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Author: Johanna Shih

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Project Time in Silicon Valley

*Johanna Shih**

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*Johanna Shih is a post-doctoral researcher at the Center for Working Families, University of California, Berkeley.

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There was, it appeared, a mysterious rite of initiation through which, in one way or another, almost every member of the team passed. The term the old hands used for this rite...was “signing up.” By signing up for a project you agreed to do whatever was necessary for success. You agreed to forsake, if necessary, family, hobbies, friends—if you had any of these left (and you might not if you had signed up too many times before). From a manager’s point of view, the practical virtues of the ritual were manifold. Labor was no longer coerced. Labor volunteered. When you signed up you in effect declared, “I want to do this job and I’ll give it my heart and soul.”

Tracy Kidder (1981:63) *The Soul of a New Machine*

The sociology of work has been increasingly enriched by theories of and research centered on time. Studies have investigated how dimensions of time such as periodicity, tempo, timing, duration, and sequence are fundamental in work processes (Fine, 1990; Lauer, 1981); and how organizational structures and temporal patterns at work shape one another (Zerubavel, 1979, 1981). They have also explored how relations of power at work are embedded into the use of time, showing that those with greater authority tend to have more control over their own and others’ time, and research has also illustrated how employees experience and resist temporal demands through “slowing down” their pace of production (Roy, 1952).

Although this body of research has illuminated the often neglected role that time plays in the organization of and social relations at work, it has seldom considered how “organizational time” (Lewis and Weigart, 1981) might affect other temporal spheres and how these varying spheres are synchronized and managed within the everyday experiences and lives of individuals. In this paper, I focus on the emergence of what I call “project time” as the central temporal pattern of work for engineers and other high-tech professionals in Silicon Valley, and then demonstrate how the specific patterns of “project time” might displace, interrupt, or reconfigure the rhythms of other temporal spheres such as biological time (the regular routine of care needed by the physical body, both in terms of care for self and care for one’s dependents), interaction time (the pattern of interaction needed to establish and sustain relationships with family and friends), and biographical time (conceptions and ordering of the life course).

The concept of multiple temporal spheres is central to the sociology of time. Research in this field had demonstrated that time is not merely an objective, linear, and quantifiable element, but is socially defined, historically rooted, and experienced in varying ways. Time is qualitatively experienced, and individuals simultaneously negotiate “multiple systems of social time” (Gurvitch, 1990). The relationship between these multiple systems of social time, and individuals’ experience of them, can be analyzed using three concepts developed by Lewis and Weigart (1981): embeddedness, stratification, and synchronization. Different structures of time are embedded within one another, with “microstructures” of time constrained by “macrostructures” of time. In this way, for example, a friendly conversation with a colleague may be bound by the time structure at work, and one’s time at work is itself embedded into the larger time framework of careers or life courses. Embeddedness thus integrates varying social times, and its process involves temporal stratification and synchronization. As suggested by the previous example, synchronizing multiple time systems may involve stratification, allowing one time structure to constrain or take precedence over others.

Stratification of time systems should not be understood as a given, however, despite the rather functionalist, Durkheimian bent of some of the research in the sociology of time. Instead, stratification should be understood as a reflection and outcome of different relations of power. This is exemplified, for example, in Orrelana and Thorne’s (1998) analysis of the impact of year-round school schedules on the family lives of schoolchildren. Without the necessary resources to contest the implementation of an altered school schedule, the working-class parents of these schoolchildren faced various “time collisions” from this change in the temporal structure of schooling. Similarly, the stratification of temporal worlds is not uniform, but instead may be shaped by gender, class, ethnicity, and context. Research has shown how men and women negotiate and expect to negotiate temporal worlds differently (Hochschild, 1989; Maines and Hardesty, 1987) and that women tend to be more “polychronic” in their negotiation of multiple social times (Hall, 1983).

My analysis of the emergence of project time in Silicon Valley rests on the assumption that the process by which project time emerges and disrupts other temporal spheres is not a given, but rather is a result of specific factors that led to this temporal pattern and lured workers

to submit to it in this region. Additionally, I show how the process whereby project time becomes prioritized within individuals' lives is gendered because women often make different choices than men in their negotiation of the conflicting temporal rhythms of work, life, and home.

A Case Study of Silicon Valley

Silicon Valley has been widely acknowledged as a major center of technological innovation and production (Henton, 2000) and has experienced rapid economic and demographic growth in the last four decades. Research on the region has primarily focused on identifying the factors that account for Silicon Valley's success, focusing in particular on its economic structure of flexible specialization (Rogers and Larsen, 1984; Saxenian, 1994). Far less attention, however, has been given to the experiences of individuals who work in this region, even though popular accounts depict a breathless pace of work, reflective of the "gold rush" mentality of high-tech development where speed is understood as critical.

