Tactical Ambiguity in a Post-modern Company Town: The Case of Silicon Valley

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"What is post-modern? . . .an uncertainty, an insecurity, a doubt"
(Dilnot in Stacey 1991:19)

This chapter is concerned with the cultural manipulation of ambiguous categories rights, company, and community. The fuzzy boundaries of contemporary companies and regional megalopolises make them subject to constant renegotiation. The corpus of rights includes inherent contradictions and ambiguities that make them ripe candidates for cultural orchestration as various players select which rights should be deemed important and how those rights should be understood. California's Silicon Valley, famous for its innovative high technology corporations, makes an ideal laboratory for exploring this process of cultural invention. The region is dominated by a handful of industry clusters, such as defense, semiconductors, computers/communications, software, environmental and biotechnologies. The companies in the cluster exchange personnel, develop, manufacture, buy and sell components to each other so that it becomes difficult to know where one company begins and another ends. At least in the "permanent" professional and managerial sectors, corporate culture demands ever more of it workers. More loyalty, more time, more "value added" contributions are expected from workers in exchange for short-term economic security and a plethora of personal benefits. More importantly, the fundamental relationship between industry and government has shifted in response to the economic recession as industry coalitions have made a concerted effort to have a controlling voice in governmental regulation, housing markets, schools. Such incursions into both the political and private realms echo the dynamics of the company town.

By identifying the cast of players in Silicon Valley, following the pattern of their various rhetorics, and placing those images in the context of their motivations and experiences, the very ambiguities become a venue for investigation. My purpose then is to examine the contrast that exists within Silicon Valley as industry spokesmen portray themselves as champions of the rights of security, family, non-discrimination, and intellectual freedom, while workers at various corporate levels have a different perception of the implementation of those rights. The rights at potential risk—security, family, non-discrimination and scientific freedom form the framework of the paper. Several ambiguous concepts—workforce, loyalty, family, identity and ownership of information—that are contested and variously articulated. The conflicts point to divisions that matter within the community—race, class and gender most obviously, but also national and work identities.

The information and legal anthropological issues that emerge in this chapter became apparent to me as a result of my various recent fieldwork experiences. From 1988-1990 I employed participant-observation and interview to examine the relationship of scientific and technological intellectuals to the State in the People's Republic of China. From 1991 to the present I have been engaged in the decade long Silicon Valley Culture's Project, a cooperative effort to examine the anthropological issues that emerge from the "experiment" of

Silicon Valley, an area which contains increasing ethnic and cultural diversity and is economically dominated by entrepreneurial high technology firms. My own efforts have been combined with C. Darrah and J. Freeman to explore the specific themes of identity, community and technical rationality as they exist in the Valley. We have trained student researchers to conduct various semi-structured interviews (life-histories, work-histories, critical incident research and ethnographic futures research) with a wide sampling of people in the community. Some of their efforts are fortuitous, samples of convenience, while others have been targeted at specific institutions—career counselors, educators, and most specifically, personnel associated with the Tech Museum of Innovation, a non-profit high tech industrial museum with connections into the high tech world. One of our most fruitful avenues of information has been Joint Venture Silicon Valley, a partnership of regional governmental officials and industry leaders that is trying, in their own words, to "reinvent the Valley that invented the Future." Participant-observation and detailed analysis of spoken and written rhetoric has provided a detailed map of the symbolic world of the most powerful players in the Silicon Valley community. This work is ongoing and will, in the next few years, be supplemented by interviews, observations and video "multivocal ethnographies" conducted by Darrah, Freeman and myself, along with our graduate student staff, in twenty-five corporations in the Valley.

A year spent on a Fulbright grant to Hong Kong, 1993-1994, doing library research and contacting the Silicon Valley based firms, highlighted the geographically fuzzy "boundless" global character of Silicon Valley (see Wong 1994:251-253), as well as providing a wealth of comparative data on work organization and values. Working in a capitalistic Chinese culture gave me the opportunity to reevaluate the work values I had encountered in the People's Republic and reassess the role of the family in work organizations. Significantly, living in Hong Kong on the eve of the 1997 changeover to Chinese sovereignty stressed the importance of human rights as a showcase for political and social values. There human rights discourse is strongly contrasted with rhetoric favoring economic security as democrats debate those elite—both capitalist and communist—who desire a favorable business environment (see Wesley-Smith 1992: 30). Both Hong Kong's and Silicon Valley's industrial advocates emphasize a strong industrial "voice," networking, and "streamlining regulations."

