# Maker Made: Creating a Silicon Place in Berlin, Germany

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## Dedication

I dedicate this dissertation to my father, Karl Henry Heins. Growing up in California in the 90s, my father introduced me to computers, the internet and to Silicon Valley. The seed from these early experiences has stayed with me and bloomed into my PhD work and this dissertation. My dad was especially supportive during my fieldwork and provided me sound advice and feedback about startups and business communities; his pride in me never wavered. Unfortunately, he died before I could finish my dissertation and earn my PhD. I wish he could see my work, and I miss him terribly. This dissertation is for you dad.

**Abstract**

Drawing on the inspiration that Silicon Valley provides, this dissertation is about the way Silicon Allee in Berlin Germany is made by workers, students, bureaucrats and even the larger population of Berlin. Silicon Allee is a community; it's a matrix of interconnected people, machines, ideas, places and words that are changing, connecting, disconnecting, and reconnecting; maintained through webpages, text messages, classrooms, university spaces, meetups, camps, tweets, coworking sites, coffee shop talk and offices. In this age of ultra-information and continuous connections that can span the globe in seconds, Berlin's Silicon Allee is also embedded in a larger culture of computing that both ignores and reinforces boundaries. I use this dissertation to explore the way that these boundaries are made, unmade and revised both locally, nationally and globally through discourses on and practices of work.

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# Chapter 1: Introduction

**"A number of other hubs have emerged around the world as variations of Silicon Valley: Silicon Glen, Silicon Fen, Silicon Ditch, Silicon Aires, Silicon Sauna, Silicon Souk, Silicon Coast, and even Silicon Plateau (Bangalore: or should we call it Silicon Traffic Jam!)"**

**(Rao 2014)**

Silicon Valley occupies an amorphous area of northern California surrounded by golden rolling hills, cold dark water ways and clogged highways leading north to San Francisco and east to the Central Valley. The area that was once dotted with fruit groves is now populated by famous technology companies like Apple, Facebook, Google and Oracle. Between these famous names are hundreds of other companies that provide support for the Silicon place, including start-ups, incubators, venture capitalists, and coworking sites. More than just a physical location, Silicon Valley is an ideological center of technology, (Barbrook and Cameron 1996; English-Lueck 2002; Finn 2001) where the culture of work has adopted a religious fervor (Borsook 2001; English-Lueck 2011; Freeman 2001; Sørensen 2008). Scholars of Silicon Valley describe workers as "techno-missionaries" who called the Valley "Mecca" (Darrah 2001; English-Lueck 2001). Along with this kind of religious discourse, it is unsurprising to find other areas of the world "converted" to the silicon ideology. In the first two decades of the twenty-first century, other holy sites have popped up all over the globe - from Austin to New York to Singapore and to, of course, Berlin.

Drawing on the inspiration that Silicon Valley provides, this dissertation is about the way Silicon Allee in Berlin, Germany, is made by workers, students, bureaucrats, and

even, the larger population of Berlin. Even more than Silicon Valley, Silicon Allee is amorphous, changing, shifting, popping up here and there and sometimes never there at all. It is a mouse clicking on a web-page, a group of people in Berlin, the sip of a latte and a late night presentation to technophiles, and an advertisement in an American magazine. Silicon Allee is also community; it's a matrix of interconnected people, machines, ideas, places and words that are changing, connecting, disconnecting, and reconnecting; maintained through webpages, text messages, classrooms, university spaces, meetups, camps, tweets, coworking sites, coffee shop talk and offices. In this age of ultra-information and continuous connections that can span the globe in seconds, Berlin's Silicon Allee is also embedded in a larger culture of computing that both ignores and reinforces boundaries. In the way that a lot of things are in this period of late modernity or liquid and reflexive modernity (Bauman 2000; Lee 2006; Beck, Bonss and Lau 2003), Silicon Allee is predictably paradoxical.

Starting in the late 2000s, people started to identify the computing hot spots and entrepreneurial driven places in Berlin under the name Silicon Allee. The name Silicon Allee was just starting to catch on during my fieldwork and is used less as a self-identifying term and more as a promotional tool. Silicon Allee, the name, is used as a way to position Berlin in regards to the larger global associations of the silicon; a way to quickly define Berlin from the outside and to align Berlin with other silicon sites like Silicon Roundabout (in London), Silicon Alley (in New York), Silicon Beach (in Southern California), Silicon Hills (in Austin) and of course, Silicon Valley (in Northern California).

In each of these place names, the term "silicon" is a metonymy which has grown past its original reference to the silicon used in integrated circuits. The original nickname Silicon Valley is derived from Shockley Semiconductor labs, Fairchild Semiconductor, and other hardware companies working in the southern San Francisco Bay area during the fifties and sixties (Castells and Hall 1994; Yost 2005). These early companies were significant contributors to early silicon device technology, with Fairchild being credited with offering the first commercially available silicon mesa transistor, the first planar transistor and the first commercially available integrated circuit (Orton 2009). Therefore, the name of Silicon Valley, which originally referenced the minerals used in electrical hardware, has since grown to reference a large range of companies that make both hardware and software for computers in Northern California. Instead of signifying the material silicon or the hardware on which it is used, silicon has become a symbol for computing in general. English-Lueck calls places saturated with high-tech industries "silicon places" but given that her field site is Silicon Valley, the original silicon place, she does not spend much time dwelling on those sites that adopt the "silicon" moniker (2002, 8). Drawing on this conception of "silicon places," I argue that silicon is a symbol, not merely of computing and high-technology, but of a computing culture. By naming a particular place "silicon" not only is the work and industry of that place being described, but the term references a specific type of work ideology, which is nurtured, idolized and only sometimes challenged. Additionally, participants in these silicon sites draw on global discourses about computing, which then get played out and experienced locally,

globally and virtually. However, in the silicon place, the distinction between these three scales often blurs, existing both simultaneously together and separately.

Just examining the term "Silicon Allee" which translates into "Silicon Alley" reveals the way that even the place name itself is simultaneously wide reaching and localizing. Like all other silicon places, the first word "silicon" is never translated as *Silizium*, which is the German word for silicon. Instead, this reference to "silicon" associates Silicon Allee with the global brotherhood of silicon places, which exist in a global, English-dominated sphere of computing. Likewise, "Allee" pulls the name from the global, situating it locally, both linguistically (in German) and physically (in the alley). In many ways, this push-pull between the words "Silicon" and "Allee" in the name is a useful metaphor for computing communities in Berlin, which find themselves both global and local; English and German; physical and virtual; there and here.

While anthropologists (English-Lueck 2002; Finn 2001; Darrah 2001; Freeman 2001) have done extensive work in Silicon Valley, this tiny subfield lacks the vocabulary to describe the shared ideologies that span the globe, bringing the "sunny California vibes" (Web Montag 2015) to computing communities worldwide. Castells and Hall come close to describing such a global network with the term "technopoles" which they describe as planned developments that include a variety of scientific and technological industries, educational facilities and other support organizations (1994,1-2), but their terminology describes a much broader concept than the one I am working on in this dissertation. Instead, I prefer to draw on Lueck-English's concept of "silicon places," which describe the collection of global sites that adopt the name "silicon." I adopt the

term “silicon” to describe the shared ideologies and culture that span the globe linking each of these silicon places.

