

10-1-1994

## Turner and Frontier Values: Optimistic Postindustrial Enclaves in China and Silicon Valley

Jan English-Lueck

San Jose State University, [jan.english-lueck@sjsu.edu](mailto:jan.english-lueck@sjsu.edu)

Follow this and additional works at: [https://scholarworks.sjsu.edu/anth\\_pub](https://scholarworks.sjsu.edu/anth_pub)



Part of the [Anthropology Commons](#)

---

### Recommended Citation

Jan English-Lueck. "Turner and Frontier Values: Optimistic Postindustrial Enclaves in China and Silicon Valley" *Comparative Civilizations Review* (1994): 106-123.

This Article is brought to you for free and open access by the Anthropology at SJSU ScholarWorks. It has been accepted for inclusion in Faculty Publications, Anthropology by an authorized administrator of SJSU ScholarWorks. For more information, please contact [scholarworks@sjsu.edu](mailto:scholarworks@sjsu.edu).

## Turner and Frontier Values: Optimistic Postindustrial Enclaves in China and Silicon Valley

Jan English-Lueck, Ph.D.

"... Turner's spirit, if not his ghost, is still around."<sup>1</sup>

1993 was the centennial year of Frederick Jackson Turner's Chicago premiere of the frontier thesis, engendering a century of debate. Noting that enduring controversy, the Twelfth Oklahoma Symposium on Comparative Frontier Studies set an agenda to reexamine Turner from the vantage points of anthropology, archaeology, geography, and history in regional arenas as diverse as Imperial Rome, medieval Germany, Apachean America, Polynesia, and the postmodern frontiers in China and Silicon Valley.<sup>2</sup> This exploration into the multidisciplinary world of comparative frontier research was provocative. The seminal argument made a century ago by Frederick Jackson Turner still echoes in several areas of my own discipline, psychological anthropology.

Although there are many flaws in Turner's models of causation, and his data, nonetheless the attempt to understand the connection between parental homeland and frontier, the former being a mature, often more closed system and the latter characteristically being more open. Further, he was concerned with the impact of that transformation on national character. Such issues are of critical interest to psychological anthropologists and cross-cultural psychologists. My objective here is to apply some of the insights of anthropology and psychology to the Turner's frontier thesis.

The strands of his argument are varied and intertwined. Some statements attempt to explain causal relationships; other reveal the worldview of the historian's people or the people studied. Additionally, the latter, an idealized description of worldview must be distinguished from the lived behavior of actual people. A hypothesis postulating the generation of innovation on frontiers is not the same as the valuing of innovation as a ideal virtue. Nor does the existence of innovative people require that the trait be highly valued in a particular culture.

These distinctions will be explored using two case studies of postindustrial frontiers—advance enclaves of high technology in previously agrarian arenas. These case studies will be taken from ethnographic studies of modern intellectuals in China and the self-styled cyberfrontier of Silicon Valley in California.

## Turner's Essence

Can Turner's thesis be revitalized so that the core of his provocative ideas can continue to provoke meaningful discussions of intercultural frontiers? The task is challenging since Turner's thesis of frontier ethnogenesis is imbedded in nineteenth century conventions—moral posturing, nativism, and romanticism—transformed by twentieth century revisions. The thesis blended models of naive evolutionism—postulating waves of settlement that recapitulated evolutionary economic development (trade, farming, industry) that have been transformed in modern discourse into economic typologies, or frontier "types."

He noted several features descriptive of nineteenth century America—a moving line (zone) of settlement and a highly migratory population, geographically if not economically mobile. He promoted the myth of "free land," ignoring the forces of capitalism and the social costs of dispossessing the indigenous peoples. He postulated a social control mechanism in which the frontier acted as a safety valve for the lower classes and immigrant labor. Finally he offered a causal model in which the rigors of the pioneering process produced the values intrinsic to the American "national character"—democratization, individuation, innovation, optimism.<sup>3</sup> That aspect of Turner's hypothesis attempted to explore the connection between the relatively fluid open frontier social organization and psychocultural values of optimism, individualism,<sup>4</sup> innovation,<sup>5</sup> risk-taking and pragmatism.<sup>6</sup> These are issues that explore the relationship of culture and personality.

The central issue now is how to resolve the tension between a lively interest in intercultural boundaries, past and present, with the cultural baggage of Turner's frontier thesis—rampant individualism, colonialism, chauvinism, and boosterism. One technique would be to stop examining the individual traits of Turner's American frontier as the exemplar of a valid frontier and turn to a processual approach. In the historiography of the 1950s this effort was stimulated by Webb's publication of *The Great Frontier* that revitalized the discussion of the frontier concept writ large, expanding the definition of what constitutes a frontier.<sup>7</sup> The use of general systems approaches in historical archaeology also broadened the cross-cultural application of frontier phenomena.<sup>8</sup> Cultural dynamism is the premise behind the decades old processual approach in archaeology in which classification and description are replaced by models positing cultural interaction and environmental adaptation. In frontier studies the emphasis is placed on identifying the processes of the frontier phenomena instead of classifying a particular frontier along epistemologically jumbled traits—economic type, migratory pattern or ethos. In the processual approach frontiers are active zones of human

interaction. Thompson and Lamar identify it as "zone or territory of interpenetration between two previously distinct societies. Usually one of the societies is indigenous. . . or at least has occupied it for many generations.