Metalegality in Flux

My hesitant inquiry into the landscape of human rights began in China. There the versatility of Rights rhetoric became apparent. While violations of expressive rights were condemned by the West, China, and other Asian polities, such as Singapore and Malaysia, emphasized the rights of security and the rights of minorities and women compared to "the West." This debate was underscored by the complaints I would find in engineer's interviews. Chinese interviewees would express resentment at the danwei system. This system, although it was changed in 1994 for non-State enterprises, assigned intellectuals to a particular work unit, a designation that was effectively, if not legally, for life. In contrast, American engineers would bemoan the lack of security that accompanies the frequent layoffs of the last decade. One is discouraged by the lack of mobility, the other by the lack of security. Both tap into the discourse of human rights.

Dispute is a logical legacy of the rights discourse. The 1948 United Nations Universal Declaration of Human Rights grew out of the Enlightenment rhetoric of Western Europe and colonial America. Any attempt to make it a metalegal tool that transcends cultural differences necessarily will encounter problems in appropriateness and interpretation. The values and priorities of collectivistic, Confucian or Stateless small-scale societies could not easily be incorporated in the individualistic discourse whose purpose was to monitor the relationship of the individual and the State. For the rights to make sense a society had to have both an individualistic orientation and a State. In theory, this cultural bias was mediated by the notion that each right was to be "realized by the state in the context of

its own national system" (Cassese 1990: 37). That proviso has not proved useful in the realm of international criticism as the Western European ideal of a "glass house" caught hold. This position holds that anyone can have the right to check on the affairs of another nation to see if it conforms to international obligations (1990: 55).

Second, the "post second World War launching of a natural-law doctrine of human rights" was designed to directly influence the relationship of the State and its citizens (Cassese 1990: 16). This was done just as the international scene was being shaped by the Cold War. Western countries favored the class of civil and political rights while Socialist countries endorsed economic, social and cultural ones (Cassese 1990: 59). Livelihood was seen as a more critical issue than expressive freedom by the latter.

In a parallel way, the debate over the control of technology split along the lines of development. Restricting technology was not a priority for the hungry countries, who instead worried about controlling their intellectual capital. Socialist and developing nations favored limitations on potentially "brain-draining" freedoms and non-industrial countries embraced technologies that worried the privacy minded West (Cassese 1990: 62).

These international debates are echoed in Silicon Valley. Outside of the realm of science and technology, expressive freedoms are not much endangered. Children are brought on local fieldtrips to the art museum to view "La Frontera," a radical exhibit portraying the life and times of illegal hispanic immigrants. Arch-conservative and gay-lesbian newspapers rest side-by-side in University student unions. However, in spite of rhetoric that emphasizes the action of political and business elites in improving the situation, the rights of economic security, family, and non-discrimination continue to be problematic for this Mecca of high tech entrepreneurial endeavor.

The Evolution of an Industrial Valley

Before I can begin considering the debates that surround specific rights, I need to outline the significant changes that have occurred in the valley. In 1940 no one would have looked at Santa Clara County, the core of the modern Silicon Valley, and called it, even stretching the concept to its limits, a company town. The classic portraits of a company town describe a single company, often geographically isolated, that owns the land, builds housing, service facilities, and public utilities and dominates the business life of the community even though private enterprises may exist (Allen 1966:4). The West, and significant portions of the coal mining East are dotted with former lumber and mining communities. Geography dominated the decisions that gave birth to company towns. Proximity to resources and distance from other towns mandated the construction of Western company towns. Some have disappeared, while others have been transformed into more economically diverse towns. Key to such towns are the power relations. Company towns extend direct or indirect control into the realms of local government, housing, schools, health facilities, churches, utilities, recreation, police and fire protection and local media (Graham 1980: 4). Company towns are administered communities, not representative of the residents' interests, but the company's need to succeed in a given industry (see Graham 1981: 110-111; 1980: 4, 11). Occupational hierarchies are reflected in community status, visible in the architectural landscape of the town (see Roth 1992).

Silicon Valley's resources were less tangible than copper deposits. The establishment of the University of California at Berkeley in 1869 and Stanford in 1887 attracted a source of cultural capital that combined with a Mediterranean climate and agrarian landscape to create the "Valley of the Heart's Delight." The standard historiography of the Valley nearly always begins with Stanford's Frederick Terman, a native of Palo Alto. Hired by Stanford in 1925 he decried the state of American electrical engineering. As he gained power within

the institution he hoped to create "a community of technical scholars" that would link industry with academia (Winner 1992: 37). In the 1950s he created the Stanford Industrial Park, now known as the Stanford Research Park. Two of his earliest students were a stunning success—William Hewlett and David Packard whose garage saw the birth of an audio oscillator Walt Disney used for Fantasia in 1938 is a historic landmark. However, the firm's relationship to the US military as an electronic instrument supplier in World War II was more indicative of the Valley's source of success. Lobbying in 1930 for the Moffett Naval Air Base provided a focus for military research. The klystron tube—foundation of modern radar and microwave communications—set the Varian brothers, one of the early key players, on the military industrial track.