Specifically, this dissertation focuses on the variety of ways that this silicon ideology gets interpreted, integrated, re-imagined and re-created in Silicon Allee; and ultimately how Silicon Allee is made. My research situates Silicon Allee within both real and symbolic networks that shape the culture of global computing and examines the way that various ideologies of work get shared internationally. In each chapter after this introduction, I delve into a specific idea that shapes the place and practices of workers in Berlin’s Silicon Allee. I explore the way these specific ideas link to global understandings of work and labor in the silicon place, and then, also uncover the way that people in Berlin shape these ideologies into something unique to Silicon Allee. These ideologies are neither accepted without question nor rejected totally; instead, the case study of Silicon Allee reveals the way that the global influences and local cultures get intertwined and produce a place that is both similar to Silicon Valley and uniquely German. By looking at the way communities of information technology workers, engineers and computer scientists made, advertised and experienced this “new” silicon place, I describe the way these actors engage local narratives of the city to both imitate and differentiate Silicon Allee from other Silicon locations, like the original Silicon Valley. I also draw on the way that other stakeholders, like government officials, politicians and business leaders, attempt to shape the economy of Berlin and ultimately also Silicon Allee. My dissertation shows how these silicon ideologies attempt to challenge and uproot traditional notions of work while still maintaining the capitalist

status quo. As I described earlier, these silicon sites, places at home in a period of liquid and late modernity, are predictably paradoxical. In other words, these sites show how people and places are able to embrace and embody various contradictions and balance differences that seem exclusive to each other.

I use this introduction to position my research within my own theoretical and methodological background, which significantly influences my ethnographic analysis of Silicon Allee. To begin with, I discuss the concept of ideology and why I choose to use it instead of other terms like ethos, world view or culture. After that I give a brief outline of the seven chapters in the dissertation, which then allows me to situate my theoretical inspirations and standpoints. While each of these seven chapters focus on a unique topic, they are inextricably linked with themes and ideas that continue throughout and reference one another. By focusing on the concept of place, which is woven throughout this dissertation, I position my work among theories regarding globalization, migration and mobilities. Moving from my theoretical and thematic standpoints, I describe my fieldwork in Berlin from 2010 to 2011 through my field sites and methodology. Much of this description, from the theoretical underpinnings to the methodology, is also discussed in further detail throughout the dissertation itself. So this introduction is indeed just a starting point.

## II. Ideologies of the Silicon (Place)

Silicon Valley stands as the mythic and hegemonic capital of global computing. Silicon Valley is so prominent in the discourses and ideologies of Silicon Allee. Additionally, it is impossible to do an analysis of the Allee without also examining the Valley. Connections and overlaps between the Allee and the Valley are demonstrated not only through similarities in names and cultures, but also through people, events and virtual networks. Yet, more than merely connections, much of the work of this dissertation contends that there are various communities around the world that share a similar ideology, which I call "silicon ideology." In his work on Silicon Valley, Rattle notes "…those who develop and create ICTs have become increasingly specialized, markedly detached from fully comprehending the workings and machinations of the complex networks, ecosystems and social structures they intend to serve, employ, and manipulate" (2010, 6). It is almost impossible for most workers to comprehend the various ways their own work, let alone the vast majority of ICT work, ripples out in the world. This complexity reveals the reason why it is crucial not to just make these silicon ideologies visible but to understand how people adopt them and re-create them in their own work.

From Destutt de Tracy to Marx, the concept of ideology is one that shifts meanings and purpose depending on who is using it (Kenndy 1979). Historically, many theorists were so committed to the concept of ideology that Geertz notes in *The Interpretation of Cultures*, "It is one of the minor ironies of modern intellectual history that the term 'ideology' has itself become thoroughly ideologized" (1973, 193). The popularity of the concept of "ideology" in academia peaked during the mid-to-late twentieth century, coinciding with the Cold War, which was in many ways a war of

ideologies. Still, having passed the era of heightened ideology usage (especially with regards to Marx), I find that the concept of ideology useful for understanding the way various people in various parts of the world draw on the same set of ideas and ideals to create silicon places.

When I use the term "ideology," I refer to a specific definition of the word. While there are many, many definitions, I find Lowenstein's definition a good starting point for my work. He defines ideology as " a consistent and integrated pattern of thoughts and beliefs explaining man's attitude towards life and his existence in society, and advocating a conduct and action patterns responsive to and commensurate with such thoughts and beliefs" (1952, 52). Lowenstein's definition emphasizes the linkage between thought and action. In other words, ideology is not just the thoughts and beliefs of a group of people, but also, the way these thoughts and beliefs get expressed through action. A similar concept of ideology is further extrapolated on by Adorno when he writes:

> Ideologies have an existence independent of any single individual; and those which exist at a particular time are results both of historical processes and of contemporary social events. These ideologies have for different individuals, different degrees of appeal, a matter that depends upon the individuals needs and the degree to which these needs are being satisfied or frustrated. (1950, 2)

Individuals adopt, incorporate, replicate, re-imagine and contradict ideological thoughts differently from others and even within themselves from place to place. While I speak of the silicon ideology as being overarching and global, it is also diverse and unique to each individual. As I show several times in various chapters, even individuals themselves often know the way various ideals contradict reality. Drawing on Althusser's concept of Ideological State Apparatus(es), Allison's (1991) work further addresses the way that

ideology gets incorporated into the daily living structures of school, work and government in capitalist societies. The constitutive nature of the individual and the larger socio-economic structures means that this kind of ideology is keenly powerful because specific beliefs, ideas and actions are normalized and are used to create a foundation for individual and group identities. Allison's observations about ideological structures are key, because they reveal, not just the way ideology is woven into the daily lives of people in capitalist countries, but, as is the case of mothers making Obentōs, pleasure and creativity are key elements in encouraging the personal adoption and maintenance of larger ideological formulations. Additionally, varying experiences of freedom and constraint creates a push/pull experience where creativity is encouraged, valued and practiced, but only within specific parameters.

The appeal of the silicon ideology is that it helps further a kind of ideal vision of the future for both the society and individual. In Geertz's discussion of ideology as a cultural system, he notes that ideology, "aims to order the whole of social and culture life in the image of its ideals, futuristic in that it works towards a utopian culmination of history in which such an ordering will be realized" (1973, 198). Indeed, as the reader will see, the idea of utopia (and dystopia) is often brought up again and again in Silicon Allee and Silicon Valley. From promises of riches to world peace, the computing industry is imagined (alongside the market economy and creative entrepreneur) as the savior of mankind (Sørensen 2008). Religious language is quite common in silicon places. For example, at the 2011 Next11-DataLove in Berlin, Sean Seton-Roger referred to Steve Jobs off handedly as "God himself" (Jozefak, 2011). The religious language is also

replicated with regards to the NEXT conference's official about page, where it suggests that its goal is to "spread the gospel about the digital revolution." [1] As I outlined in the beginning of this introduction, religious language is also used by scholars to describe Silicon Valley and creative entrepreneurship (English-Lueck 2001; Freeman 2001; Darrah 2001). Of all the actions in which one can engage, it is the act of creation that is most prized in silicon sites. By its very nature, the concept of creation draws on a long tradition of religious history and folklore, ultimately including the beginning of the universe itself. As Sørensen (2008) suggests, the entrepreneur is a mix between the Titan Prometheus, who brings civilization to the world, and Faust, who is willing to sacrifice anything for knowledge. This mixture is expressed as the form of idealization of the entrepreneur, who becomes a savior for the world. The language of religion that is used by both silicon adherents and scholars alike reinforces the idea of ideology afoot.

With a term like ideology, which has such a colorful history, I feel it is also important to note the ways that I am *not* using the term. As Sainbury (1986) observes, there are many ways in which the term ideology is used pejoratively. One way is the insistence (from scholars) on enforced, black and white, dualities. While the term ideology does bring to mind some level of ridged thinking and adherence to dualistic thinking, I use it in a more flexible way. I believe and demonstrate that in fact some practitioners are aware of contradictions and sometimes openly challenge or critique the very ideologies they espouse. While the ideal of an ideology might be rigid thinking with well-established lines, in practice humans are much messier. In this dissertation, I bring up dualism(s) not to enforce ideology, but instead, to highlight them as categories that

[1] http://nextconf.eu/about-next/

people *do* use in life. A study of the dualisms in this dissertation also reveals the way that the categories are messy and sometimes evolve beyond their differences, reorganize power structures and become chimeric realities (Haraway 1985).