. . . A frontier opens when the first representatives of the intrusive society arrive."<sup>9</sup>

That definition requires further discussion to distinguish frontier processes from any other intercultural contact. Does the migration of entrepreneurial Australians or Americans into Singapore or Hong Kong constitute a frontier? It is an intercultural contact of mostly distinct cultures, but one that lacks the cultural instability and boundary ambiguity of a frontier. The definition of frontier is requires more qualification. Frontiers are intercultural contacts that must be characterized by cultural or geographic conditions that limit the range of human activity due either to lack of familiar resources or "stretched" social resources in which old patterns of social organization (oligarchy, feudalism, tribute) are incomplete in the new venue. Note that the presence or absence of resources or old social patterns is not as significant as the cultural perception of those features. Hispanic Californios did not eat the prime food of California natives, acorns, because they did not perceive it as a resource. Instead they transplanted European and Mexican notions of resource adequacy—redefining California's bounty. Similarly the once functional landed oligarchy of the 1840s was insufficient for the influx of immigrants and economic chaos wrought by the California Gold Rush. Thus intercultural contacts were made under conditions of ambiguity and flux, creating a frontier. Such a processual model building is characteristic of the etic approach in anthropology—an approach which draws on a cultural outsider's conclusions based on a larger scientific model of causation or as a consequence of comparison.<sup>10</sup> Models that postulate that multicultural interaction generates ethnogenesis, the creation or dramatic reformation of cultures<sup>11</sup> are etic ones. Etic models become conceptually slippery when they concern cognitive processes or psychological values such as pragmatism or innovation which Turner postulates are the result of scarcity. Discussions of such issues may pass imperceptibly into the realm of the "emic," drawing on the internal perceptions and models of the studied people. The outside assessment fades into the internal worldview of a given frontier. In his discussion of the creation of individualism, innovation and egalitarian values on the frontier is Turner postulating a historiographic model or exposing his nineteenth century Midwestern American worldview in which the frontier ethos is a tonic for weary fin de siecle Americans? It is important to separate the observations and assessments made about frontiers from the beliefs held by the members of a particular frontier group. Turner freely mixes these in his thesis, to the confusion of

subsequent generations of scholars. It is also necessary to separate worldview, the emic models that people believe, from their daily behavior.<sup>12</sup> For example, historians have pointed out widespread communitarian behavior on the supposedly individualist American frontier,<sup>13</sup> but this would not negate the value attributed to individualism by the people themselves. Worldview contains the principles we value, not to be confused with our daily actions that might bear out or contradict the dominant values or emphasis one set of values in one arena of life, and its opposite in another.

The central process to be explored in this paper is the link between an open social organization and the generation of values. Such an exercise in model building yields issues of causation, correlation and selection.

### **Managing Risk in Open and Closed Societies**

The inspiration for my initial, more processual approach came from Don Brown's book, *History, Hierarchy and Human Nature*. A social anthropologist who has long studied Brunei, he noted distinct differences in the historiographic traditions of India and China. He expanded his empirical base to include a number of other groups. He noted that the Imperial Chinese, Burmese, Vietnamese, Renaissance Florentines, Classical Muslims, Hebrews, Assyrians, Babylonians, Ionian Greeks, Medieval Byzantines and late Republican/early Imperial Romans had relatively sound historiography—strong in biography and political detail. The Javanese, Balinese, Malaysians, Indians, Sassanid Persians, late Egyptians, Homeric Greeks, Classical Spartans, late Western Imperial Romans, Feudal Europeans and Renaissance Venetians had historiographic materials that were more mythic and less focused on social description. The upshot of this argument is that open social structures, in which more social mobility could occur, would invest more in their historiographies. History, like divination, functioned as a form of risk management, making the shifting patterns of social power more comprehensible and hence more manageable.<sup>14</sup> In societies with little social mobility, such as caste or closed peasant systems, ideological purity was more important since "divining" the forces of change would little behoove them. Open societies were associated with strong conceptions of the individual while closed societies focused on an ascribed, inborn social ranking system.<sup>15</sup>

Extending this argument to the frontier requires very little mental gymnastics. To both indigenous peoples and colonists the pre-contact rules of social organization are changed, for good or ill. The system is destabilized, creating risk, and the perception of risk. If people believe they require superior risk management, what are their options? If Brown is correct in his

hypothesis, superior historiography is one solution. Other sociocultural values might also prove useful—such as pragmatism, conscious ethnogenesis, strong future time orientation and most of all, optimism.

This kind of model does not lend itself to the discovery of primary causes. In such a complex system, the causal links are, dare I say, functional. Like models of learning or natural selection, we are talking about selection by consequences not the wholesale origins of values. The values must have existed, in some form, before they can be subject to selection.