This paper addresses this gap by exploring how conditions in Silicon Valley affect the temporal rhythms of work. My fieldwork, conducted between 1999 and 2002, was based primarily on in-depth, semi-structured interviews with white and Asian high-skilled, high-tech workers (almost all of whom worked in engineering jobs or jobs that require an engineering background) and some participant observation. Whites and Asians are the major racial groups in the high-skilled labor force in Silicon Valley, with Asians accounting for a full third of the science and engineering workforce. Those I spoke with worked in various sectors of the high-tech industry (i.e., manufacturing, software, networking services) in both established and newer companies.¹

This is a case study of a particular region, but the speedup of time that is characteristic of Silicon Valley has also been noted in other industries and areas of the U.S. (Hochschild, 1997) and as a symptom of the general "time-space" compression resulting from the globalization of capital (Harvey, 1989). Thus, my findings have some broader applicability toward understanding how individuals negotiate between the rhythms of institutional/work time and other temporal spheres and the types of choices they make to resolve multiple and conflicting temporal worlds.

Project Time in Silicon Valley

In Silicon Valley's high-tech industry, the rhythm of work is organized through project cycles. The shape of work is not maintained by any preset daily or weekly time schedules, but rather is dictated by the needs of and cycle position in the "project," which represents a specific task or goal that is to be accomplished by a particular date. Projects range from the design of microprocessors, to writing software programs, to constructing a networking system; and people work within project groups, taking on individualized tasks and then collaborating. I first became aware that people's schedules were centered on projects when few respondents could answer my question about the average number of hours they worked per week, or about the average daily schedule. Instead, they talked about the project cycle, which seemed to last anywhere from three to nine months depending on the project, with intense periods of work within the cycle, particularly toward the end. Their "average" hours per week then, could range from anywhere between 35 and 100, depending upon their position within a cycle.

The project cycle, or put differently, "project time," represents a departure from the traditional nine-to-five day, and the temporally rigid work patterns it reflects. This type of work schedule was depicted, for instance, in William Whyte's (1956) influential work, *The Organization Man*. Whyte wrote of the emergence of "organization men" who spent their lifetime at one job, slowly but surely climbing the internal organizational ladder and steadily working their nine-to-five day.² More recently, Eviatar Zerubavel (1981:153), a noted sociologist of time, suggested that "the professional who is always 'on the job' is increasingly becoming a rare species, and *it is the rigid manner in which professional commitments are temporally defined today that seems to be one of the key characteristics of modern social organization.*" Both Whyte and Zerubavel convey an image of a temporally rigid work pattern, with clear demarcations between when one is "off" work and when one is working. This pattern is marked by specific hours of the day and specific days of the week—typified by the Monday-to-Friday, nine-to-five routine.

Clearly, project time in Silicon Valley represents a different temporal rhythm that is characterized by its erratic nature. The emergence of project time in part reflects the more autonomous nature of work, which is associated with economies organized around flexible

specialization (Harvey, 1989; Piore and Sabel, 1984). Employees are expected to reach a goal without being given specific instructions or steps on how to complete it, and similarly, the temporal aspect of the project is merely delineated by a certain due date, say three months, without any specifications for the way in which employees should allocate their time during these months. Workers are simply expected to figure out the best way to achieve this goal within the timeline allotted.

This type of managerial organization is exemplified by William Hewlett's (1996:153) description of Hewlett-Packard's "management by objective." Hewlett writes that it is "a system in which overall objectives are clearly stated and agreed upon, and which gives people the flexibility to work toward those goals in ways they determine best for their own areas of responsibility." High-tech, in particular, is structured around goal-oriented work, with few set guidelines, procedures, or training. This reflects the restructuring and decentralization of companies that are characteristic of flexible specialization and the fact that in high-tech, the actual work and the tools used for work (computer or computer-based) are inherently autonomous, because they are knowledge intensive and conceptual in nature (Piore and Sabel, 1984). Even if one were to attempt to set guidelines and procedures, the rapid change in products and services in high-tech would make this a difficult task.

Respondents' descriptions of their daily work activities reflect the autonomous nature of their work. They depict a relatively informal work process and confirm that engineers at all levels have a large degree of autonomy in terms of both how they do their work and how a project is completed. Respondents indicate that "there is a lot of flexibility in terms of what we can do" and that the organization is structured into work groups including people of varying levels, which are "very informal" and where "everyone gives input." Respondents also say that there is little formal training or guidance. For instance, Alix, an immigrant Chinese engineer, says that the norm is "training by doing, hands on. So I'm assigned to a project and start doing it, if I don't know something and there's someone in the group or company that has experience, then I ask that person. If it's a new technology, then [I go to] outside sources." In this sense, employees appear to be more "on their own," independently seeking solutions to achieve their project goals.