Before deciding to use the word "ideology" to describe the collection of ideas and action in Silicon Allee, I explored other terms, all of which fell short in their ability to do the work I needed them to do. I first suggested, in an earlier draft, that Berlin's technophiles shared an "ethos." This term is difficult to unpack, because, as Cort's suggests, the term is "blurred by confusion of two Greek terms similar in English transliterated form…but with different immediate connotations" (1968, 201). In one form, the term ethos translates into "custom" or "habit" while the other form of ethos translates into "character" and is most commonly associated with Aristotle's rhetorical triad along with pathos and logos. In the anthropological literature, there seems to be more use of the first concept, while in all other scholarly literature the second translation seems to be most common. In the anthropological tradition, Geertz suggests that "ethos" is most often used in terms of, "the moral (and aesthetic) aspects of a given culture, the evaluative elements... a people's ethos is the tone, character and quality of their life, its moral and aesthetic style and mood; it is the underlying attitude towards themselves and their world that life reflects" (1957, 421). In the definitions I found, the term ethos is useful, because it draws on the beliefs and character of a community, while the connection between believe and action is understated in the term ethos. For this reason, I feel it lacks the immediacy and passion that is associated with ideology and that I see in my research.

Equally, the term weltanschauung could also be used to describe the shared ideals of Silicon Allee, but I found in most cases weltanschauung is too broad to be useful. In his same essay on ethos, Geertz also defines worldview as the, "picture of the way things, in sheer actuality are, their concept of nature, of self, of society. It contains their most comprehensive ideas of order" (*ibid*.). Geertz sees worldview and ethos as working together to reaffirm and establish people's realities. Noting the intricacies of the German word *Weltanschauung*, Freud described it as, "an intellectual construction which solves all the problems of our existence uniformly on the basis of one overriding hypothesis, which accordingly, leaves no question unanswered and in which everything that interests us finds its fixed place." (1980 [1933], 196). Both Geertz's and Freud's descriptions note the way that worldview is embedded in the mind and the way that a person's weltanschauung shapes their experiences and explanations of reality. While worldview clearly affects actions, I do not feel that this term narrates the shared experiences in Silicon Allee and other Silicon places. While it is true that many people in these various silicon places probably do share similar worldviews, the term I need for this dissertation is more political and goal oriented. Additionally, like ethos the concept of weltanschauung is also too broad for my purposes and, perhaps also, too psychologically based.

A final term that I considered is one of the key concept of anthropology - "culture." Clearly, the people of Silicon Allee have a shared culture; and one could argue that this shared culture is also found in other silicon places. With conviction, I do believe that Silicon Allee can be understood as a sub-culture and a type of work culture; because

of this, it finds a comfortable home in anthropology. However, like weltanschauung, culture is too broad for my work. Therefore, while I do discuss "silicon culture" (to refer to the shared cultural characteristics in silicon places), my focus of this dissertation is on their shared ideology. Unlike culture, ideology provides an idea of movement forward, a utopian ideal that one is striving to achieve. This religious-esque fervor is better described by ideology than culture. But as with many things in anthropology, both the ideologies and cultures of silicon places are clearly mutually constitutive.

In the end, the term *ideology* is not a perfect way to describe the shared ideas which push people into action in Silicon places, but in terms of an intellectual tradition, I find it the most useful. After all, none of these terminologies are natural categories, but instead, ones that are made by scholars to describe abstract but specific social phenomena. Drawing on Gerring's (1997) framework for understanding various definitions of ideology, I want to describe briefly some of the basic foundations of the silicon ideology prior to the discussion in my next section on structuring my dissertation. The silicon ideology exists in thought, behavior and language and while it extends to the view of the world at large and the ideal of the future, it primarily focuses on the commercialization of technology through invention, innovation and ideas. Born from the silicon ideology it is couched in the larger "isms" of capitalism and modernism, which focus on the role of the individual in creating his or her own wealth and the role of business in creating a better society. In this way, most of the silicon ideology is compatible, even praised, within many European and Anglo-American societies (and often beyond). Within this dissertation, I will unpack various aspects of the silicon

ideology examining the way that it gets enacted through daily behaviors, but also, through larger governmental and corporate forces.

## III. Structuring This Dissertation

On one level this dissertation is about a specific place - Berlin's Silicon Allee, at a specific time - during the beginning of the second decade of the twenty-first century. However, on another level, the dissertation is about a much larger movement; a movement that is fueled by the ideas of entrepreneurs, the money of business leaders, and the legal and political frameworks of national and local governments from around the world who are connecting silicon ideas to various silicon places, but most particularly Silicon Valley. As I show again and again, the connections between these silicon places runs much deeper than the mere names. In each chapter, I tackle one way that people in Silicon Allee and Berlin adopt, utilize and express aspects of a silicon ideology. From city policies to individual work ethics, Silicon Allee is being made in the shadow of Silicon Valley; but at the same time, especially for workers, Silicon Allee provides an opportunity to make something individually unique. As a site that used to be the ideological border between east and west, communism and capitalism, Silicon Allee is a place that finds itself situated between and around local work, national politics, global networks and virtual realities.

In the last section, I argued for the term ideology to describe the shared mission of people in various silicon sites. The argument that various technologically rich sites

around the world share a similar make-up is not new (Castells and Hall, 1994). Indeed, even those who study Silicon Valley have hinted at the shared ideology of workers in Northern California and abroad (English-Lueck 2011; Roper and Grimes 2005). Drawing on this work and my own, I see the silicon ideology in its overarching form to be something that privileges individual capitalistic enterprise, while also embracing a culture of sharing and collaboration. This is an ideology that is tied intimately to both individual and regional economic successes; successes that are realized through the buying and selling of ideas, the robustness of a local economy and the blurring of traditional work boundaries. The silicon ideology is future looking, focused on a progressive future, which is supposed to undermine the status quo while also maintaining it. The goal of this venture is to reinvent work and life through technical disruptions and new ideas; to eventually create a form of utopia through the practice of market capitalism. Individual success is not only measured in money, but in ones work ethic, knowledge and imagination. Silicon Valley is the prototype of the silicon ideology in practice. With its history, its successes and its oddities, Silicon Valley offers a model of regional development that inspires individuals and governments. However, while Silicon Valley is the capital of global computing, the silicon ideology also emphasizes contradictory ways that place becomes both more and less important to workers by opening up alternative spaces for them to work. Situated in Berlin and based on these various ideas, I explore discourses about place, work and technology in the eight thematic chapters of this dissertation. The eight chapters are divided into three general sub-themes. The first two chapters (Chapters 2 and 3) explore the role of the city in establishing an urban substrate

for Silicon Allee. In turn, Chapters 4, 5, and 6 focus on the nature of work (and play) while my final two thematic chapter (Chapters 7 and 8) cover the topic of human movements, particularly immigration and diversity. Still, all in all, despite the individual topics of each chapter, they all depend on each other, and I frequently refer to other chapters in my discussion and analysis. At the end of my dissertation, the Epilogue, I include a brief update on changes in Silicon Allee and questions for continuing research.

The first thematic chapter of my dissertation, Chapter 2, focuses on the cityscape as a substrate for the silicon place; in other words, how Silicon Allee arises in conjunction with the creative city. While situating Silicon Allee locally within the cityscape, this chapter also shows what is at stake in the creation of the creative city and silicon spaces. To achieve these goals, I begin by examining the ways specific urban qualities, namely those of the creative city, are privileged in the creation of a silicon site. In the literature on the creative city, an idea popularized by Florida, Silicon Valley is often used as the illustration of a successful creative city. After the *Wende,*[2] Berlin's government and business leaders were concerned about the lagging economic growth and image of the city. In media campaigns, which mirror the qualities of the creative city, Berlin Partner has worked arduously to shape Berlin's image. To unpack the ways that Berlin adopts the creative city image, I analyze the media campaign created by Berlin Partner, called "be berlin." This campaign, which was active during my fieldwork, was immensely successful and coincided with the startup of Silicon Allee. The creative city narrative is also embodied within the story of Silicon Allee. In the metaphor of the eco-

[2] Translates as "turn" and references the unification of East and West Germany.

system,[3] Berlin provides the fertile ground which is key for nurturing the community and for attracting potential talent from around Germany and abroad. Stakeholders in Berlin directly influence the narrative of creativity through targeted media and marketing campaigns. Not only does the process of marketing Berlin as a creative city correlate with the making of Silicon Allee, but workers themselves point to many of the characteristics of the "creative city" as an important factor for the creation and growth of the young computing community. While the primary goal of Berlin Partner was to encourage economic growth, growth did not come without costs to Berlin and to Silicon Allee. Through my analysis of the creative city narrative, I assess some of the more popular qualities of the creative city as being superficial and note that, while attracting workers, many of the desired qualities of Berlin's Silicon Allee are endangered by its own success. Like the irony found in an O. Henry story, many of the specific characteristics that attract workers to Silicon Allee are being destroyed by the very success of their business endeavors.