In a selection by consequences model, the origin of the behavior precedes its selection, just as an anatomical feature of a species must exist before it is selected for or against by environmental feedback. The loosening of social structural constraints does not create these frontier values, any more than it caused the Imperial Chinese to improve their historiography. But open systems do select for those elements in the existing worldview that the inhabitants believe are helpful. This is a core problem in the original Turnerian thesis in which he implied that the frontier created these values, unconnected to the "cultural baggage" of the colonist's European heritage.<sup>16</sup> This was a position he later appears to have reconsidered.<sup>17</sup>

To make matters even more complicated, simple functional models of feedback systems do not work well with cultural beings. We cannot assume that values or behavior are indeed the result of positive environmental feedback. We can convince ourselves that something is useful when it may not be. A purely functional approach is insufficient. The perception of usefulness, rather than the actual success of a value, may help perpetuate that worldview. Indeed, in psychology, intermittent reinforcement appears to increase optimism<sup>18</sup> and risk-taking.<sup>19</sup> Real innovation or success is only loosely connected with the cultural value of optimism. Rather than being an ultimate cause of worldview creation, frontiers may function as a proximate cause of worldview selection, which can be quite subtle. Such an inquiry begs for tangible illustrations.

### **China and Silicon Valley—Two Post-Industrial Frontiers**

My choice of examples may seem unorthodox, for cosmopolitan or industrial boundaries tend to be left out of the Turnerian discourse on frontiers.<sup>20</sup> They are not insular, nor do they have a clear frontier line, but represent the clash of different cultures formed around distinct economic specialties, rapidly coming in and out of existence. My case studies take the concept of an industrial frontier one step further to the penetration of high technology information economies into once heavy industrial, or even agrarian communities.

## Chinese Technomonasteries

My information on China came primarily from fieldwork done in the People's Republic of China, as well as academic research done at the University of Hong Kong from 1993-1994. I also collected over a hundred interviews with Chinese intellectuals from 1988-1990. I used the Ethnographic Futures Research (EFR) technique to elicit images of the best, worst and most probable futures of Chinese science, education and society. Such images highlight the values and cognitive models of the informants.<sup>21</sup> The informants were drawn from individuals hailing from all parts of China, particularly the industrial Northeast, the inner technological centers of the Southwest, and of course, Beijing and Shanghai. Other regions were represented only fractionally less, except for the largely agrarian and ethnic Northwest. Beyond Shanghai and Beijing, there is little geographic concentration of Chinese scientists. Most are dispersed in loosely connected nodes governed by the needs of the centralized state. Market incentives are just now making an entre into institute and university enclaves. The Chinese do not much value the frontier image and it is not a self-conscious appellation. While technological careers offer a social mobility of sorts, geographic mobility is still very much constrained.

The intellectuals interviewed were primarily technologists and research scientists, with a smattering of social scientists and historians. They placed a high value on technology itself as a key feature of their identity. Technological expertise defines these pragmatic scholars as an emerging class, distinct from the literati of the past. In the interviews they were concerned about their future as a group, subject to conflicting political and economic policies and ambiguous social status, although they were generally optimistic within a time framework of one or two generations.

The Chinese technological community does not see itself as a frontier. Although the scientific frontier image has been internationally implanted, the designation of "frontier" is *etic*, not *emic*, for it is derived from their systemic dynamics as I assess them, rather than being their own self-evaluation. Chinese scientists, as active interfaces with the West, function along a cultural boundary, acting as explorers and middlemen.

Their function is similar to the European early medieval monks, who were also point men on a cultural interface and have been described as "frontiersmen" in the frontier literature (see Figure 1).<sup>22</sup> Those monks, living on the boundaries of Greco-Roman antiquity and early Christian communities, redefined an number of symbolic markers of identity. In the early Third century, the conservative writings of Augustine and more radical Cassian, redefined the cosmology of monastic life, in effect creating a syn-

**Figure 1. Frontier Driven Selection of Values on the Postindustrial Frontiers of Silicon Valley and Intellectual China  
"Traditional" Value Sets**

<b>China's Intellectuals</b>	<b>Silicon Valley</b>
•Optimism, progress	•Optimism
•Scientism	•Scientism, technocracy
•Personal duty, reciprocal obligations	•Individualism



**Enter Frontier Dynamics**

<b>China's Intellectuals</b>	<b>Silicon Valley</b>
Dispersed, interstitial cultural frontier analogous to Medieval European monasteries	Regional, cosmopolitan, economic frontier analogous to 19th century mining communities



**Selection and Intensification of Values**

<b>China's Intellectuals &amp; Silicon Valley</b>
Increase optimism—in the abstract
Increase clarity of risk—in daily life
Individualism—focus on self and nuclear family as actors
Pragmatism (self-interest and realpolitik over ideals)
Work ethics enhanced
Strong future orientation
Strong self-identification as a special and unique group of people



thesis of contemplative and active goals. Humankind, once envisioned as sacred by the non-Christian philosophers, had become cosmologically tainted with sin and degeneration. The Augustinian vision of a like-minded community of dedicated Christians, was designed to mitigate the legacy of inherent wickedness. *Conversio* to the monastic calling was to “proclaim the possibility of a new social identity.”<sup>23</sup> The monks aided in defining the risks of daily life as inherently “sinful, condemned by nature to suffering, and utterly dependent on God”<sup>24</sup> and then created a mechanism for controlling that risk, monastic conversion and subsequent education of laymen. Monks thereby created a means for brokering the cultural transition to the Christian worldview. This was echoed by the geographic redefinition of “sacred space” as once polluting remains—saintly relics—were sanctified and brought into the Roman towns. This ultimately created a network of sacred sites that formed the geographic basis of that frontier.<sup>25</sup>