After the War continued defense spending supported high risk industries. California was a prime target for military contracts. It garnered 12.3 per cent of the total awarded in World War II, growing to 27.5 per cent by 1961. During the 1960s California received 20 per cent of all defense related prime contracts, 47.5 per cent of all NASA contacts, 23 per cent of all atomic research and development (Saxenian 1985: 27). The role of federal spending in the development of the semiconductor industry was critical.

Research and development sites proliferated. In 1956 William Shockley coinvented the transistor at Bell Labs. He moved back to Palo Alto to begin Shockley Transistor Company. His abrasive and autocratic style soon alienated the famous (within Silicon Valley) "traitorous eight" who left to form Fairchild Camera and Instrument (later Fairchild Semiconductor) that in turned spawned fifty new companies between 1959-1979 including Intel, National Semiconductor, Advanced Micro Devices (AMD). SRI (Stanford Research Institute), NASA's Ames Research Center, Xerox, IBM, Westinghouse, Philco-Ford, General Electric Tempo, Sylvania, ITT and Lockheed all established research and development facilities in the area (see Saxenian 1985: 24; Rogers and Larsen 1984: 44; Winner 1992: 40).

Industrial growth on this scale changed the demography of the region. Under California's Master plan, local community colleges and state universities retooled to accommodate the need for a technically trained workforce. Three-quarters of local engineers would graduate from San Jose State University to augment the elite Stanford and Berkeley graduates. The total population of Santa Clara County went from 175,000 in 1940 to 1,065,313 in 1970. The Santa Clara Planning Department estimated that 75 per cent of this growth came from immigration, mostly from Asia and Mexico (Saxenian 1985: 29). This trend becomes crucial in shaping the dynamics of the late 20th century workforce.

The 1970s saw the birth of personal computing in Silicon Valley. In yet another "Garage Myth" Steve Jobs and Steve Wozniak began Apple. Atari, Osbourne and Tandem broke ground in defining new directions is computing. Deviating from the prior defense funding pattern, a new player arrived to bank the risky start-ups—the venture capitalist who could draw on the nearby capital center of San Francisco Bay and other transnational sources, including Japan. It was in this decade that Silicon Valley received its well know appellation and the name of Santa Clara County was reserved for locals.

The industry proliferated (there were an estimated 8,000 technology corporations in the 1980s) and several strategies emerged. In the semiconductor industry mass production costs fueled the production of large companies that increasingly produced their own in-house components, a pattern well known in the Route 128, a key high-tech rival region centered around MIT. Japanese competition placed this strategy at risk and by the late 1980s an increasing number of companies began to diversify and produce custom semiconductors, computers and components. This meant loosening the boundaries of the company by buying and vending components from other companies. The workforce shifted as "contractors," often former employees of recently downsized megafirms, worked on a project by project basis. A new generation of corporations emerged; Sun

Microsystems and Silicon Graphics are examples. In addition, new manufacturers began abandon closed protocols. If you buy an Apple, Next, or Digital machine there are no other companies that develop compatible hard or software—you must buy from the parent company. Open protocol systems may expose technical secrets, but allow many players to develop custom hardware and a plethora of software applications (Saxenian 1994: 105-159). The latter approach encourages intellectual networking and relatively free exchange of information and contributed to the "tradition" of interrelation and cooperation between firms (see Ignoffo 1991: 67).

The region possessed an unique "look." In the "north," near Stanford, elite research firms (one interviewee refers to them as "Darth Vader villages" from the excess of dark glass—see Doty and Savage) intermingle with executive homes that varied in price from $469,000 for a two-bedroom guest cottage to $1.5 million for a country club estate (McCormack and Kanda 1993: 154). The area is startlingly educated; more than a third of the adult population have graduate degrees (1993: 25). Driving east into the "south" end, manufacturing tilt-ups (windowless, quickly constructed single story concrete constructs) sit next to the older segments of San Jose contining high density housing and modest suburban developments for the less elite segments of the workforce. The housing there varies from $155,000 older homes and newer condominiums to $600,000 custom homes for rising entrepreneurs in Morgan Hill (1993: 154-155). In the last decade, this division between the elite north and proletariat south has begun to break down as the borders of Silicon Valley have extended across the Coast Range toward Santa Cruz and down through Morgan Hill into Gilroy. Nonetheless—the division between executive homes and suburbs/condominiums built in the 1980s is as marked as any management/worker division in the architecture of an early 20th century Western company town.