Managing the Self: The Lack of Rigid Temporal Order as a Managerial Mode of Control

Although autonomy is traditionally prized as a condition of work, with employees able to work without chafing against a managerial gaze, autonomy within the structure of project cycles becomes a tool by which managers can enforce limitless work schedules. Zerubavel (1981:166) has written that time, as a central organizing principle, is what enables individuals to separate their “public time” from their “private time.” He argues that the bureaucratization of organizations and the increasing rigidity of temporal boundaries at work are exactly what “protects the modern individual from being entirely ‘swallowed’ by what L. Coser has called ‘greedy institutions.’ It is precisely the rigidity of the temporal boundaries of our professional commitments that allows us to claim some privacy.”

The system of project cycles in Silicon Valley essentially represents the inverse of Zerubavel’s argument. In the absence of a rigidly defined work schedule, individuals find it increasingly difficult to distinguish between when they should be working and when they should have private time that is protected from the demands of work. In the world of Silicon Valley’s project cycles, with its undefined work schedules, employees are assumed to be always accessible. Because project time is not defined by an exchange of wages for a set time period, but instead can be roughly understood as an exchange of wages for a completed goal, the time spent reaching this goal can be more easily manipulated simply because it is never clearly defined. This is exemplified by respondents’ comments such as, “nobody dictates a specific schedule...you are trying to get the work done,” a situation that effectively ties people into a limitless time commitment. Indeed, respondents frequently spoke of feeling burned out, and I was “stood up” at a few morning interviews because respondents had worked through the night and slept in.

It is evident that managers use the absence of rigid work schedules as a tool by which they can subtly coerce their workers to put in longer hours. Take, for example, Chen, a vice president of a start-up. I met him on a Sunday afternoon at his office, where he and many of his employees were working. When I asked him about what he expects of his employees, he said,

Over here, you know [it's] like teaching my daughter to swim, just dump [her] into the water! You must be independent and motivated. I always tell my engineers, you are your own managers. There is a pile of work on the table...it's up to you to figure out how to swim.

His expectation that workers must be their *own managers* is significant, reflecting the burden placed on employees when strict responsibilities and schedules are not preset. It is also reflective of the speed of development in high-tech. When I responded by asking him about what hours he demanded of his workers, he immediately exclaimed, "Whatever it takes!" When I asked him what that means in actual number of hours worked, he was evasive. I pressed him again and he answered me by saying,

I am looking for a person who is committed to the company, who is committed to the project, who believes that the idea can really take off in the marketplace. In terms of absolute time commitment, I don't have any numbers. You can work like... I mean, in this day and age, it's very hard to tell when people are working and when people are not working.

Chen's attempt to skirt the issue of time illustrates an important recurring pattern—the line between work and personal life is blurred in Silicon Valley, and often one's mind is still dedicated to work, even if one's body is not still actually at work. As Chen said, it is difficult to tell when people are at work, and this lends itself to the demand that people should *always* be working, lest they be accused of not being "dedicated." He continued by saying that he did not want to be in the position of "micromanaging" employees' time.

It has to be trust between me and [the] employee... I want you to be here during business hours because, if any company issues pop out, I can talk to you in person. Any more than that is up to the person. He is supposed to be his own manager. I'm not supposed to be his babysitter.

By suggesting that his workers manage their own time, he has created a situation where the time dedicated to work is limitless. It is no longer delineated by nine-to-five, but rather by the workers' dedication to the company. In this case, time put in becomes a test of a worker's loyalty and commitment. This is an enormously effective tactic, because it forces workers to push themselves in the effort to prove dedication.

In another example of managerial pressure, Matt, a frank-talking senior engineer at a networking giant, talked about how short deadlines are used to push productivity.

The nature of engineering is that it's imprecise, and so deadlines and schedules are all just best guesses about when it will be accomplished. So managers, they like to play head games with people. They say okay, we need something done by this date, and then people feel constrained to really deliver by then, and then family just gets trashed.

As a senior level employee, Matt felt free to chide his managers by saying,

This is crazy, there is no way it's going to occur, and [managers] say sure, well at least it will motivate people; people will be focused. And they are not being malicious; they are just trying to get people to bear down

Q: So it's a productivity strategy?

Yeah, and it is [laugh]! You can't deny that it works. You tell someone that it needs to be done in two months, and it takes six months or a year... So for a person who is really driven, they compromise everything, and it's easy to be totally, to basically submerge yourself and just think about that, and that can drive you for a long time.

As is evident in Matt's comments, managers can use the "imprecise nature" of engineering work to extract longer hours from workers simply by shortening project deadlines.