In the Western monastic tradition, new forms of social organizations were invented, from the Cassian inspired Benedictine ranks—based on obedience and hard work—to the nomadic clan based monasteries of the early Celtic Church.<sup>26</sup> Both in turn contributed to the creation of economically productive, of “modern” farmer monks advocated by Gregory on the cusp of the Fifth century. Those monks, many coming from a non-farming background, innovated by introducing vineyards, hedges, ditches, founding towns and developing local markets.<sup>27</sup> This practical-minded, even if spiritually defined group, displayed the creativity and self-consciousness associated with the frontier.<sup>28</sup>

The Chinese intellectuals occupy a cosmopolitan frontier, largely virtual, i.e. defined by interest and function, with dispersed interstitial clusters<sup>29</sup> of academics and technologists. Their frontier consists of pockets of postindustrialists, surrounded by a dominant culture focused on industry and agriculture.

An open-ended elicitation of the best future for Chinese technology yielded a variety of results. Yet, within the diversity of response, there was remarkable coherence. The discussion of technology dominated the best scenario. Technology, at least in the abstract, is the key to China’s modernization effort and the key to the rehabilitation of intellectuals who were once severely stigmatized in the Cultural Revolution. In discussing their probable scenarios, the tone and content were nearly identical to the best scenarios. When technology cropped up in the worst scenarios, only rarely was it characterized by the absence of rapid development in technology.

The latter feature puzzled me enough to pursue it during the interviews. When I would ask about the possibility of less technology, I would meet dismay. Technological progress was inevitable, I would be told. It may be ham-

pered by poverty or policies that would interfere with intellectuals' work and status, but it would occur. The probable scenarios were repeatedly characterized as 80% of the best scenario. This startling optimism—perhaps less startling in light of the Marxist notions of progress, or Confucian ideals of self-cultivation—was largely based on technology and increased material prosperity. Scientism, optimism and personal duty were clearly core Chinese values that were shared by the marginalized intellectuals.<sup>30</sup> Within this cultural environment of marginality and mediation, the frontier values of innovation, risk-taking, etcetera, are the functional elements of a frontier worldview.

Those Chinese "frontiersmen" take care not to advertise this point of view, since those attitudes are not particularly valued by the Chinese elite, and their intercultural contact is viewed with suspicion as foreign spiritual pollution.<sup>31</sup> This is a case where the frontier ethos develops as a result of systemic dynamics, but it is not a conscious self designation. Unlike Turner's nineteenth century Americans, being on the late twentieth century Chinese intercultural frontier carries no romantic overtone.

### **Silicon Boom Town**

The material on Silicon Valley, California is at an earlier stage of analysis. My colleagues and I have finished a third of our decade long project examining the distinctive cultural features of that region—its ethnic diversity, technological orientation and global self-definition. The research is collaborative, combining efforts of diverse academicians at San Jose State University, often using student researchers in a distributed "field school" across the anthropology curriculum. Data sources include the official discourse from popular treatises, institutional record and observations made at public meetings. Field observations, and interviews on intercultural contacts, public and corporate policy and visions of the future are key ethnographic elements in this approach. Beyond the general forays into the community, efforts are directed to people and groups involved with two institutions—the Tech Museum of Innovation (engineers, educators and non-profit staff) and Joint Venture Silicon Valley (a community wide corporate-government partnership).

Silicon Valley is a cluster of communities whose high-tech economic niche has thrust them onto the world stage. For the denizens of Silicon valley, to be the frontier of the twenty-first century is a much heralded prize, highly valued by the local elite. Social, career and geographic mobility are the essence of the Silicon Valley lifestyle.

Silicon Valley is geographically ambiguous—narrowly defined as the

Santa Clara Valley, broadly described as California's Bay Area. If the scientific and technological institutes of China are reminiscent of the interstitial cosmological penetration of medieval monks, then Silicon Valley can clearly be likened to the cosmopolitan mining communities of the nineteenth and twentieth century American West. Both are localized, and fit a unique geographic and temporal economic niche.<sup>32</sup> Like the mining communities of the nineteenth century, the boom economy of high technology has attracted a specialized diverse ethnic population.<sup>33</sup> In both community types boosterism bolsters economic confidence.<sup>34</sup> Both yield a plethora of racial and ethnic stereotypes that allow people to cognitively manage, albeit perniciously, the ambiguity and chaos of living in an culturally diverse society.

Such communities have a dramatic history of economic expansion and contraction. The denizens of Silicon Valley recognize the analogy and while they enjoy the boom, the implications of the possible bust make them uncomfortable. So they hasten to defend themselves as the information motherload which cannot be played out, and they herald ever increasing opportunity in communications, biotechnology and environmental technology. This places them in a quandary, however, for even though competition from other cities looms large in their stated fears, they do not like to recognize the vulnerability that stems from this lack of a fixed material resource. After all, while there may be opportunity in biotechnology that advantage need not be confined to Silicon Valley.