The region is marked by its cultural diversity. The area's initial "romantic ambiance" in part stems from the fruit orchards, worked by a immigrant population that hailed from Portugal, Italy, Japan and China as well as Western Europe (see Ignoffo 1991). The Native American sector grew from a small community of Ohlone to a wide variety of urban Indians. A long standing Filipino community south of San Francisco continues to draw educated workers from the Philippines—even though they typically work in jobs below their educational standing.

Of course, the mixture of cultures is not egalitarian. Euro-American males constitute two-thirds of management and 56 per cent of the professional workforce (Siegal 1990:1). The industrial influx of Asian immigrants is complex. Elite educated Chinese, Hong Kong, South Asian, Japanese and early Vietnamese immigrants must be distinguished from later waves of less educated Vietnamese, Cambodian and South Asians. A thirty-five person team at Sun Microsystems includes engineers from Bangladesh, Canada, China, Ethiopia, India, Iran, Japan, Korea, the Philippines, Taiwan, Vietnam and the United States (Lewis 1993: 22A). Over 28 per cent of the systems analysts, chemical and electrical engineers are Asian, according to the 1990 census (Johnson 1992: 20A). European and Israeli engineers are recruited to the upper echelons, while Mexican and Fujianese Chinese—legal and undocumented—work along side the lesser educated in the manufacturing sector. Nearly 72 per cent of all operatives and laborers are minority workers (Siegal 1990: 2). The majority of trade personnel in the Valley are Hispanic (1992: 20A).

Internal migration in the 1980s captured American managers from the East and Mid-West as downsizing required a shift from the "laid-back," supposedly egalitarian, local management style to the more aggressive approach needed when downsizing the workforce. Hewlett-Packard is a "diagnostic artifact" of the Valley, acting out many of the myths of region. Although more formal than many that came later, Hewlett-Packard exemplified a "new corporate approach." It was more intellectual, creating campus style offices and laboratories. Generous benefits, profit sharing, sabbaticals, company owned local vacation parks, mental and physical

health facilities were part of the H-P style—as was a less hierarchical management style than was assumed to exist in the "Eastern establishments." When Lewis Platt inherited the reins from Packard in 1993 he vowed to continue the H-P way and become a leader in progressive management (Smith 1993: ID), fostering diversity and democratization.

There was a widespread belief that microelectronics is an inherently "humane, democratizing force in contemporary life" (Winner 1992: 44), an attitude brought out in interviews with Silicon Valley engineers and educators. It is clear from the discourse of industry spokesmen that this idea—even though not particularly borne out empirically at any level—is tacitly addressing only the issues of professional and managerial workers—not support or manufacturing personnel. Nor does it include the increasing large, temporary workforce that range from technical consultants to janitorial staff and home assemblers. They are not part of the company. This parallels the Hong Kong division of labor into *cheung-kung* (permanent), *cheung-saan-kung* (regular or long-term casuals) and *saan-lung* (short-term casuals) (see Kao and Ng 1992: 183). In Silicon Valley, while appearing to address the entire company, most discourse is based in the *cheung-kung* level. Interviews with workers that mention such perqs as subsidized or supplied housing (Fisher) or pre-paid gradate education (Bertaro and Gawlick) only refer to the elite permanent level. Those elite workers are also expected to work over eighty hours per week as the project requires, and place the company at the center of their universe—becoming psychologically and physically fit to serve their work (see Hayes 1989).

Industry rhetoric claimed the loss of manufacturing to cheaper Texan cities and Mexican *maquilas*—twenty-two thousand jobs were lost from 1988-1994—especially in defense related and aerospace work (see Thurm 1994 26A). Much of the local increase in jobs in the 1990s has been in professional, engineering, managerial jobs (Wold 1993: 7E). Nonetheless manufacturing continues to be a prime economic force in the area. At least 39 per cent of Santa Clara County's earnings come from manufacturing (Lewis 1994: 30A). Small-scale manufacturing accounts for the bulk of the production, but large scale companies have also increased their local manufacturing presence. Intel went from fifty manufacturing jobs in 1989 to seven hundred and fifty; Solectron has gone from one thousand to three thousand (Mitchell 1994: 1F). The workers in that niche, sources of sociological studies, are rarely mentioned in discussions of "the workforce" by industry leaders.