Following on the theme of the creative city, chapter three examines the way the past gets utilized to shape current discourses of wissenschaft in Berlin and Silicon Allee. Continuing on the idea from Chapter 2 that the creative city of the future needs to be rich in both technological and scientific resources, I show that stakeholders use historical narratives in an attempt to legitimize Berlin's standing as a place for wissenschaft, and more particularly, for computing. While using the past to legitimize the present and future is nothing new, few cities have as complicated and political history as Berlin. I

[3] Much of the terminology of Silicon Valley references environmental biology which eco-systems, seed funds and other biologically based metaphors

begin the chapter focusing on Berlin's celebration of various scientific "birthdays" during the yearlong *Hauptstadt für die Wissenschaft* (Capital for Wissenschaft) celebration. The study of wissenschaft in Berlin is realized through various dichotomies and contradictions of time and space. After focusing on the more general idea of Berlin as a city of wissenschaft, the chapter narrows into the ways that stakeholders present Berlin as a site for computing. Despite being a famous large city, Berlin has a weak economy and also lacks a recent history of computing upon which to grow. The post-war political geography of Germany helped shape the way that computer and technology companies took root, which left Berlin out of most of the post-war economic boom. However, despite the lack of a computing history, Berlin's stakeholders often present it as the home of the first computer. This "first" computer, created by Konrad Zuse, shares a similar narrative to Berlin during the Second World War along with all the contradictions. Mimicking folkloric narratives, the story of Zuse and of Berlin during the Second World War both provide a way to situate the city outside the traditional history of the Third Reich and the Cold War. Finally, the chapter briefly notes that, despite the intense focus on Berlin's past, Silicon Allee might have taken root particularly because Berlin did not have a robust computing past and a market saturated with already dominate ICT firms.

Chapter 4 narrows its focus from the larger Berlin cityscape to Silicon Allee and explores the way Silicon Allee gets made through Web 2.0. Web 2.0 illustrates the way utopian ideals of community, participation and democracy can be transferred off the web into physical spaces and offline social practices; however, while transgressive and "new" in many ways, these ideals are still required to function within an economic framework,

which, in the end usually privileges the needs of companies over workers through new methods of exploitation. Web 2.0, which I will describe in more detail in the chapter, is often described as the dynamic web or the interactive web. Although contested, Web 2.0 marks the change from a static to a dynamic web which allowed greater user interaction with websites and other users, thereby encouraging participation, creation and interaction over "passive" consumption. I use the example of coworking to illustrate the way Web 2.0 gets translated into physical space. Cubicles, which are symbolic of the isolation of modern work, are abandoned in favor for open areas that are supposed to invite interaction and cross-pollination of ideas. In some cases, the office itself is abandoned all together for more "social" sites like co-working places and coffee shops. After discussing coworking, I focus on BarCamps/camps (or un-conferences) and show how Web 2.0 helps shape both the discourse and behaviors of people at these events. Coworking and camps are both sites of increased boundary awareness and places where people actively challenge traditional dualities like work/leisure, speaker/listener and public/private. These kind of boundary crossings are made more and more visible in this age of liquid/reflexive modernity, and Chapter 4 uses Silicon Allee as an opportunity to uncover some of these various crossings, blurrings and mobilities to show how people engage with them. The embrace of Web 2.0 in silicon locales allows for various hierarchies and boundaries to be broken down or reworked, while still working within a capitalist framework. Ultimately, while these new ways of working and playing are enticing, I highlight the way Web 2.0 is required to still conform to the market economy.

Continuing on the theme of making spaces, Chapter 5 focuses on the role of the virtual in making, understanding, and experiencing space in Silicon Allee. Before I can attempt to unravel the way the virtual impacts people's perceptions of place, I first need to define and explain the way this dissertation approaches the concept of the virtual. As things that are both new and rapidly changing, the internet/web, and similar technologies, provide a new challenge to scholars. Based on historic and linguistic traditions, I choose to approach the virtual from the concept of place. Because the virtual does not fit into the traditional paradigm of space and place, I draw on Foucault's ([1967]1986) concept of heterotopia as a way to understand the virtual as a type of alternative space. The virtual, which I define more fully in the chapter, is one of the most important aspects of silicon sites and Silicon Allee, because workers are not only engaged in using these new information and communication technologies, but often, they are responsible for making much of it. Because of this, Silicon Allee is a site where people are always on-line and always virtually engaging others. One way the virtual is used in Silicon Allee is to work remotely. By freeing the body from the physical constraints of location, many workers can choose where they want to work, which sometimes means that people are engaged in work with people in different cities and countries. I also revisit Chapter 4's concept of Web 2.0 and examine how the virtual becomes a social object. Using examples from Twitter and Web Montag, I show that despite disconnection between the worker and the work site, the local remains an important aspect for people in Silicon Allee. As something which has the ability to span the globe, people frequently use these new technologies as tools to create, engage and maintain social ties locally.

The sixth chapter focuses on the way the discourse of individual action and "doing" are practiced and explained through startups and creative entrepreneurship. Through this discourse of action, startups are idealized in silicon places and provide a shared global cultural link between various silicon sites, and most particularly, Silicon Valley. For start-up entrepreneurs the imagined Silicon Valley was often described, unwittingly, in terms of the California gold rush, and these imaginings draw on the adventure ideology to explain individual action through the acceptance of risk and chance. The ideology of the gold rush – that anyone can strike it rich – is represented in the discourse of creative entrepreneurship, but as I show in Chapter 6, this narrative is often countered by the very same people who espouse it. Not only is the reality of failure constant (and even celebrated), the idea that one individual, or even two, has complete control over a business idea is often countered by real experiences that founders have in trying to establish their businesses, especially in terms of fund-raising through venture capitalists. Start-ups were closely associated with various discourses of "doing," where the concept of doing, making, creating, starting are privileged over more passive pursuits, like education. The history and pleasure of making and doing shaped and continues to shape the computer industry today. Thus, the joy of doing rewards the assumption of risk and is mirrored in the creation of companies that depend on the prosumer (producer/consumer), who often unknowingly labors for pleasure. Finally, as a young startup community, Silicon Allee, like the startups themselves, has to find a way to distinguish itself from Silicon Valley or become a despised clone. The idea of clones and copycats is a form of doing that is considered to be poor behavior and not representative

of the genius entrepreneur that silicon sites celebrate. Ultimately, this leaves places like Silicon Allee in a paradoxical position; people abroad both want to emulate and celebrate the global silicon culture exemplified by Silicon Valley but need to disrupt and overcome it in order become unique.