Why should Seattle not be the site of the next bonanza? So the Silicon Valley elite shift the discourse from technology itself to "human capital." They emphasize that only they have the density of expertise and personal interconnections between diverse industries. Only they have the critical mass of research universities that produce new knowledge, state universities that train the new workforce, and the diverse large and small firms (from IBM, Apple and Hewlett-Packard to mercurial family firms run by temporary immigrants from Taiwan) that breed a broad range of skills. Technology and technological industry pervade the self-conception of this region. Repeatedly, Silicon Valley is called the " Lourdes for the scientists of the electronic revolution,"<sup>35</sup> a realm of intellectual capital "like nowhere else on earth,"<sup>36</sup> "a nursery for future technologies,"<sup>37</sup> echoing the "hum of labs."<sup>38</sup> It represents the mythic "village-like technology community"<sup>39</sup> so romantically invoked by late twentieth century futurists.

Even though they occupy the same locale, Silicon Valley has a distinct historical identity. The postindustrial myth comes with its own history, distinct from the one marketed at the Santa Clara County Historical Society. Traditional Santa Clara history begins citing the native Ohlone and ends just as industrial development begins in the former "Valley of Heart's Desire."

Silicon Valley's history begins in the late thirties with "the garage" of Bill Hewlett and Dave Packard, building their first product, an audio oscillator to be used in Walt Disney's *Fantasia*.<sup>40</sup> "Folk" renditions describe the exploits of cowboy hackers from Noyce's 1959 patenting of the integrated circuit and the era of aerospace<sup>41</sup> to Jobs and Wozniak of Apple fame.

In Silicon Valley, Turner's romantic frontier imagery is lovingly invoked. In a synoptic history of Silicon Valley, frontier images abound—"Valley Days, Go West, Garage-era pioneers, Cowboy entrepreneurs."<sup>42</sup> Local CEOs, corporate elite, use frontier image laden phrases such as "threshold"<sup>43</sup> and "uncharted technological territories."<sup>44</sup> Like Turner a century ago, Silicon Valley pundits warn of the passivity and civilization that will take away the frontier edge,<sup>45</sup> instead suggesting that the valley must continue to "push the envelope."<sup>46</sup> This frontier self-conception is an essential part of the local ethos. In this model, education's chief, if not its only purpose, is to create the workforce of tomorrow. That workforce is envisioned to consist of fast-paced risk-takers. Moreover, they should be independent thinkers, but loyal and group-oriented. At the same time, all parties—management and workers, including intellectual workers—would seek to maximize their own self-interest by shifting positions. It is the archetypal "open social structure."

Recently, the "collaborative coalition" Joint Venture Silicon Valley promoted an effort to combine private and public sectors to reinvent and revitalize the region. The group has expounded three visions of the future, closely corresponding with best, worst and most probable scenarios. The optimistic vision, given the "win-win" score, is the "American Technopolis." Innovation and regional economic strength are combined. The local workforce is more comfortable, secure and better equipped to serve economic growth. The worst formulation is "High-Tech Manhattan" in which there is high corporate profitability, but the technological edge is gone, leaving a declining economy and infrastructure in its wake. The most probable formulation is the "Virtual Valley" in which decentralized, "lean" enterprises change swiftly to service new niches. Growth does not take place within the valley, but elsewhere. The community suffers, however, as income and employment decline and a two-tiered economy stresses the community.<sup>47</sup>

Essential to the emic models of risk is the sense that image is more important than actuality. Silicon Valley must appear to be innovative and cutting edge. Lack of consumer confidence is perhaps more dangerous to frontier dynamism than physical infrastructural problems. This tension was highlighted by the March 1993 unveiling of forty-one "candidate flagship initiatives" to save Silicon Valley—the most dramatic suggested new telecommunications clearinghouses and networks.<sup>48</sup> Technology and innova-

tion must come to the rescue. Other initiatives were plainly designed to boost the image of the community regardless of the real constraints. Optimism was to be kept afloat by marketing techniques if necessary. The other values associated with this Silicon Valley image are the often repeated innovation, risk-taking, high time pace and ephemerality. Underneath is the unquestioned optimism of a high technology future. Even in the throes of mid-recession reassessment, while the public and private leaders of the community worry about maintaining dominance over Austin, Singapore and Tsukuba, there is never any hint that technology might not prevail. The techno-optimism is deeply imbedded. While scientism, technocracy, optimism and individualism were hardly absent from the repertoire of values in the pre-boom Californian culture—there is certainly a shift in the intensity of these values.

### **Amplified Frontier Values**

What cognitive model supports this incorrigible techno-optimism, so intermittently reinforced by experienced reality? The recurring themes of innovation, boosterism, risk-taking, multiculturalism and ethnogenesis, while bristling against constraining regulation and policy, remind us of other historical frontiers.<sup>40</sup> These are the emotive and cognitive qualities associated with Frederick Jackson Turner's nineteenth century conception of the American West. These values and images are consciously emulated in Silicon Valley.