The formation of Joint Venture Silicon Valley has been a landmark heralding a new era in industrial involvement with the community. Job loss, diminished defense spending, declining quality of life appeared to be taking a toll on the Valley in the early 1990s. In 1992 Joint Venture began to assemble data for an Economy at Risk: The Phase 1 Diagnostic Report (SRI Center for Economic Competiveness). This document highlights growing regional and international competition and paints a dramatic picture of future decline in which production would be gone, research greatly diminished and only corporate headquarters would tower above a crowded, poor decaying community. This vision is termed "High Tech Manhattan," every Californian's nightmare (1993: 61). The solution to avoiding such a dismal fate would be create a partnership of business leaders and local government officials (code-named "the community") that would ease regulatory problems, create networks to encourage start-ups, transform education, and augment the existing infrastructure with new technology. While individuals within Joint Venture commented that the case was clearly overstated for public relations reasons, the organization began to bring in high level corporate and governmental leaders. I joined the workforce study group which was geared toward reforming education. The tension between educators and business people was evident. Business representatives had little idea what had been done or what was feasible to consider. Indeed, business visionaries were not interested in past attempts, but insisted that the efforts should be "innovative and paradigm-breaking," symbolically charged adjectives in the Valley. While they wanted to transform schools into workforce factories that would produce skilled workers—they could not articulate the skills needed, nor

suggest how this would be accomplished in an era of critical underfunding. Ultimately, industry academies would be the model, so that high schools would be set up into clusters (health, electronics, computers) and run like industries. This would address the problem that loomed large in company minds—"school-to-work transition." In the discussions it became clear that local students were envisioned to be more likely to assemble parts or run paperwork in the future of the Valley than to become the new chosen. The discussions of future professional and managerial staff seem to be reserved for current elite schools or existed only in the realm of discussions on outside recruitment, not local education. In 1994 the Noyce Foundation awarded Joint Venture a $1,000,000 grant (expected to be supplemented by 5-10 million in cash and in-kind services) to the Silicon Valley Network's 21st Century Education Initiative to improve core curriculum standards in mathematics, science and literacy. In early 1995 Hewlett-Packard and Silicon Graphics unveiled a twenty million dollar inventive plan through Joint Venture in which businesses would donate equipment and expertise to create "renaissance teams" that would help educators "abandon the outdated mass production model." Joint Venture can work across district boundaries to impliment the organization changes used in corporate culture to "re-engineer" pedagogical process and curriculum development (Levander 1995).

In other work groups, a wide variety of issues were discussed—regulation, health care, housing, semiconductor competitiveness, bioscience transfer. and banking. A new lobbying Council on Tax and Fiscal Policy was formed to engineer "one-stop shopping" to make it easier for business to negotiate regulation, especially environmental regulations. CEOs formed the Health Care Task Force Advisory Board to create strategies to contain health care costs and develop an inventory of regional health care resources. The Enterprise Network was developed to help support new businesses. The Defense/Space Consortium is participating in a California wide effort to tap into federal "transition activities." The crowning glory of the Second Phase of Joint Venture was to promote the Smart Valley Initiative, "a fiber-optic superhighway to the future" (Prx Inc 1993: 3) that will work with firms, governments and community groups to "pilot projects that will promote the use of the regions's emerging information infrastructure" (Joint Venture 1993: 1). A few hiccups have occurred in the organization in last few years—too much money was being spent in public relations instead of actual activity—nonetheless Joint Venture Silicon Valley has successfully redefined the concept of a company town. Using lobbying, government partnerships and "innovative initiatives," companies have reached out to redesign the governance, schools, utilities and even health care facilities of the community to make it "a better place for business."

Loyal Workers, Happy Families

Paul Saffo, analyst at the Institute for the Future in Menlo Park, repeated an originally Swedish joke that is making the rounds in Silicon Valley. In the 80s the status symbol was a BMW. What is the status symbol of the 90s? A job (Donnelly 1994: 5H). The statistics on job loss naturally do not reveal the complex nature of employment in Silicon Valley. In the technical and professional echelons there was a decades old tradition of intense job mobility. In both work history interviews and observations some engineers revel in the excitement of the switch. If the manager "is a cretin," quit and find another job (French 1993). If laid off, no problem, another job will be there, perhaps after a period of "independent consulting." In the 1985 recession nearly half the work force was furloughed, temporarily or permanently (Ong and Mar 1992: 367). In a sample of those laid off, those reemployed in semiconductor or high tech industries, largely Euro-American men, actually had a net gain in income. Those driven from the industry lost income when finally rehired (Ong and Mar 1992: 369). The expertise of both upper and lower echelon workers can gave them an advantage over newly entering workers. To do so resumes and training portfolios must be kept up to date, even if decades of previous employment exist. The burden of

job fitness lies with the employee. The attitude of companies is that a "good worker" can survive, a paternalistic sentiment reminiscent of the Arizona mining town studied by Graham. The whole phenomenon is given a gloss of excitement as this era of less security is hailed as a "time of excitement and opportunity" (Donnelly 1994: 5H), a position that does not reflect workers' experiences.