As these two cases suggest, individuals' time gets bound up as organizational time, in large part because the autonomous nature of work creates a demand for individuals to prove their worth through performance, rather than simply putting in a set number of hours (Kanter, 1995:358-359). "Performance," as a subjective criterion, is difficult to satisfy, and as Kanter notes, "It becomes difficult to set limits, difficult to determine how much work is 'enough.'... It eats into personal life and exaggerates the conflict between work and family."

The temporal structure of project time is not created solely by managers' desire to garner more time from employees. Instead, the actions of managers themselves should be contextualized within the broader structure of the global capitalist market in which the high-tech industry is embedded. Indeed, the rhythm of project time and the production pace in Silicon Valley are intimately connected to fluctuations in the global market for high-tech and the

increasing competition to create and capture “niches” in the growing market of services and goods.

Market Time: The Speeded-up Rhythms of the Global Capitalist Market

The erratic nature and intensified pace of project cycles in Silicon Valley are shaped by the region’s location in the global context of capitalism.³ Economies organized around flexible specialization are structured to adapt quickly to the increasingly ephemeral consumer demands and subsequent fluctuations in the market (Piore and Sabel, 1984), trends that have stemmed from improvements in communication devices and, more broadly, the globalization of capitalism. Indeed, this economic structure has been noted as a key reason for Silicon Valley’s “regional advantage” (Saxenian, 1994). The proliferation of small, specialized firms and decentralized large organizations that are interdependent and connected through a dense web of networks creates structure that allows for rapid development and accommodation to new innovations.

Given this situation, project cycles have an intimate relationship with market demands; the patterns of the market become the patterns of work. In the past ten years, the speed of high-tech development has escalated, in part because of a “gold rush” mentality that sees the high-tech market as a yet uncharted territory with lucrative possibilities and in part because of increasing international competition. Consequently, the “race” toward capturing market niches and market shares has intensified, and it has a direct impact by affecting the temporal structure of project cycles.

This is exemplified by the following comments from Raj, an Indian software engineer in his mid-30s who works at a mid sized company. He had spoken to me about the increasing time pressures at work, and when I asked him how this had come about, he told me about the unrealistic project deadlines that were set by heavy competition in the high-tech market.

Others have expectations, upper management, to deliver the product on time. These are unrealistic timelines, too. They are not set by product specifications, but what competitors are coming out with for the market, so its really demanding. I mean, if a product should take ten months to finish, there’s often a six-month deadline, and you just have to finish it to meet the market... It’s a gold rush

scenario, which makes it different I think, because there's also extra pressure on the company. It [comes from] much higher, from the investors, and also how you measure success, and that trickles down to the employees.

As Raj's comments suggest, the speedup of the high-tech market sets deadlines for project cycles that are difficult for engineers to meet. Clearly, the "gold rush scenario," that is, the race for market share, affects the rhythms of work, and this pressure of competition is refracted at several levels, from investors, to management, to employees.

In a similar account, Shelley, a senior design engineer at a microprocessor manufacturer, also spoke about the impact of increasing competition in the high-tech industry and the subsequent escalating pace of development. She told me about the shortening of project cycles, especially in "money maker" groups such as the one in which she worked.

In this business, the design cycle is getting shorter, shorter, shorter, shorter. You have to do more things in that time because, I mean, time to market, getting it out, quicker and quicker, better, faster, smaller. In the last eight years, the first projects, the cycle was this long [holds hands wide apart]. Now it's this long [holds hands much narrower] but you have to do more, so it's like, really, cranking it out.

As Shelley noted, the design cycle (a type of project cycle), is shaped by the demands of "time to market," a phrase meant to denote the amount of time one needs to design and develop a product for the market. In her particular field, microprocessors are quickly becoming "better, faster, smaller," and she and her colleagues are pressured by the heavy competition and increasing pace of innovation in the market for microprocessors.

Shelley continued by explaining that the development of a product requires a high degree of coordination, which itself exerts its own particular time exigencies. She talked about the need her group felt to coordinate their design schedule with the schedule of the fabrication laboratory where their designs are executed.

You have these really big microprocessor projects... The products that we produce are the ones that are volume. There is pressure to meet up with...the fabrication lab. They have to set that up to make the microprocessor right. There's a sink point, when we're done and the fab is ready, so everyday that we are not aligned, they lose millions of dollars, right. So you have to sort of get there,

otherwise you are losing money big time. So it's a lot of pressure to deliver and meet the expectations, and you have to live up to those. That's the biggest thing.

Time coordination is a critical part of product development, and in order to succeed, different departments that are collaborating on a particular project must synchronize project times. As Shelley noted, the need for exact synchronization is also underlined by market considerations and exerts extra pressures on all workers to make their project deadlines.