Less consciously, but nonetheless, the frontier image is also a feature of the Chinese scientific community. Given this comparative sample, can we illuminate the connection between values and the postindustrial frontier enclaves and parental core communities? Both Chinese and Californian communities have deep roots into values noted for the frontier—optimism and pragmatism—and both have extensively elaborated on those values. The features mentioned for the "core, parental" societies of Chinese non-intellectuals and pre-Cold War California provided the cultural baggage from which pieces were selected and enlarged (see again Figure 1). Optimism is enhanced as an element of abstract worldview, but interviewees rarely connect their positive visions with quotidian experiences in essence saying that "life will be good" but "my life is now filled with chaos and work."

Risk is assessed more carefully. Worst case scenarios are clearer and more obviously linked with the daily lives of the Chinese intellectuals and Silicon Valley denizens. Individualism is enhanced. It makes Chinese scholars suspect to the conservative core, but nonetheless gives them opportunities to change their social status in the absence of political power.

Confucian Work Dynamism,<sup>50</sup> in which work becomes entwined with self-cultivation and familial success, is enhanced for Chinese scientists. Their work then becomes the edifice for their rehabilitation by demonstrating their usefulness to the cultural core. Individualism underpins perceptions of entrepreneurial success in Silicon Valley.<sup>51</sup> In Silicon Valley, the prevailing urban myth is that if you are not working eighty hours a week, you are doomed. Individual work achievement is the basis of social success and economic survival, family and community can provide little security. Work ethics in both communities are amplified. Both cosmopolitan frontiers are strongly future oriented. In the Chinese interviews the thirty year future time-frame offered in the Ethnographic Futures Research format was regularly extended another ten to fifty years as people imagined the future. In Silicon Valley the official position posits that to plan for today is to fail, only anticipating the cutting edge of a decade hence will keep the community in the lead.

Both China's scientists and Silicon Valley pundits are ruthlessly pragmatic in their future scenarios and life histories, taking opportunities where they can be found. For example, Chinese scientists can bypass the ideological constraints of the Chinese Communist Party line by using the back door through *guanxi* (connections) or advancing through the open door to the wider world. In Silicon Valley humanism and environmentalism, although ideally valued in discourse and interviews, take second place to survival and self-interest.

Finally, both post industrial frontiersmen have consciously defined themselves as unique, important, special and deserving of note, an attitude that takes us full circle back to the impulse to use historiography as a tool for assessing and understanding their own chances in the wider world. Both groups—Chinese intellectuals and Silicon Valley techies—have constructed a social history to reify their existence.

While a strong causal statement would be difficult to issue, clearly there is a dynamic acting on both communities that enhances "Turnerian" style values in situations fraught with flux, change and perceived opportunities. These dynamics are visible on the grossest level, although the range of values certainly extends beyond the obvious.

Let me suggest directions for further exploration. New field studies in anthropology, sociology and history can perhaps enhance our understanding of the nuances of that selective process. We must be careful not to fall into the functionalist trap of assuming that the mere presence of a value system indicates its success as did Turner on occasion.<sup>52</sup> Moreover, as the wide range of example indicates, there is no mysterious cultural determinism at work. While there may be gross similarities, monks, miners, technologists in

California or China all differ in the meaning, interpretation and enactment of concepts such as risk management, pragmatism, or strong self-identification. They need not express all the values listed. Other cultural factors, separate from frontier dynamics might prevail. The Augustinian vision of monasticism was clearly not individualistic, nor do we have the information to know how decisions were made in daily life. Without that, the presence or absence of individualism—making self and immediate family the prime factors in decision making—might be impossible to determine.

There are related issues that beg for clarification. What values are internally contradictory within frontier worldviews? Silicon Valley denizens work at believing themselves unique and simultaneously fear competition. Chinese scientists must present themselves as rehabilitated “workers,” not a new elite, yet they do not really believe this to be true. How are these views reconciled? Finally, when historians and anthropologists make the leap from self-reported worldviews to actual behavior—how do these values enact themselves in daily life? These would be fruitful areas for understanding the psychological anthropology of Turner’s frontier thesis.

San Jose State University.

## Footnotes

1. John Mack Faragher, "The Frontier Trail: Rethinking Turner and Reimagining the American West," *American Historical Review* 98 (February 1993): 108.

2. Portions of this paper were presented at the Twelfth Oklahoma Symposium on Comparative Frontier Studies March 19, 1993 entitled "Turner and Technocracy: Optimism in the Post-Industrial Frontiers of China and Silicon Valley." The methodological issues were further explored in "Frederick Jackson Turner's Thesis in Comparative Frontier Studies: Isolating the Active Ingredients" a seminar presented to the Department of History, University of Hong Kong, December 2, 1993, sponsored by a Fulbright research and teaching grant.

3. For works that provide an overview of the frontier thesis see Frederick Jackson Turner, *The Frontier in American History* (Tucson: University of Arizona Press, 1986) and Ray Allen Billington ed., *Frontier and Section: Selected Essays of Frederick Jackson Turner* (Englewood Cliffs, New Jersey: Prentice-Hall, 1961). Also note Richard White, "Frederick Jackson Turner" in *Historians of the American Frontier: A Bio-Biographical Sourcebook*, ed. John Wunder (New York: Greenwood Press, 1988). Ray Allen Billington is the chief sympathetic interpreter of Turner. Note Ray Allen Billington, "The American Frontier" in *Beyond the Frontier*, ed. Paul Bohannon and Fred Plog (New York: Natural History Press, 1967) and *The Genesis of the Frontier Thesis: A Study in Historical Creativity*. (San Marino, CA: The Huntington Library, 1971).