In contrast to those for whom job security is not an issue, others—older men and women—experience a more anxious reality. One informant said he is getting "too damn old" to go out and start looking for a new job (Hunger 1993). Upper echelon men, whose psyches have been reshaped to fit the "Silicon Syndrome" of work first find it difficult to cope with the loss of job and exposure to family life (see Konovsky and Brockner 1993: 133-135).

This reasoning, while it does reflect the elite professional sector, begs the role of women in the workforce and the impact of their layoffs. As of the 1990 census, almost 64 per cent of all women in Santa Clara County were in the workforce (Lewis 1992: A26). In middle management women are primarily in personnel, public relations and marketing, not research and development. Women are in support, not decision making functions, and it is the latter where rehiring is most likely. Women are not believed to "fit" into the corporate work first culture as readily as men, particularly the 10 per cent of the workforce that puts in more than 51 hours per week (Douglas 1986: 12). Clerical workers are overwhelmingly women, as are the majority of manufacturing operatives and laborers (Douglas 1986: 6-7). Hossfeld reports that as many as 85 to 90 per cent of the high tech operatives are women, and, in the case of the companies she studied, none of the production workers were non-Hispanic white (1988: 46, 128). Last hired first fired rules place affirmative action recruits of women and minorities at risk. Minorities were less likely to be rehired after job loss, particularly African-Americans and Hispanics (Ong 1991: 456, 465). This was not true for Asians at the lower echelon who seemed to be experiencing an "immigrant effect," being rehired since it is assumed they would be hard working (Ong 1991: 468). While Hossfeld reported that women did not have as much of their psyche wrapped in their mind numbingly monotonous work, they certainly had financial obligations that layoffs threatened. She reports "in working class immigrant families with young children economic survival usually required the labor of a minimum of three adults, usually including at least two women" (1988: 182-193).

The right to economic security is clearly at risk in the Silicon Valley. However, mirroring international rights discourse, the rhetoric of prosperity intimately linked with the phrases "flexibility" and a "free market" are portrayed as the avenue to security. In several of the Joint Venture speeches one theme stood out. Companies need to be flexible (able to downsize) if they are to remain competitive and usher in new eras of prosperity. The problem is that workers have forgotten how to be "loyal." By placing the burden of security on the worker—suggesting that a good, loyal and obedient worker, even if laid off, will survive—the powerless are then left with the moral guardianship of a right they cannot realistically address.

Joint Venture spokesmen again repeated the adage of humane democratic high technology industry, pointing out that they worried that their workforce, that is, management and professionals, were unhappy in the Valley since its schools and housing offered too little to their families. They would become champions of family values. Realistically, job demands of worker loyalty also have an impact on the family. The 1984 book The Silicon Syndrome pointed out that at the upper echelons, men are encouraged to focus totally on work (Hollands). Such a pattern is assumed to have contributed to the 60 per cent divorce rate. Only one Valley based company, Silicon Graphics, is cited by the magazine Working Mothers as a good company for working mothers, good being defined as letting women into upper management, providing support for child care and having "family friendly benefits" such as family leave, childbirth leave, adoption aid, and 100 per cent premium paid health insurance (Associated Press 1994: D1). Even if the benefits exist, corporate cultural pressures make parents,

male and female hesitant to claim them should it hurt their careers (Levander 1994b: 2F) by making them appear "disloyal." For employees of other firms, the options are less appealing. Parents juggle home, work and institutionalized daycare using elaborate schedules. The Families and Work Institute found that 32 per cent of working parents have experienced a daycare breakdown in the prior three months (Levander 1994b: 2F). Resistance to flex time and persistence of stereotypes makes the juggling nearly impossible.

The situation is made more complex by the plethora of family forms and cultures in the Valley. Single parent households comprise 24 per cent of the family households in Santa Clara County (U.S. Census 1990: 3). Judith Stacey in her book, Brave New Families describes the shifting resident patterns of the Valley's working class families as various members of extended families get, lose or change work, making "family" another ambiguous category (1990). Different cultural family forms challenge and revive family work relations. In a critical incident interview a student reported that an Iranian woman, whose mother had died, wore black to work. She was approached by a highly placed staff member who told her it was depressing and not conducive to a productive working environment. When she did not change her clothes, he challenged her to think of their feelings, not just her own (Angel 1992). Chinese engineers report that they believe themselves to be more family oriented than "Americans" (McLeod 1986: 402) This widely held belief may contribute to the "technocoolie" role I first heard about in Hong Kong from returning Silicon Valley engineers who felt that they were perceived as hard workers who worked well in engineering, but were excluded from the fast-track of corporate culture.