In Chapter 7, I evaluate the question of diversity and mobility with regards to workers in silicon sites. Chapter 7 explores the role of immigration and human mobilities in relationship to the nation-state; furthermore, although the nation-state is a formative feature of immigration, it does not shape all experiences and privileges of highly qualified mobility. Those who immigrate to Berlin for computing jobs follow a long tradition of migrant IT workers who work in a field that adopts and celebrates various forms of human movement such as guest-workers, off-shoring/outsourcing and virtual migration. While many of the members of Silicon Allee embrace a post-national identity in which they share a culture of multi-culture, mobility and work, the nation-state is a real and powerful framework that dictates who can travel when and for what reasons. In Germany, the need for MINT/STEM workers and the desire to remain competitive, both economically and technologically, has pushed German politicians to write policies which encourage highly qualified workers to immigrate to Germany. Most immigrants moving to Germany (and specifically Berlin) for tech jobs are highly skilled or highly educated, and therefore, experience varying levels of privilege. Some ways that this privilege is maintained is through the laws around highly skilled immigration; those immigrants from favored countries experience an easier time gaining visas, work permits and other immigration necessities than immigrants from other parts of the world. Historical racism

and xenophobia, along with regrets about guest-workers, also colors all debates about immigration in Germany. Nevertheless, the privileged work migrants of Silicon Allee still experience various forms of discrimination depending on their religion, race/ethnicity, and country of origin. Although the nation-state is a key framework for understanding immigration, personal nationalities were under-emphasized in Silicon Allee. Instead, people embraced a community identity that valued mobility, diversity, and above all, work. Over all, although national borders played an important role shaping the population of Silicon Allee, those living there imagined themselves and their community as part of a larger global project of technological work and young mobility.

My final topic chapter focuses on the topic of language with regards to Silicon Allee. Drawing on the previous chapter's discussions of immigration, I argue that Silicon Allee is a multilingual site which uses both the German and English language to varying degrees, but the liberal use of English means that foreigners are less likely to integrate according to the German government's standards of integration (despite the government's expectation that they are easier to integrate). The German government's integration strategies are based on the normalization of monolingualism in relationship to nationality. Based on this idea, language skills, specifically in German, becomes a key feature in the process of foreigners integrating into German society. However, as privileged immigrants, many foreign workers in Silicon Allee are often able to forgo German integration courses, and consequently, do not learn German. This reality contradicts the idea that highly qualified immigrants are easier to integrate, and thus, need fewer governmental supports and guidelines. While based on the German government's

standard of integration, many foreigners in Berlin's tech communities are not integrated into the larger German country. I thus suggest that this does not necessarily mean that they are un-integrated. Instead, Silicon Allee provides an opportunity for people to practice multilingualism which is not only part of the larger EU project for languages, but also, indicative of the fact that many people working in Berlin's computing community are more invested in inter/transnational and global identities while English is used as the standard of communication. In sites with more international connections and more foreigners, the language practices are more likely to be multilingual. The function of English as one of the Silicon Allee languages is further encouraged by the fact that both the language of academia and the language of global computing are more and more adopting English. Still, the substantial role of English in Berlin's tech scene is contested by some local workers, because, while seen as a global language, some of my informants argued that it is an invasive language and forces Germans to speak a foreign tongue at home.

## IV. Theoretical Inspirations and Foundations

Ultimately, this dissertation focuses on the question of "what does it mean to make a silicon place?" Unlike cities and towns, which have fairly established boundaries and are regulated by some form of governance, silicon places emerge as a type of cyborg-place in which workers, businesses and governments work to create a successful substrate where ideas, innovation and start-ups will hopefully grow. There are many places in the

world that want to be seen as the "Silicon Valley" in whichever country they are located; in many cases there are not just one but a multitude of places vying for this comparison. Like Silicon Valley, whose boundaries are shifting and indefinite, often growing and shrinking depending on the political and economic perspective, Silicon Allee is a place that definitely exists in a specific place (Berlin) without specificity. Because of this, the scholarship on place is key to informing my research and analysis on Silicon Allee.

The concept of place and place-making has long been central to the field of anthropology. Perhaps even more than any other discipline, anthropologists ground their research on being "there" and going "into the field." As participant observers in a particular place, cultural anthropologists typically divide themselves geographically. Since the inception of the field to more recent scholarship, place is the concept that anchors research by indicating a relationship between the who and the where. As the field of anthropology has matured, the connection between "who" and "where" has become, like many things in this period of late modernity, further analyzed, critiqued and re-imagined. In the eighties and nineties, theorists like Basso (1996), Augé (1995), and Foucault (1991) brought fourth renewed ideas as to the relationship between people and place; noting the way that people make places and these places in turn make people. A myriad of late twentieth century scholars reinvigorated the discussion of place in anthropology, and their work theorized the way that ideology and place become intertwined from the non-place to the prison. While not initially intended, the concept of place permeates this dissertation and has, throughout my writing, become one of the central threads that permeates my text.

*Producing Place*

I use the concept of place to understand the relationship that people have with the space, both "real" and "virtual," that they inhabit. Like many topics in the social sciences, the terms place and space are often written about with varying definitions. Gieryn (2000) defines the word "place" as something that includes the following three features: a geographic location, a material form and some kind of investment with meaning and value. Gieryn's view provides a basic starting definition, but I believe that metaphorical and imaginative associations with place can be used to complicate these definitions a little further. Philosopher Casey's definition of place does this by suggesting that places are not merely filled spaces, but instead place, "is an already plenary presence permeated with culturally constituted institutions and practices" (1996, 46) and that "a place is something for which we continually have to discover and invent new forms of understanding" (26). Through this formulation, place is something that is made again and again; it is something that is mutually constitutive; and it is something that does not necessarily need a physical location. Indeed, in my research I have seen the way that place gets made through the various activities of people, the presence of things, and the practices of institutions. Because of this, I am less concerned with what is "real" and instead what people imagine to be "real." In general, my dissertation is less concerned with the fixed idea of a concrete location and more interested in the way people describe it, experience it, and shape it. Through my research, I seek to explore the way that social construction of place and the social production of place are intertwined. This kind of

approach to place and space is not new to anthropology, but has become increasing necessarily due to the nature of life in the period of late modernity, which has provided people with more opportunities for global movements, contingent employment and on-line sociability.

*Mobilities and Movements*

In this dissertation, I fluctuate between macro/micro and formal/casual views of place. Although the concepts of global, local and even glocal are almost academic cliché, they do illustrate the ways of life for people working in Silicon Allee. The concept of glocal or glocalisms attempts to undo the global/local dichotomy by illustrating the way that people participate and experience both local and global simultaneously. Ong notes that in the traditional global-local dichotomy, the "global is macro-political economic and the local is situated, culturally creative, and resistant" (1999, 4). This model, Ong concludes, fails to capture various expressions of power relationships and so she prefers to use words that begin with "trans" such as "transnationality" to illustrate changing nature of things and movements. Despite the usefulness of transnationality, I find this concept puts too much emphasis on the nation. Likewise, even though I use the term international, it too references the nation as a normalized framing device. While the nation-state clearly plays an important role in the field of immigration, which I describe in the Chapters 7 and 8, such movements, connections and networks are not always done in terms of national boundaries. Because of that and despite their overuse, I prefer the concepts of local, global and glocal. However, taking Ong's observations to heart, I use

global in terms of large economic and political descriptions and within the smaller realm of personal experience. In the words of Meyrowitz, in today's world it is not unimaginable that, "consciousness of both self and place demands at least some sort of minimally external perspective. For most citizens of the globe, however, external perspectives are no longer minimal. Today's consciousness of self and place is unusual because of the ways in which the evolutions in communication and travels have placed an interconnected global matrix over local experience" (2005, 23). In Silicon Allee, where people have personal, business and virtual connections to a larger global sphere, the individual is much more likely to see themselves in terms of the global. Part of this, I believe, is facilitated by the silicon ideology, which positions Silicon Allee as part of a global computing movement. In this way, the concepts of global and local are presented not as two items in a dichotomy, but instead are synthesized together.