4. Turner, *The Frontier in American History*, 30.

5. Kenneth Lewis, *The American Frontier* (New York: Academic Press, 1984), xix-xx.

6. Billington, "The American Frontier," 15-16.

7. Walter Prescott Webb, *The Great Frontier* (Austin, University of Texas Press, 1951). See also Jerome Steffen, *Comparative Frontiers: A Proposal for Studying the American West* (Norman: University of Oklahoma Press, 1980), 4-5, John D. Haeger, "Economic Development of the American West" in *American Frontier and Western Issues: A Historiographical Review*, ed. Roger Nichols (Westport, Connecticut: Greenwood Press, 1986), 28, George Wolfskill and Stanley Palmer, "Introduction" in *Essays on Frontiers in World History: The Walter Prescott Webb Memorial Lectures*, ed. George Wolfskill and Stanley Palmer (College Station: Published for the University of Texas at Arlington by Texas A&M University Press, 1983), 3-11, and William H. McNeill, *The Great Frontier: Freedom and Hierarchy in Modern Times* (Princeton: Princeton University Press, 1983), 4-11.

8. Kenneth Lewis, "An Archaeological Perspective on Social Change—The Virginia Frontier" in *The Frontier: Comparative Studies*, ed. David Miller and Jerome Steffen. (Norman: University of Oklahoma Press, 1977), 139-140. See also Stanton Green and Stephan Perlman, "Frontiers, Boundaries, and open social systems" in *The Archaeology of Frontiers and Boundaries*, ed. Stanton Green and Stephan Perlman (San Diego: Academic Press, 1985), 3-9.

9. Howard Lamar and Leonard Thompson, *The Frontier in History: North America and Southern Africa Compared* (New Haven: Yale University Press, 1981), 7.



10. James Lett, "Emics and Etics: Notes on the Epistemology of Anthropology" in *Emics and Etics: The Insider/Outsider Debate*, Thomas Headland, Kenneth Pike and Marvin Harris ed. (London: Sage Publications, 1990), 127-142.

11. Note the Forum on the Formation of Ethnic Identities in Frontier Societies in the 1993 volume of the *Journal of World History*. See David Chappell, "Ethnogenesis and Frontiers," *Journal of World History* 4(2), 267-275. David Harry Miller, "Ethnogenesis and Religious Revitalization beyond the Roman Frontier: The Case of Frankish Origins," *Journal of World History* 4(2), 277-285. Kevin Mulroy, "Ethnogenesis and Ethnohistory of the Seminole Maroons," *Journal of World History* 4(2), 287-305 and David Chappell, "Frontier Ethnogenesis: The Case of New Caledonia" *Journal of World History* 4(2), 307-324.

12. Terry Jordan and Matti Kaups, *The American Backwoods Frontier: An Ethnic and Ecological Interpretation*. (Baltimore: Johns Hopkins University Press, 1989), 23-27, 29.

13. Billington "The American Frontier," 15.

14. Donald Brown, *Hierarchy, History and Human Nature: The Social Origins of Historical Consciousness* (Tucson: University of Arizona Press 1988), 321-335.

15. Brown, *Hierarchy, History and Human Nature*, 9, 316.

16. Wilbur Jacobs, Foreward to *The Frontier in American History* by Frederick Jackson Turner (Tucson: The University of Arizona Press, 1986), xii-xv. Also see Billington, "The American Frontier," 5.

17. Billington, *The Genesis of the Frontier Thesis*, 258-259.

18. Margaret Matlin and David Stang, *The Pollyanna Principle: Selectivity in Language, Memory and Thought* (Cambridge, MA: Schenkman Publishing, 1978).

19. Margaret Clifford and William Lan, Fen Chang Chou, Yang Qi "Academic Risk-Taking: Developmental and Cross-Cultural Observations," *The Journal of Experimental Education* 57, no. 4 (1989): 321-340.

20. Donald Hardesty, "Evolution on the Industrial Frontier" in *The Archaeology of Frontiers and Boundaries*, ed. Stanton Green and Stephan Perlman, San Diego: Academic Press, 1985), 213-214.

21. For a discussion of this method see Ketudat Sippanondha and Robert Textor, *The Middle Path for the Future of Thailand* (Honolulu: East-West Center, 1990) and J.A. English-Lueck, "China 2020: Looking Forward" *Futures Research Quarterly* 5 (Fall 1990): 5-12.

22. Richard Sullivan, "The Medieval Monk as Frontiersman" in *The Frontier: Comparative Studies*, volume 2, ed. William Savage and Stephen Thompson (Norman: University of Oklahoma Press, 1979), 25-49.

