henry T. Wright recently updated work in that field to argue that the process of primary state formation, which would include whatever Yao, Shun, and Yu were credited to have done for China's first state, would not have occurred because of virtuous culture heroes. Instead, repeated conflicts with closely spaced, competing centers of population were prerequisite for the development of internally specialized governance in the first state. The process everywhere else in the world consisted of protracted trial and experiment before functionally defined offices gradually became institutionalized in



## Myths and Legends in Ancient China

Myths	Stage of Human Culture	Social Stages	China
Fu Xi (Fu-hsi)	More Recent Paleolithic  Hunter/gatherer transition to domestication of animals	Egalitarian bands  Kinship relations	Peking Man and Woman 400,000
Shennong (Shen-nung)	Neolithic  Domestication of grain	Tribal  A) Chieftain  Patrilineal succession 2000–3000 BCE	Yangshao 4500–2500 BCE  Longshan (Black Pottery) 2300–1800 BCE
Yellow Emperor (Yao, Shun, Yu)	Statehood	Social stratification  Xia (2070 BCE)	

Chart created by the author for his classroom.

what we now call a government. The chart above might allow the instructor to elaborate these points.

### Mencius and Evolutionary Anthropology

The late Professor Irene Bloom wrote of the classical Chinese text called the *Mencius*: “There is probably no text more influential in terms of the way that all of the Confucianized people of East Asia have come to think about human nature and what it means to be human.”<sup>9</sup> One reason so bold a statement is true is that the author of the text bearing his name, Mencius (ca. 380–290 BCE), was the most important classical Confucian thinker in shaping the ideas of the Neo-Confucians (Cheng-Zhu school) after the year 1000 CE. Mencius himself was convinced that at birth humans are not unfeeling toward others and that the most obvious of these inborn feelings is compassion or commiseration. Any child crawling near the edge of a well should evoke the feeling of compassion in all who see the danger that the child could befall. Mencius argued that the nurturing of this inborn sprout of compassion with lifelong self-cultivation could mature that sprout into realization of the moral ideal of *ren* (humaneness), or benevolence, in a person.

Contemporary science can bring evidence to bear on this analysis and add depth and legitimacy to this influential argument by Mencius. A specialist on the philosophy of China, Donald Munro, may have been the first scholar to demonstrate how this should be done. Munro pointed out in 2005 that evolutionary biology had proven Mencius was right in affirming that humans at birth have an inborn nature.<sup>10</sup> Evolutionary anthropologists have now added to the original research by evolutionary biology and can make the following argument. At the time of *Homo erectus* (including *pekinensis*) around 400,000 years ago, collaborative foraging became obligatory for survival. Thanks to population pressure on a fixed food supply, this occurred over enough generations

that earlier humans *who had cooperated with others* ended up being the ones selected to survive. Their descendants over thousands of generations inherited this *interdependence*, and inherent in that legacy was a sympathetic concern for others.<sup>11</sup> Evolutionary anthropologist Michael Tomasello marshals data from a host of primate studies, including the closest great ape relatives of human beings, namely, chimpanzees and bonobos. He contrasts experiments of very young human children with experiments of our closest ape species to distinguish the forms of caring or sympathy that have indeed become hereditary in human beings, confirming what Mencius had argued.

### Demography and Dynastic Decline: 1700–1850

The introduction of dry land food crops from the New World led to a gradual revolution in land utilization after 1500 CE in China. In the early 1500s, the peanut was brought to China by Portuguese traders. Soil that was dry, sandy, and hilly was poor for rice cultivation, but could grow peanuts; and production spread up the coast from Canton to Shanghai and then west up the Yangtze River valley. The sweet potato was introduced overland from the India–Burma region by the mid-1500s. Then, maize came in overland and from maritime entry, even though it required somewhat better land. None of these plants required irrigation canals, and millions of hills and sandy loams came into regular production. Finally, early ripening Champa rice from Việt Nam arrived, which reduced harvest time from five months to forty days, allowing double-cropping.<sup>12</sup>

China’s population almost tripled from 1700 to 1850. But the number of county magistrates did not increase, so the population managed by the lowest appointed official also tripled. Rebellions were to explode in several provinces in the nineteenth century, and food scarcity was joined by Western encroachment as another unwanted pressure on the stability of the Qing dynasty.

## Conclusion

There is a lesson for the humanities in today's liberal arts institutions from the life's work of a great humanities educator of China confronting vocationalism. The most committed effort to allow higher education to serve the personal growth of the student was destroyed when the students no longer studied Zhu Xi's works for the sake of their own learning. The personal learning stopped once the civil service examination system exploited his textual scholarship on the Confucian classics and made them into a credential to memorize for the sake of getting a bureaucratic job. In his own lifetime, Zhu saw what was happening, and the situation exacerbated when he passed away. He put well a basic principle that liberal arts today would still endorse: "In learning, we have to read for ourselves, so that the understanding we reach is personally meaningful. Nowadays, however, people read simply for the sake of the civil service examinations."<sup>13</sup>

Liberal arts colleges today face enrollment issues deriving in part from the fear of future student debt. The danger of designing new majors that promise job placement to pay back those debts is high-risk. One can dress up the new formulations in a red-buttoned mandarin cap, but as occurred in Chinese history, the skills acquired will not only be instrumental to the needs of the job market defining them; but most critically, acquisition of such skills will no longer be learning for oneself.