The multiplicity and movement of modern life is best described through the concept of mobilities, which place movements at the center of analysis. With various forms of fast, cheap transportation as well as the web at people's finger tips, human relationships with place are changing. To address this "new" experience of place, scholars have attempted to rework understandings of the spatial sphere through the paradigms of mobility/mobilities, flexibility, and liquidity (Appadurai 1996; Ong 1999; Bauman 2000; Sheller and Urry 2006). Ward aptly notes the changing understanding of place within anthropology focuses on "place in a world in flux - a world of displacement and reattachment - place has become formulated in terms of process and elasticity" (2003, 92). In my fieldwork, this approach to place finds a theoretical home. Silicon

Allee is a place where people are coming and going, both virtually and physically; people are traveling, meeting, talking over spaces large and small. The mobilities paradigm allows the scholar to see human movements as the norm (even in the past), instead of a (imagined) static bounded cultural site. But Shelly and Urry (2006) note that even without the various movements of people, information and things, scholars can make senses of various connections through organized nodes. Within the silicon place, these nodes become key sites for work, networking and play; one could also observe that various silicon sites themselves can be globally understood as nodes in a matrix of silicon places. The focus on mobilities is not a replacement for place-making, but instead, as an additional way of place-making.

Along with mobilities and globalities, scholars have also turned to the concept of assemblages to conceptualize the emergent qualities of human sociality. The concept of assemblages itself implies "heterogeneous, contingent, unstable, partial, and situated" (Collier and Ong 2005, 12). By comparing it to a rhizome, Deleuze and Guattari write, "an assemblage is precisely this increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connections" (1987, 8). The concept of assemblages draws on the concept of process situating various aspects and similar to a network in an unfolding act of becoming. It is also something that allows for crossing, chimaeras and entanglements with people, ideas, the environment and the world at large. (Tsing 2015; Bennett 2001). In McFarlanes work on assemblages, he suggests that the analytic framework of assemblages can do the work that concepts like "network" cannot, because it illustrates more than just connections between sites and people thereby

focusing on the emergent qualities of social space through "doing, performance and events" (2009, 562). The concept of nodes, as in descriptions of networks, are deepened in the use of assemblages. They are situated historically and socially in a process by which they are continuously made and produced in relation to other sites. As something that is continually situated, made, changing, becoming, and shifting its relationship both internally and externally, the Allee could be considered part of a "silicon" assemblage. McFarlane suggests, the notion of power is also re-imagined through the assemblage writing that the "assemblage connotes emergence rather than resultant formation. Part of the appeal of assemblage, it would seem, lies in its reading of power as multiple co-existences - assemblages connotes not a central governing power, nor a power distributed equally, but power as a plurality in transformation" (ibid). As I show in this dissertation, Silicon Allee is not something that is made top down or bottom up, it is something that is made in a multiplicity of ways through a variety of actions, some of them governmental, some of them personal, but all of them situated. In this period of late capitalism, the concept of assemblage provides the flexibility and ability to address, "the modernist problem of the heterogeneous within the ephemeral, while preserving some concept of the structural so embedded in the enterprise of social science research" (Marcus and Saka 2006, 102). When stretched too far, the concept of assemblage can seem to be both nothing and everything, but within my work, I see it as a key idea for informing my understanding Silicon Allee. Although I do not spend a lot of time dwelling on or pointing out assemblages in my larger work, it shapes my understandings of the various

processes  at work on many spatial levels which overlap and engage in the processes of changing, making and shaping.

*Technologies Of and In Place*

In many ethnographies that engage the concepts of mobilities and assemblages, the saturation of new media and technologies are mentioned but often exist in the background.  In this dissertation, these information and communication technologies cannot stay in the background. While often pinned under the concept of mobilities, the interplay between place and technology deserves its own, although perhaps shared, inquiry rather than being a side note. Nye's observation about Americans could probably be applied to many peoples of the world: "Machines are social constructions which Americans long have built into both their narratives and their sense of place….Americans have appropriated and developed machines in their own way, and woven them into landscapes, social relations and a sense of history" (1997, 1). For me in particular with respect to Germans and technology, the workers the role of technology becomes even more central in the process of place-making. Silicon places, like Silicon Valley and Silicon Allee, are places that thrive on new (and old) technologies. As both producers and users of these new technologies, the workers in these areas are some of the most active and invested people in these new technologies. By using these new technologies, people change the way that they operate within the places they live and work and also change the way they interact with one another (Berg 1994). Because of these changes, the silicon

places provide both a challenge and an interesting puzzle to the scholar in the exploration of place and place-making.

Not only do technologies, like the internet and smart phone, provide humans with new methods for interactions, but through their use, people change how they operate and perceive the places in which they inhabit. In this text, I refer to the undefined space of the internet/web that is projected, imagined, and experienced as the virtual. Much in the same way that global and local are imagined as traditional dichotomies, the real and virtual are also traditionally positioned as dichotomous. The term "virtual" is problematic because it is often placed in opposition to "reality" or a corporeal place, which it certainly is not. Still, I have not found any other satisfactory word to describe the interactions of people and technologies over ISM radio bands, Fiber Optic Lines (FIOS) and other connection materials. As I describe throughout this dissertation, the language of modern technologies is new and in flux. The words to describe the internet and web have varied over their short lifetimes and are continuing to change. Because of this lack of consensus on terminology, I have decided to use the term virtual to act as an umbrella term for various online and telecommunication activities, including but not limited to, surfing the web, writing blog posts, posting tweets and sending text messages. Still, the concept of virtual provides a unique challenge for the social scientist. With the increased saturation of information and communication technologies in people's daily lives, people are changing their understandings of place and their positions within it (Sheller and Urry 2006).While it is tempting to fall into the habit of placing virtual in opposition to corporeal (or "real"), it is my desire to illustrate that the way people in silicon places

interact in "virtual" spaces is not as some kind of parallel reality, but instead, is something that becomes entangled in daily reality (Adey and Bevan 2006). Because of this, my definition of "virtual" does not see it in opposition to reality (as in virtual reality), but instead, as something that is just as real and just as located. In the emerging scholarship on social networks and on-line social engagement, anthropologists like Hine (2000) and Boellstorff (2008) support my position that virtual interactions need to be understood in a greater context than just social networks or point to point connections. Using the lens of space and place allows scholars to see more fully the way that both physical and virtual landscapes are experienced and imagined.

*Heterotopian places and Imagined Futures*

Many of the narratives and discourses about new communication and information technologies draw on imagined ideas of the future, which position them as the tools for creating utopias or dystopias (Berner-Lee 2006; Rattle 2010; Virilio [1996] 2001). In its early incarnations, the World Wide Web was described, and often imaged, as a kind of utopian project, where users were equal and information was democratizing. Instead of following this utopian line of thought, the idea of heterotopia focuses on a real thing, not imaginary, that through its existence disrupts traditional notions of place and time. Drawing on the idea of utopia and dystopia, I found that Foucault's ([1967] 1986) concept of heterotopia provides an alternative way to understand these new technologies and the virtual. While written a couple decades before the public availability of the internet, Foucault only presented the concept of heterotopia a few times in the late sixties

and left it lightly theorized and underdeveloped, but the curious conception of the heterotopia has continued to inspire a handful scholars. Johnson writes of Foucault's heterotopia that these are spaces and places that, "mirror, reflect, represent, designate, speak about all other sites but at the same time suspend, neutralize, invert, contest and contradict those sites" (2006, 78). In particular, Foucault notes that heterotopias are places which provide disruptions to time and space. However, given Foucault's strangely specific requirements for heterotopias which he lists in "On Other Spaces," I do not feel obliged to remain loyal to Foucault's definition or understanding of heterotopia. Instead, I draw more on Hetherington's formulation which suggests that heterotopias are places that "organize a bit of the social world in a way that marks them out as Other and allows them to be seen as an example of an alternative way of doing things" (1997, Viii). More than just theoretical musings, heterotopia provides a framework through which scholars can examine social spaces. Looking at the virtual through the lens of the heterotopia provides scholars a rich way to understand the intangible aspects of the virtual.