23. Robert Markus, *The End of Ancient Christianity* (Cambridge: Cambridge University Press, 1990), 81.

24. Sullivan, "Medieval Monk as Frontiersman," 39.

25. Markus, *End of Ancient Christianity*, 148-151.

26. Paul Johnson, *A History of Christianity*. (London: Weidenfeld and Nicholson, 1976), 143-147.

27. Johnson, *History of Christianity*, 147-149, and Sullivan, "Medieval Monk as Frontiersman," 33.

28. Sullivan, "Medieval Monk as Frontiersman," 31.

29. For a discussion of interstitial frontiers see (see Igor Kopytoff, ed. *The African Frontier: The Reproduction of Traditional African Societies*. (Bloomington: Indiana University Press, 1989), 9.

30. See Matlin and Stang, *The Pollyanna Principle*, 59 and Tu Weiming, "Confucianism: Symbol and Substance in Recent Times" in *Value Change in Chinese Society*, ed. Amy Wilson and Sidney Greenblatt (New York: Praeger, 1979), 39-40 and Tu Weiming, "Self and Otherness in Confucian Thought" in *Culture and Self*, ed. George Devos, Francis Hsu and Anthony Marsella (New York: Tavistock Publications, 1985), 231-251.

31. Wang Xiao-Lun "Cultural Mediators or Marginal Persons?" *Geographical Review* 81 no.3 (1991): 293-303.

32. See Jerome Steffen, *Comparative Frontiers: A Proposal for Studying the American West* (Norman: University of Oklahoma Press, 1980), 71-90 for a discussion of mining frontiers.

33. Mark Wyman, "Mining Frontiers" in *American Frontier and Western Issues: A Historiographical Review*, ed. Roger Nichols (Westport, Connecticut: Greenwood Press, 1986), 113-118 and Leonard Dinnerstein, Roger Nichols and David Reimers, *Natives and Strangers: Blacks, Indians and Immigrants in America* (New York, Oxford University Press, 1990), 191-196.

34. Paula Patrik, *No Step Backward: Women and Family on the Rocky Mountain Mining Frontier 1865-1900*. (Helena: MONTANA Historical Society Press, 1987), 8.

35. Michael Malone, *The Big Score* (Garden City, N.J.: Doubleday, 1985), 1.

36. Pete Wilson, "The New California Gold" in *The Dynamics of Silicon Valley*, ed. Russ Campbell (San Jose: Western Business Forum, 1992) 14. 37. Gene Bylinsky, "Silicon Valley—A Future Even More Exciting Than Its Past" in *The Dynamics of Silicon Valley*, ed. Russ Campbell (San Jose: Western Business Forum, 1992), 58.

38. Fred Hoar, "A Shrine to Perpetual Change" in *The Dynamics of Silicon Valley*, ed. Russ Campbell (San Jose: Western Business Forum, 1992), 16.

39. Regis McKenna, "Diversity and Complexity" in *The Dynamics of Silicon Valley*, ed. Russ Campbell (San Jose: Western Business Forum, 1992), 20.

40. T.J. Rodgers, "America's Great Technology Cauldron" in *The Dynamics of Silicon Valley*, Russ Campbell, ed. Pp. 76-77. San Jose: Western Business Forum, 1992), 76-77.

41. Jean Deitz Sexton, *Silicon Valley: Inventing the Future* (Chatsworth, Ca: Windsor Publications, 1992), 17.

42. SRI International, Center for Economic Competitiveness, *Joint Venture: Silicon Valley, An Economy at Risk* (San Jose: San Jose Metropolitan Chamber of Commerce, 1992), 15.

43. Reggie Huff, "Demystifying Modern Electronics" in *The Dynamics of Silicon Valley*, ed. Russ Campbell (San Jose: Western Business Forum, 1992), 57.

44. Wilfred Corrigan, "A New Formula for High-tech Success in the 90s" in *The Dynamics of Silicon Valley*, ed. Russ Campbell (San Jose: Western Business Forum, 1992), 80.

45. Dennis Hayes, *Behind the Silicon Curtain: The Seductions of Work in a Lonely Era*. (Boston, Ma: South End Press, 1989), 28 and SRI International Joint Venture, 26-29.

46. Sexton, *Silicon Valley*, 107.

47. SRI International, *Joint Venture*, 59-66.

48. Joint Ventures Silicon Valley, *1993 Progress Report* (San Jose: Strategic Marketing Communications, 1993).

49. See Jon Hudson, "Theory and Methodology in Comparative Frontier Studies" in *The Frontier: Comparative Studies*, ed. David Miller and Jerome Steffen (Norman: University of Oklahoma Press, 1977), 11-31. Note also Green and Perlman, "Frontiers, Boundaries, and Open Social Systems," 4-9 and Jordan and Kaups, *The American Backwoods Frontier*, 25.

50. Chinese Culture Connection, "Chinese Values and the Search for Culture-free Dimensions of Culture," *Journal of Cross-cultural Psychology* 18 no. 2 (1987): 143-164.

51. Karl Dake, "Orienting Dispositions in the Perception of Risk: An Analysis of Contemporary Worldviews and Cultural Biases," *Journal of Cross-Cultural Psychology* 22 no. 1 (1991): 61-82.

52. White, "Frederick Jackson Turner," 671.