Once again, companies portray themselves as the champions of family rights, yet the overriding concern for work productivity combined with the lack of job security threatens the "right to family." This is made more complex, as all such metalegal issues are, by the multicultural nature of Silicon Valley. Family values discourse and corporate policy foster a very narrow vision of the family—father as breadwinner, mother in the informal economy at most and children happily on their computers or at school. The "uncertainty," to use the postmodern phrase, that characterizes the contemporary family is viewed as the enemy, not something to be fostered. That style of rhetoric undoes the support for the families that exist in life, not rhetoric. Extended or intensive families that may be part of immigrant cultural traditions are not acknowledged, except, perhaps, to perpetuate stereotypes about that cultural category.

The Engine of Diversity

The phrase "engine of diversity" is repeatedly invoked in Joint Venture rhetoric. The context in which it is used makes it clear it has two broad areas of meaning—ethnic and economic diversity. Both are "celebrated" as the difference that drives innovation. "Progressive" companies such as Hewlett Packard have programs that target focus groups, on video, to brainstorm on ways diversity can be increased. Yet interviews with Silicon Valley engineers and educators suggest they are less than sure about the benefits of the changing complexion of the region. In surveys and statements that tap into ideal rhetoric they proclaim their tolerance, but when discussing the future of the region they worry about language diversity in the classrooms, gangs and balkanization (see English-Lueck and Darrah 1993; Lewis and Gottlieb 1993: A1, A28). Diversity is a category filled with ambivalence. This ambivalence is played out in discriminatory actions, gross and subtle.

It is useful to separate workplace discrimination against lower echelon workers and the upper levels. In her study of immigrant production workers Hossfeld tracked the logic of managers as they spoke about their minority workers. Asian immigrant women were the preferred laborer. Filipino women are "meticulous and dependable", Vietnamese ranked slightly behind due to culture shock and language difficulties (1988: 278).

This contrasted with attitudes towards African-American applicants who were seen as not "good enough" as workers (1988: 271) and Hispanics who were seen as unambitious (1988: 282). As already mentioned, job security for Hispanic and African-American minorities is a risk due to discrimination.

Immigrant workers are believed to willingly work for less pay at "worse" jobs since they are "more desperate." Company managers felt they were doing a favor to provide immigrants work (1988: 269). Hossfeld found that anyone who spoke with an accent was treated as an immigrant and placed in production. Immigrant themselves internalized these attitudes to the extent that they believed immigrants must "pay their dues" before "making it" in America (1988: 274).

Among professional workers, Asian model minority stereotypes of compliance create a "technocoolie" track (McLeod 1986: 114). New Asian immigrants are recruited through educational vectors (Stanford graduates recruited into local firms) or through the preference categories that favor engineering expertise or entrepreneurial investment, fostering Taiwanese and Hong Kong immigration respectively. When asked about their success Chinese immigrants said, "that it is their feeling that the Chinese work somewhat harder, or longer, or with more diligence, or with more company loyalty, than the average American employee (1986: 218). In contrast, a Hispanic woman, working in a large research firm suffered depression where she felt repeatedly harassed, and revealed in an interview that she was denied access to training programs because of her ethnicity (Hamilton 1993).

That level of discrimination is augmented by more subtle cultural ambiguities. Discrimination is operationally defined as the "salience of sex and racial categories in organizations leading to biased appraisals" (James 1993: 34). In Silicon Valley, more so than other corporate cultures, therapy is seen as the problem solving tool of choice. If work pressures are shattering a family, bring in a counselor. If prejudice and cultural misunderstanding are causing losses of production, bring in the diversity trainers. Unfortunately, diversity training is a unmonitored craft. While designed to educate people to recognize and mediate differences, the techniques in the hands of less gifted trainers reinforce stereotypes. Consultants may emphasize "awareness exercises" that encourage people to air their stereotypes, but do little to alter them. The causes of discrimination are complex and embedded in corporate structural politics. Diversity training can become a way for companies to sincerely claim they champion tolerance, but instead foster discriminatory beliefs.