The use of technologies to interact virtually also leads the researcher to another concept in regards to place, which has been much more widely written about than the heterotopia - the imagination. The social imaginaries are the deep and embedded "ways in which people imagine their social existence, how they fit together with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations." (Taylor 2004, 23). Not only have social scientists become interested in the way imagination influences our experiences of place (Brooker 2007; Dembski 2015) but urban planners have also

focused on imagination as a way to change people's perceptions of places (Krawczyk and Ratcliffe 2005; Florida 2002). For the urban dweller, living among mostly strangers, the urban imaginary provides a way for people to understand the city itself and their place within it. In many ways, the imaginary is useful for understanding current concrete understandings of the city and sociality and as a way to understand more ephemeral concepts associated with modern living such as the virtual and the future.

The "imaginary" draws it root from the image, which has also become increasingly important for modern urban dwellers. The image plays a primary role in the way urban stakeholders attempt to manage a city. The image is both something physical and imaginary existing in both advertisements and in people's minds. Barnes and her colleagues note that 21st century urban planning has focused more and more on place-making through branding or image-making (2006). The interest in place branding is associated with the market economy, which always drives cities for continued economic growth. More and more urban centers, like Berlin, are seeking ways to shape the urban imaginary of people who live and visit there. With the concept of the *image* literally embedded in the word "imagination,' the imaginary is key to understanding the processes of place-making in the modern city. With the city becoming a product, the urban dweller becomes a consumer. Like brands of cereal at the grocery store, cities vie to attract visitors, workers, businesses. The idea is that with the right brand, right advertisements, and right image the city will experience success through economic growth. This focus on branding is also transferred into the sphere of work, where workers use the internet/web to create a personal brand. Indeed, as English-Lueck shows, in the silicon place ones

outward work identity (or brand) is something used to establish ones place among others (2011). Accordingly, the image is central to the success; and this success is measured through economic and social capital.

One of the key driving forces of Silicon places, like Silicon Allee, is the market economy, which combined with the computer becomes digital economy or digital capitalism (Schiller 1999). While various things may distract from it, the ultimate goal of silicon places is economic growth on personal, regional, and national levels. Even with strong open source and Linux communities, the health of a silicon place is measured not from products or from workers, but in the end, how much money is made or imagined to be made (Shah and Shah 2011; Massaro and Najera 2014). City stakeholders, like the government and business leaders, see computing communities like Silicon Allee as ways to make the city internationally competitive and to boost the local economy by bringing money into the city (Florida 2002). Through their work, both locally and within their own companies, workers themselves embrace the importance of economic growth. This work requires them both to create and consume their own products and then mimic that process in their creations, thereby depending on maker-users and prosumers to create their product for them (Kleif and Faulkner 2003; Gehl 2010). Furthermore, the role of entrepreneur is positioned in silicon places as not only the creator of companies but as a savior figure (Sørensen 2008). From the branding of the city to the daily work of employees and founders, the market economy shapes the way that silicon places are created, operated and imagined.

In this last section, I have tried to situate myself (albeit briefly) amid the theoretical literature in my dissertation. This section does not cover all of the theoretical inspirations behind my dissertation, but rather, I propose to give the reader a taste of the direction in which it is going. Instead of a traditional literature review, I have chosen to interweave literature throughout my work thereby highlighting some of the important foundations and inspirations as they arise. After having spent so much time examining place, I now turn to my research site and methodology to situate it in place.

## V. Research Site and Methodology

Computing in Berlin is scattered all over the map, such as the immigrant-turned-hipster-hotspot Kreuzberg or the science and technology park Adlershof. While Silicon Allee seems to occupy specific spots, like Kotbusser Tor in the city, the Allee's tendrils also sneak into various parts of the city. For an anthropologist, the urban site is one of multiplicities and complicates the narrative of a discipline that is still (despite it all) very much drawn to a specific, contained site such as the imaginary "village" or "community." The description of Silicon Allee as an "alley" is a misnomer, because it does not exist in an alley. If anything, a more accurate description of Silicon Allee would reference a *Straße* (street) or even possibly a *Tor* (Gate) given the popular central locations for ICT workers. But even these references would again fall short, given the decentralized nature of Berlin, Web 2.0 and ultimately then Silicon Allee. Even a year into my fieldwork, I struggled to make sense of a place, which seemingly was nowhere, and at the same time, everywhere, my notes indicate that a key challenge was grappling with the decentralized

location of computing in the city. If fieldwork made my research dizzying, indeed, my fieldwork also clarified that the reality is more than swath of land, and that Silicon Allee is realized through the labor of people, who work in companies, labs, co-working sites, eat and drink at restaurants and cafes, and share in user groups and camps.

I began this project in 2006 at the beginning of my graduate career with an interest in Germany's Green Card program (which I describe in more detail in chapter 7) and highly qualified immigrants. By the time I began my fieldwork in 2010, the Green Card program had already ended, but serendipitously, Berlin was just starting to become a popular place for startups. As an anthropologist, describing fieldwork methods seems slightly strange because describing ethnography is like describing living; while it is mundane and detailed and does not involve test tubes or statistics, it involves interaction, talking, asking and listening. Sanjek describes the ethnographic process as a gift:

> Time in the field, the ethnographic presence, is a complex set of activities – listening to speech in action, learning how to ask, arranging dialogic exchanges, conducting interviews, requesting specific pieces of information, observing behavior in predetermined times and places and among combinations of actors, and seeing and hearing in a wide-ranging and open manner. (1991)

Indeed, Sanjek's description describes the way that doing ethnography is not like living; it is conscious and focused. My fieldwork lasted a year and half, and I approached the field with the primary research tools of an ethnographer: participant observation and field notes. In the field, I often imagined myself as a sponge absorbing as much as I could by collecting data, materials, and information. After meeting and making connections, I also reached out to many people and sat down for formal interviews. From the beginning of 2010 until July in 2011, I filled my days (and nights) by attending user group meetings,

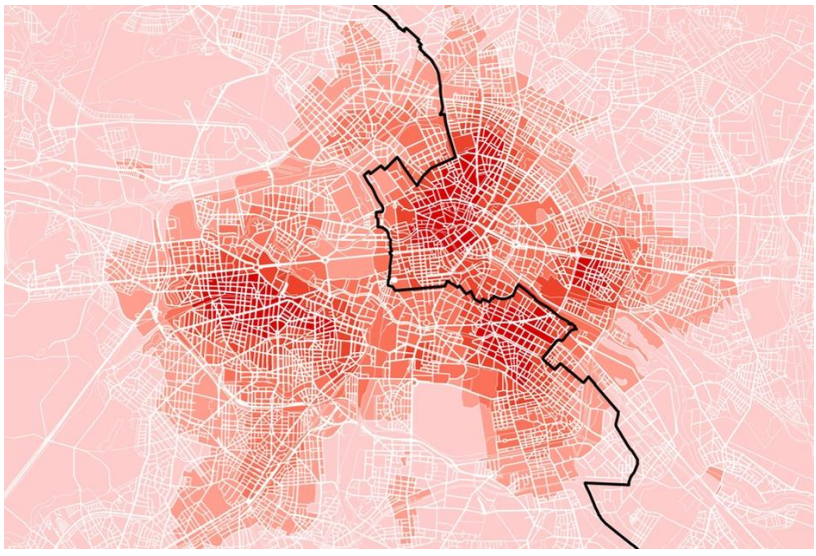
visiting various universities and labs, hanging out at coffee shops, going to government sponsored events and conferences, and sometimes just chatting with informants over *Döner*.[4] To get some kind of experience of continuity in the turbulence of the city, I purposely followed connections from one person to another. Eventually, guided by Tim and Beth, the community of technophiles in Berlin started to feel artificially smaller. The computing community in Berlin is simultaneously tiny yet wide stretching. While one could probably make an argument that there are several computing communities in Berlin, for simplicity sake, I have chosen to use the word in the singular. Furthermore, as a site that attracts people from all over, for various points of time, the concept of community may suggest too much of a conscious social entity than there really is.