Project Time and Other Temporal Spheres: From Coordination to De-Synchronization

Up until now, I have analyzed the dynamics of project time in Silicon Valley as a temporal structure of work that makes it difficult for workers to define a time period where they are inaccessible to work demands, and that has led to erratic and speeded up work rhythms because of the high-tech industry's intimate relationship with the global market. The remainder of this paper discusses how the structure of project also time impacts upon other temporal structures that individuals are pressured to negotiate: the regular rhythm of biological needs important to sustaining physical bodies; the rhythm of interaction time with family and friends, which is important in the sustaining of social relationships; and biographical time, which represents the social vision of life courses.

Biological Time

Biological time (Mukerjee, 1990) refers to the regularized routine needed to care for the physical body and bodily functions. The rhythm of the physical body is an often-overlooked temporal sphere, in large part because its needs (eating, sleeping, etc.) are so basic that we take the satisfaction of them for granted. In actuality, however, the routine of the body is often infringed upon, as exemplified, for instance, by recent reports that Americans are increasingly sleep deprived. The experience of sleep deprivation can be understood as the displacement of the temporal rhythm of the body with other temporal structures, such as those of paid work or new parenthood.

In Silicon Valley, project cycles often displace bodily rhythms. In the broadest sense, the "burnout" reported by many respondents suggests that the rhythms of project time do not allow

for the regularized care of physical bodies. Take, for instance, the comment of Shelley, the engineer I quoted earlier, who observed that project cycles were shortening. As she talked to me about these project cycles, her vivacious manner diminished as she lost her composure and became quite upset.

I've been in this industry for eight years. I've worked the long hours. I've worked the grind, I've given a period of my life [with emphasis] to this company as I'm sure you have heard others say... Basically, I remember being young [laugh] and getting here at 7, say, outta here 9, 10, 11, 12, 1, okay, and doing this for prolonged periods of times for extensive deadlines, for big projects and stuff. So you can imagine that doing this for a number of projects, it can take its toll [emphasis].

Shelley was an engineer in her early 30s, yet the fact that she no longer saw herself as “young” and that she experienced work as giving a “period of my life” to the company reflects the physical toll taken by the demands of project cycles, and the tremendous growth of the high-tech industry.

In another example, Caren, a senior research and development engineer, spoke about her experiences in a large hardware manufacturing company that she had just left, and about the prioritization of work over any physical needs. A talkative, bright woman, she talks about the consuming nature of her work, “When I worked at [this company], I woke up thinking about work, and I went to bed thinking about work. It was totally consuming and there were very few moments when I wasn't thinking about work.” Caren continued to describe the demands of work.

[My company is] very demanding in that this is a highly competitive environment. So if you leave at 5 or 5:30, you feel you are sneaking out! You feel this is going to reflect on me in this way, so I would work until 8:30... I just could never say, you know what, I can't do that because I need to rest. It just didn't seem like the right thing to say there. You were admitting to physical problems.

Q: How did you come to feel this way?

Well you learn after a while. Well it's the feedback... Always, the praised people [are the ones who] worked so hard, produced so much, who put in so many long hours. It's unspoken, but the praise is only given to people who work 12 hours a day, six days a week, the promotions are only given to, you know... [My company] is a place that depends on people being there when they are supposed to be. It's a manufacturing environment, if something goes wrong, you are THERE;

you are there until the problem is fixed. You know they will pay you for it, they will praise you for it, but if you are not there, you can bet you will be... Because your job is to be there, and a lot of times at [company] your job should come before your life. That seems to be the implication, although they will never say that.

Caren's comments reflect the implementation of performance-based rewards, as well as the company's ability to inculcate a norm of long hours where "your job should come before your life." The fact that she felt that she was "sneaking out" if she left at 5 p.m. suggests the effectiveness of these norms of workaholism in getting employees to regulate themselves. She left her company because she could no longer face the physical toll and opted to become a technical writer at another company where she could have a well-defined work schedule.

Shelley and Caren talked about the experience of burnout, but another respondent told me of a more extreme case where his manager pushed himself beyond his physical limits.

One particular case... happened early in my career, and once again, the pressure, I mean, we were dealing with market pressure; we were losing money; everyone understands losing money! So I had a manager who was the epitome of health, California native, took care of himself, exercised, did everything right, and was put under tremendous pressure to the point where he suffered a stroke and he was my age, 41-42 at the time, suffered a stroke, developed perforation of the intestine, was hospitalized for a long time, and so he was out of commission for months. And when he returned after this horrible thing, I remember having lunch with him and saying, I have to ask you this. How much did this pressure contribute to your health problems? And he said 100%.