There was, nevertheless, one lasting legacy of Zhu Xi's commitment to education: the founding of quasi-private Song dynasty academies. Future Chinese academies that fought off becoming prep schools for the civil service examinations preserved a vital humanistic education along with a sophisticated liberal arts curriculum that was to have strong appeal to educated classes throughout East Asia.



Because STEM fields are not the enemy, a China survey course can integrate as much insight from them as is enlightening. Could the cultural history of human beings in China even be supplemented by the biological history that goes beyond the written record of human culture?<sup>14</sup> Then the perspicacious insights into our human nature at birth by Mencius could be validated by science right in the course. At most liberal arts colleges, a China survey course should meet the all-college distributional or general education humanities requirement. New students with sights on a STEM major might well be attracted by the science in the course and once enrolled could naturally observe fellow students "reading for themselves" so the understanding they reach is personally meaningful. ■

## NOTES

1. Benjamin Schmidt, "The Humanities Are in Crisis," *The Atlantic*, August 23, 2018, <https://tinyurl.com/y6pkqvs9>. The author is an Assistant Professor of History at Northwestern University.
2. Fareed Zakaria, *In Defense of a Liberal Education* (New York: W. W. Norton, 2015), 19.
3. N. S. Graham et al., "Abandoning the Liberal Arts? Liberal Arts Learning Outcomes of Professional Majors," *The University of Iowa ASHE 2014 Manuscript*, <https://tinyurl.com/y25a7yox>. The report was supported by a grant from the Center of Inquiry in the Liberal Arts of Wabash College to the Center for Research on Undergraduate Education at the University of Iowa.
4. Peter K. Bol, *Neo-Confucianism in History* (Cambridge, MA: Harvard University Asia Center, 2008), 229–233. To be appointed, academy headmasters had to demonstrate commitment to scholarship over holding public office. See also Wm. Theodore de Bary, "Chu Hsi's Aims as an Educator," in *Neo-Confucian Education: The Formative Stage* (Berkeley: University of California Press, 1989), 216–217.
5. Wm. Theodore de Bary and Irene Bloom, eds., *Sources of Chinese Tradition: From Earliest Times to 1600*, vol. 1, 2nd ed. (New York: Columbia University Press, 1999), 743.
6. *Ibid.*, 744.
7. Wm. Theodore de Bary, *The Great Civilized Conversation: Education for a World Community* (New York: Columbia University Press, 2014), 192–193, 198–199.
8. A good translation describing Yao passing power to the most meritorious figure among the common people from the *Classic of Documents* is in *Sources of East Asian Tradition: Volume I: Premodern Asia*, ed. Wm. Theodore de Bary (New York:

- Columbia University Press, 2008), 26. For the "Myths of Ancient China," consult Derk Bodde and Charles Leblanc, *Essays in Chinese Civilization* (Princeton: Princeton University Press, 2014), 45–84. For origin of state theory, see Henry T. Wright, "Early State Dynamics as Political Experiment," *Journal of Anthropological Research* 62, no. 1 (2006): 305–319.
9. Irene Bloom, "Mencius," *Finding Wisdom in East Asian Classics*, ed. Wm. Theodore de Bary (New York: Columbia University Press, 2011), 57.
10. Donald J. Munro, *Chinese Ethics for the New Century: The Ch'ien Mu Lectures in History and Culture, and Other Essays on Science and Confucian Ethics* (Hong Kong: Chinese University Press, 2005), 47–61. Current research in cognitive science and brain science on empathy in the sense of a sympathetic concern for the well-being of others is treated in Steven Pinker, *Better Angels of Our Nature: Why Violence Has Declined* (New York: Viking, 2011), 578–592.
11. A leading evolutionary anthropologist states the case simply as: "The evolutionary origin of such caring and helping is interdependence." See Michael Tomasello, *A Natural History of Human Morality* (Cambridge, MA: Harvard University Press, 2016), 143–149.
12. Ping-ti Ho, *Studies in the Population of China, 1368–1953* (Cambridge, MA: Harvard University Press, 1959); John King Fairbank, *China: A New History* (Cambridge, MA: Harvard University Press, 1992), 167–169.
13. Zhu Xi, "On Reading," in Daniel K. Gardner trans. *Learning to Be a Sage: Selections from The Conversations of Master Chu, Arranged Topically* (Berkeley: University of California Press, 1990), 149.
14. Such a blending of science with the humanities has been recommended in the fields of deep history, big history, and by thoughtful scientists. See the works of Daniel Lord Smail, David Christian, and Edward O. Wilson.

BARRY C. KEENAN is Professor Emeritus of History at Denison University, where he was the Director of the East Asian Studies Program for twenty years. He is the author of three short books on Chinese history, the last of which is *Neo-Confucian Self-Cultivation* (Honolulu: University of Hawai'i Press, 2011).

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