In international human rights discourse discrimination is based on the idea that racial and cultural differentiation is allowed as long as it does not interfere with equal employment (van Dyke 1985: 4-5). American interpretations have allowed discrimination if the impact on the disadvantaged group is reversed, i.e. affirmative action. Corporately sponsored racial slurs are decidedly forbidden (Hunt 1984: 63-64). The perpetuation of stereotypes in hiring Filipino clean-room operators or elite Chinese engineers represent more subtle manipulations of identity categories. Such areas of deeply culturally embedded attitudes remain problematic for the West.

Interdicted Knowledge

The final rights area under consideration is the realm of freedom of information. The Silicon Valley prides itself on its interactivity and cooperation—fostering the exchange of information to reach new heights of innovation (see Sturgeon 1992: 67-72). Elite job mobility confuses fiduciary obligations and the use of open production protocols obscures the ownership of information. When Motorola sued Fairchild for conspiring to steal trade secrets (it was trying to recruit Fairchild personnel and gave them a tour of Motorola facilities) it could not prove damages and lost the case (see Pooley 1987 49, 108; Spanner 1984: 81). Ownership of

design information is legally problematic, for clearly established "trade secrets" must be at the root of the dispute. The most common scenario refers to a worker taking secrets to its next employer—clearly a issue relevant to Silicon Valley employment pattern. If the company can prove "breach of fiduciary duty," that is, the duty of loyalty, showing an employee broke trust with its employer, then the worker can be restrained from working for a rival company. In 1991 Bonyhard was successfully restrained by IBM in an attempt to work for rival Seagate arguing that he would inevitably draw on IBM secrets. The injunction stopped Bonyhard from working on devices for four months, an eon in computer technology, and he may be barred from working on specific components for any company but IBM (Bennet 1993: E1). In 1993 executive Eugene Wang left Borland to take a better job with Symantec. In his head, and his electronic mail, he allegedly had corporate plans and marketing strategies under development at Borland. Symantec responded that they hired "the Joe Montana of language marketing" and that it constituted a business dispute, but not a crime. This case is critical, not as test case, but that it points out the uncertainty in the law and ambiguity that hovers around the right to job mobility (O'Connor 1993: 1A, 26A).

Scientific freedom is a tricky issue in international human rights. UNESCO article 11 specifically protects the rights of scientific workers, largely from ideological, religious, gender or ethnic discrimination. It is fundamentally connected to the Mertonian assumption that science must work in an environment freed from non-scientific constraints. Yet there is an acknowledgement that science for commerce is not the same as science for publication (Ziman, Sieghart and Humphrey 1986: 102). The Mertonian freedoms of expression are mirrored in the culture of corporate Silicon Valley. It is believed that the mobility of the elite gave the Valley the edge to outcompete Route 128 (O'Connor 1993: 26A; Saxenian 1994). Yet clearly, these rights must be constrained. The world of commercial science and technology plays by rules differing from the academy. However, remember that part of the Valley's success stems from close interconnections with the academy. In 1977 this led to a dispute between University of California Medical School and Genetech (then working for Hoffman La Roche) claiming that the latter took advantage of the free exchange of information to produce commercial interferon (Ziman, Sieghart and Humphrey 1986: 208). The fundamental contradiction between trade secret litigation and a corporate and academic tradition of information mobility remains unresolved.

Summary

In the issues examined, the rights to security, family, discrimination and free scientific exchange several themes emerge. In each case the company spokesmen, frequently using Joint Venture Silicon Valley as a platform, promoted a public relations image in which they champion those rights. However, in each case, the paramount needs of the company subvert the implementation of those rights. Company elite manipulated the concept of worker "loyalty" to reinforce their hold over worker time, family life, even identity formation. In every case it was the inherent postmodern ambiguity regarding employer obligations, family composition, identity categories and information that allowed this manipulation to take place. The manipulation of uncertainty to promote the goals of high technology industry makes Silicon Valley a prime example of a postmodern company town.

Endnotes

1. This chapter is based on a paper presented in the session " I owe my soul to the company store: Company towns and human rights," organized by Doug Dinsmore at the American Anthropological Association Meetings, Atlanta, Georgia, Dec. 1, 1994. Additional computer graphics and photographs were done by Karl Lueck, to whom I owe a special debt of thanks.

2. For an overview of historical synopses of Silicon Valley see Saxenian 1985; Saxenian 1994: 11-57; and Rogers and Larsen 1984. Sturgeon 1988 and Ignoffo 1991 have produced relevant theses.

3. Both Saxenian (1994: 26-27, 39-40) and Rogers and Larsen (1984: 62-78) discuss the role of venture capitalists.

4.Worked on assumed dissimilarity among African-Americans has been discussed in Pettigrew and Martine 1987 and James and Khoo 1991). Specific complaints about diversity training in Silicon Valley can be found in Levander 1994a and New York Times 1993.