As this case suggests, the rhythms of project time, connected to market pressures, can result in a displacement of biological time with disastrous results. The erratic and speeded-up nature of project cycles often results in the prolonged inability to care for the regular needs of one's body.

Interaction Time

Temporal rhythms of work interrupt not only biographical time, but also the interaction time needed to sustain social relationships. As conveyed by the initial quote of the paper, taken from Tracy Kidder's engaging work on the beginnings of the personal computing industry, being on too many "projects" may not leave you with many friends or family. Those I interviewed also

spoke of a lack of interaction time, both in terms of the time and space needed to develop and sustain friendships and romantic relationships and in terms of the time needed to maintain family relationships.

Ana, an Indian engineer in her 30s who moved to the Silicon Valley a few years ago, talked about the difficulties in developing relationships outside of professional ones.

It's pretty dead here. I moved here to the South Bay, and I'm pretty settled. So now I'm trying to build up my social life, but it's difficult...I have a lot of acquaintances here, since I moved here; so I did meet a lot of people. So it's at a point where people will call me and ask about jobs or technology or information, etc. But it's a professional thing I think... The biggest problem is that everyone works really hard.

Although professional socializing is ubiquitous in a region that values networking, there is little time or space in which people can develop and sustain relationships that are not related to work. Ana saw this as a function of the fact that "everyone works really hard," with little time to invest in sociable interaction. In this scenario, the impact of project time is self-reinforcing, because she said she might as well be working if the alternative is simply to "sit at home."

Another engineer, Julia, a Chinese woman in her 30s, talked about the region breeding people who are young and single.

That's what people talk about. We don't have a life. We don't have free time, you just go home and sleep, and on weekends you just recuperate, or you have to work. And a lot of people travel, sales or consulting, and that takes a lot out of you. It's nomadic, people traveling all the time, so there is no home base. It's very hard to maintain a relationship that way.

For both these women, the temporal structure of work continuously interrupted and constrained interaction time, and as Julia noted, it's difficult to "maintain a relationship that way." The problem of the interruption of interaction time is reflected in a larger sense by the demographics of the region. Santa Clara County, the main county of Silicon Valley, has the highest single male to single female ratio in the U.S., supplanting Alaska's long claim to fame (Cooper, 2000), which is reinforced by the large numbers of H-1b temporary workers who leave families back in their countries of origin. These demographics reflect how the region's contemporary community and

demographic profile have been shaped by an industry and its needs. In addition, the community that emerged has been built without public spaces where residents can interact; the actual material structure of the community discourages interaction time.

Aside from the development and maintenance of friendships and romantic relationships, respondents also noted that their work is supplanting time they had with their families. This was primarily noted by male engineers, especially those who opted to join start-up ventures, which tend to have much more consuming schedules. For example, Subash, a successful, multiple entrepreneur whose wife is a biochemist, talked about the impact that his career had on his family life. He talked about the high expectations for success in Silicon Valley and the pace at which you have to grow your company in order to be considered a success by investors. Subash thoughtfully concluded, “Clearly in my case at least, [my career] has affected the richness with the kids and the rest of the family. There are certainly less things that I do with my family.”

Similar to Subash’s story, Alex, another engineer who has worked for both an established company and now a start-up and whose wife stayed at home to care for their children, commented somewhat regretfully,

I’ve seen a significant difference since joining a start-up in terms of balance. I used to spend a lot [emphasis] of time with my kids before I started my own start-up, and what I noticed, just a month ago I think, is that, when I come home and try to pick up things with my kids from where we left off, that the thing would be gone in their minds already. Because you know in the past I would have daily contact with them. Now my contact has gone down to once a week or even sometimes not even that much. And the kids just got used to me not being around. And in a way it’s good because they’ve become independent and at this age it’s good for them. But four to five years from now, they’ll be gone, and I’ll probably remember that I had this opportunity to spend this time with them and I didn’t take it.

Alex and Subash both referred to the suspension of interaction time with family due to the erratic and exhaustive temporal rhythms of work, and they noted that the loss of regular interaction time with their kids was something that is irretrievable.

In a final example of the displacement of family time, Nell, an energetic engineer who is a successful product manager at a mid-sized desktop company and the mother of a six-year-old boy, talked about the impact of her husband’s decision to join a start-up (he is also an

engineer). She talked with good humor about what happened when her husband “disappeared into the murky world of Silicon Valley start-ups,” saying that they decided that she would cut her own hours to take on a greater share of childrearing. They agreed that, if her husband were to put his full energies into the start-up, he would need to have “free reign on his time,” with the ensuing “seven-day workweeks and nights when he didn’t get home ‘til 11.” Thus, they decided to “substitute less of [my husband] to more of me.”

[So when he went] two times full-time [laughs] to the start-up, one of the discussions we had was that, in order for him to have full capability and flexibility of schedule, and the position he was going into was vice president of engineering, he needed to be able to be on the spot, to stay on the spot, *without even a guilty conscience*. You know, so basically, I became a single mom, okay, which means I had to be available for anything.

She later exclaimed, “Thank God they made a camcorder because [my husband] is missing everything!” and added that she herself would not have made this choice because she would not have wanted to miss out on all the events of her son’s life.

Nell’s example reflects again how engineers, men in particular, have allowed the temporal structure of work to interrupt and constrain interaction time with their families. Having “free reign on his time” and “without even a guilty conscience,” no less, essentially means that project time holds priority over other temporal spheres.

The three cases of Alex, Subash, and Nell also suggest the gendered ways in which individuals negotiate multiple temporal spheres and manage the consuming nature of project time. Among those with children, all the men I spoke with negotiate their multiple temporal structures by allowing project time to usurp other temporal orders, while women engineers, at similar career levels to the men, all made attempts to synchronize their temporal worlds by making adjustments in several ways and being more “polychronic” in their negotiation of time (Hall, 1983).

Biographical Time

I have spoken thus far about how men and women engineers in Silicon Valley negotiate their multiple temporal spheres, and how biological time and interactional time become

displaced or interrupted because of the erratic and speeded up structure of project time. In this final section, I discuss the outcome of these displacements, which is the reconfiguration of individuals' perception of their life course, or biographical time.

Biographical time is inherently socially defined, because cultural norms dictate the "appropriate" times one should achieve status passages such as marriage, children, and career mobility (Lewis and Weigart, 1981). In Silicon Valley, the consuming nature of work appears to be reconfiguring biographical time as individuals begin to see events that have in the past been simultaneously negotiated, such as finding lifetime partners and pursuing a career, as instead being sequenced along the life course.

For those who live and work in Silicon Valley, there seem to be two interconnected types of changes in the conception of the life course. First, individuals seem to view their careers in a shortened time period. Instead of anticipating their retirement around age 65, they are far more likely to see themselves leaving their current occupation in their 40s, and either retiring or moving to an occupation that is less consuming. In this sense, they seem to be changing their conception of the temporal structure of their careers, condensing them into fewer years, but also agreeing to an intensification of the temporal structure of the career during this shortened span. This is reflected in respondents' comments that they knew they cannot "keep going like this forever," but they believed that the opportunities of the high-tech industry should be taken advantage of now. After all, "if you make it, you can go retire and do what you want!"

A corollary to this point is that individuals seem prepared and willing to delay their personal lives, in particular, finding romantic partners, getting married, and/or starting a family. Instead, they allow work to dominate their lives for this section of their life course. That is, they seem to have relinquished the idea of negotiating multiple temporal structures of activity (building careers, founding families) in favor of sequencing them along the life course. The activities in which they do engage are such that they fit into the sporadic time allowed when the project cycle finishes. For instance, one single woman told me,

Another trend is that people love to almost like encourage people to be more adventurous. We do a lot of things that people consider a novelty, like go to London for a weekend or climb Kilimanjaro. Things like that become normal,

things like that are supposed to be a great thing to do, and that doesn't encourage you to be stable right. It encourages you to be more compulsive.

She astutely noted that these activities are not ones that require stability, or a regular routine, but are “compulsive,” bursts of action that can be engaged in for a few intense days and can thus coincide with the erratic nature of project time.

In a sense, intense periods of activity, both in terms of project time and leisure time in Silicon Valley, are made possible by the age demographics of the region, with a concentration of people who are in their earlier working years. Specifically, the percentage of those who are between the ages of 25 and 34 is generally higher than in California overall, as is the percentage who do not have children. For example, 15.4% of California's population is between the ages of 25 and 34, but 21.9% of those in Santa Clara City are in this age range, 23.2% of those in Sunnyvale, and 24.7% of those in Mountain View. Residents in several cities of Silicon Valley are also less likely to have children. While 31.1% of people in California have children, only 24.2% of those in Santa Clara City, 24.3% of those in Sunnyvale, and 20.7% of those in Mountain View have children.⁴

These figures suggest that the pace of project time in Silicon Valley is facilitated by the age of those who work in the region and by their personal household circumstances. Indeed, both men and women who are either single or are married but do not have children seem to share similar visions of the life course—that is, work hard now, retire early, and then start your personal life. The notable exception to this chunked-up conception of the life course is people, and women, in particular, who have children or who are planning to have children in the near future. For men who have children, the conception of the life course is quite similar to those who are single or who are childless. They see themselves as striking it rich and being able to retire early and then spend time with the family. Women with children, however, have conceptions of a life course far more similar to traditional conceptions of an attempted balance between the temporal orders of paid work and of family. They are aware of alternative visions, but they make conscious choices against them. For instance, a woman engineer with children talked to me about the lure of joining a start-up and possibly striking it rich.

Basically, the company is first. I could see myself doing that easily if I didn't have children. But I am not willing to do that at this stage in my life. Would I do that a few years from now when my kids are in school? Maybe... I have a lot of [women] friends, and only two went to start-ups, and the reason why is they wanted to be able to spend time with family and balance your life... I also know some people who are acquaintances who go to start-ups because its very lucrative, it's a very big attraction, it's a lot of potential for you financially and it's always very big... I could see if I was single, no house and children to take care, okay. The decision would be very easy.

This comment suggests that women with children do see alternative life course paths, but make conscious decisions about which paths to pursue.

This pattern supports Maines and Hardesty's (1987) contention that men and women operate in different temporal orders, with gender influencing anticipations about participation in work, family, and education. These researchers argued that men anticipate a linear temporal path of education to work, while women prepare for a more flexible, contingent path where the demands of family can usurp the demands of work or education. For those with children in Silicon Valley, gender does appear to shape the temporal worlds in which men and women live, although perhaps what is more notable is that, among those who are childless, men's and women's life course visions in the region are more similar than dissimilar.

Conclusion

In this paper, I have examined "project time" as a central temporal pattern of work for high-tech engineers in Silicon Valley. Project time or, put differently, the temporal structure of work in Silicon Valley represents a shift away from the routinized rhythms of work characterized by the nine-to-five day, Monday-to-Friday week, to a more erratic, intensified, and speeded-up rhythm. I have shown how rhythms of project time are created and enforced through an emphasis on autonomy, exemplified by the "management by objective" strategy and a focus on proving one's worth through "performance." When a rigid temporal structure (of a set number of hours worked daily and weekly) is replaced by a project deadline, both the autonomy granted at work and the need to prove one's performance become the means by which workers are coerced into managing themselves, a situation that results in limitless time schedules. The advent of project times thus illustrates the inverse of Zerubavel's (1981) argument—in the absence of rigid

temporal patterns at work, employees lose their ability to delineate between when they should and should not be working, between time that is private and public. Any time is potentially project time.

Project time in Silicon Valley intimately links individuals' lives to the rhythms of global capitalism and, more specifically, the burgeoning high-tech market. The economic structure of Silicon Valley is specifically designed for quick adaptation to fluctuations in the market. Thus, project goals and deadlines are determined by these market considerations. For the high-tech industry, particularly in the last ten years, a "gold rush" scenario has ensued, such that a speedy time to market is seen as critical in the race for market niches and shares. This results in the shortening of project cycles of companies and the increasing pace of work faced by individuals.

The erratic, intensifying, and speeded-up nature of project time has resulted in a de-synchronization with other temporal spheres and rhythms, causing displacement, interruption, and reconfigurations of biological time, interaction time, and biographical time. The assumption that these temporal structures should be stratified, prioritizing the time structure of work over other time structures, is evident in my discussion of the impact of project time on biological time and interaction time. Both these temporal spheres require a routinized structure. The physical body needs regular care, as does the creation and maintenance of social relationships. The consuming and erratic nature of project time makes synchronization with temporal worlds that require regular rhythms difficult. As I have indicated, however, men and women negotiate their temporal worlds differently, with men being more likely to prioritize project time at the expense of other times and with women, particularly those with children, being more likely to attempt to negotiate these temporal worlds without prioritization.

For those who prioritize project time (i.e., those who are single and without children and men with or without children), de-synchronization leads to a re-conceptualization of the life course and a shift from the juggling of multiple temporal spheres to sequencing them along a life course. This re-conceptualization involves a shortened but intensified career span and a delay of events such as partnership, marriage, and family that would otherwise occur simultaneously. The conception of a shortened career span seems to be an acknowledgment that the nature of project time is not tenable in the long term and suggests that we should rethink the creation of

communities such as Silicon Valley, which revolve around and center on the development of an industry and its position in the global marketplace.

Notes

1. I did not choose, however, to speak with people in the newer internet dot.coms that predominated the start-up scene in the late 1990s. The economy had shown initial signs of a downturn when I began interviewing, and I subsequently chose to conduct in-depth interviews with only those who were in firms that were likely to be more sheltered from the most severe impact of an economic recession.
2. For Whyte (1956: 143-145), the problem of working overtime was particular to executives, who put in 50 or 60 hours.
3. The hi-tech industry must be understood in this context, both because a substantial portion of its labor, consumers and financial capital are global in nature and because its competition is increasingly coming from other countries such as Japan, Taiwan, Ireland, and India.
4. Numbers are tabulated from Census 2000. Tables: General Demographic Characteristics of California, Selected Counties and Cities.

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