While drawing the boundaries of Silicon Allee are almost impossible and would vary from person to person and time to time, most people in the startup scene would point to Mitte[5] and Fredrichshain-Kreuzberg as being the heart of Silicon Allee. As I will discuss in the later chapters, startups are used as the measure of a sites tech and economic viability, but these are far from the only aspects of the silicon site. A crowdsourced map[6] of startups, coworking sites, investors and incubation sites covers the map of Berlin with blue, black, red, purple and orange dots and those dots dominate these two central *Bezirke* (districts). Other areas in which one finds startups, support structures and other tech oriented businesses is in Prenzlauerberg (part of Pankow) and Neukölln. All of these areas are areas that either are, or are becoming, trendy and popular with young people. A

[4] A popular type of Turkish lamb sandwich
[5] Mitte is the district in the center of Berlin, which aptly translates to "middle"
[6] During my fieldwork this crowdsourced map was found at http://www.berlinstartupmap.com/ This site is no longer active as of 2016. A new startup map can be found at https://startup-berlin.com/startupmap/ ; I do not know if it is run by the same people.

few startups venture outside of these two areas into Charlottenberg-Willmersdorf and down to Adlershof (in Treptow-Köpenick) where various universities are located, but


Map of Berlin. *Bezirke* (districts) listed in large type; major neighborhoods in smaller type. For reference (on the next map), I have included the division line (large and dashed) between East and West. (Klockmann 2013). Map is in public domain.



Map of Berlin's "Hot Spots" with darker areas indicating more startups (Hofmann 2014). Darker areas include areas Mitte, Charlottenburg, Prenzlauerberg, Kreuzberg and Friedrichshain (see above map for reference). Note: map does not show whole map of Berlin.

nothing compared to the prevalence of companies and various support structures in the center part of the city.

Just as academic sites played an essential role in the development of Silicon Valley, they also play a key role in the development of Silicon Allee. However, sometimes the spatial divide between *Informatik*,[7] the more academic approach to computing, and ICT, the more economically driven approach, seems almost as stark as the intellectual divide between the two. At times during my research, I felt that there was little overlap between these two spheres, but as I stayed longer, the connections and networks began to subtly appear. Because of this, instead of merely defining Silicon Allee as the home of startups and entrepreneurial ICT workers and not as showy or popular, academic sites and more traditional offices are equally as essential to the process of becoming silicon. Unlike the train stations and city centers, which city planners have been trying to focus around the Mitte, academic intuitions remain spread throughout the city. The three major universities in Berlin are Humboldt-Universität zu Berlin (HU), Freie Universität Berlin (FU), and Technische Universität Berlin (TU). In addition to these three universities, there are also a number of *Hochschule* (trade or technical colleges). Research labs, associated with independent research institutions and connections to industry, like Frauenhofer's FIRST and FOCUS labs, also tend to cluster around the same areas as the universities and colleges. These academic sites are

[7] Although computer science is sometimes available to students as a degree in Berlin, the majority of people studying computers get a degree in *Informatik* (informatics), which has a stronger presence in Germany than in the US.

continually producing educated talent from Informatik departments for Berlin, while also attracting foreign students and researchers to the city.

The space of Informatik and ICT seems physically and ideologically isolated from each other, but once you begin talking to people, it becomes evident that people move regularly from one space to the other. Many of the various workers in ICT were trained directly in Berlin through the universities or one of the various *Hochschulen*. Tim, owner and developer of KomoZu, is an example of this. At the Freie Universität, Tim worked with Prof. Dr. Schmidt while he was getting his *Diplom* (Masters) in Informatik. Many of the people who showed up to user group meetings and other evening and weekend events were actually current students. This shows that, while the architecture and ideologies of Informatik and ICT seem distinct, people cross between them on a daily basis. Students from the rigorously traditional academic course of study in Berlin's outskirts can also simultaneously be the entrepreneurs and creative code experimenters found in Mitte's cafes and coworking spaces.

In the creation narrative of Silicon Allee, it is precisely this connection between Informatik and ICT that is often highlighted as the catalyst for the development of Silicon Allee. As previously mentioned, Berlin has a robust academic system with many Universities; even academic "doubles" like Freie Universität and Humboldt-Universität (due to the 60 year division). However, once students graduated, particularly in Informatik, there were limited opportunities in Berlin to gain employment. The lack of major tech corporations along with a glut of educated workers gave workers the choice either develop their own employment through a startup or leave the city. And so, as the

narrative suggests, instead of leaving Berlin for tech companies in other areas of Germany and Europe many chose to stay in Berlin and tried their hand entrepreneurship. Therefore, Silicon Allee not only exists with Informatik but because Informatik makes the map of what might be considered Silicon Allee much wider than it seems at first glance.

Being in Silicon Allee also meant being online. Jumping between the virtual and the physical were not always easy or expected and even as a tech savvy anthropologist, there was a large learning curve. As part of my fieldwork, in addition to socializing with people in person, I also adopted twitter, made a Xing profile and opened my Facebook to new friends. Part of this dissertation springs from the question of the struggle of how social scientists can incorporate the virtual into their work since it is so vital to how many people operate on a daily basis.

Finally, although not part of my field site or my field methodology my personal history brings something to bear in this dissertation. I grew up outside of Silicon Valley in the 1990s, and during the first dotcom boom, my father founded his own startup with colleagues from Stanford. I did not do fieldwork in Silicon Valley for this project, but I do bring with me experiences of spending the boom and bust years at parties, wine tastings, investment clubs and other social events centered around Palo Alto. As with many startups my father's was neither a success nor a failure. They eventually sold the company and earned modest profit. Both in the Valley and the Allee, I am constantly amazed at the passion and excitement that people feel when they were working on

something that is their own. Shaped by this history, I come to Silicon Allee with amazement, wonder and a touch of cynicism.

## VI. Conclusion

Drawing on the themes and ideas that I briefly outlined in this introduction, I now turn to the body of my dissertation to further unpack and expand on the themes of the silicon, mobility, technology, work and the global. I begin the first few chapters by focusing less on Silicon Allee and more on the way various city agencies try to shape the narrative of Berlin. Then, delving into the work of ethnography, I explore the way that Silicon Allee itself is made by the people who live and work there, and ultimately, how global connections, communications and imaginaries influence people's understanding of self and work in today's computing culture.

*A brief note on translations:* All translations of materials unavailable in English are translated by me. For my translations, I always include the original German text in parenthesis, or if too long, in a footnote. If an English translation was already available (like for governmental documents), I used the official English translation and do not include the German translation.

# Chapter 2: *Being* Berlin; Becoming Silicon

## I. Introduction

From images of a burned out *Reichtag* that symbolized the end of the Weimar government to the gray concrete *Plattenbau* (concrete high-rise apartments) that line Karl Marx Allee, Berlin is frequently associated as a place with a history instead of a place with a future. Since the division of Berlin after the Second World War, Berlin has suffered economically. The Allied powers from the US, England and France tightly held on to the Western sector of the Weimar capital, mostly as a symbolic gesture. Government funds propped up West Berlin and foreign capital from the occupied forces flowed throughout the city, but few major corporations sought to make Berlin their home. East Berlin, although the shining star of the German Democratic Republic (GDR), suffered from the economic limitations of the socialist system. After reunification, the foreign powers left, government subsidies were dropped, and both East and West Berlin struggled with creating and maintaining infrastructure and employment for the 3 million people living there. Today, after major building projects and the move of the capital from Bonn to Berlin, the city's economy is still considered weak and the city is saddled with a high unemployment rate. Business leaders and politicians surmised that part of the problem was because of Berlin's image. Because of this impression, Berlin has been the site of a continuous and focused effort to re-position the image of Berlin as a creative,

exciting place in order to facilitate economic growth and create an internationally competitive city.

I use the next two chapters to situate Silicon Allee within Berlin's urban landscape. This first chapter focuses specifically on the way Silicon Allee relates to Berlin's larger push to be imagined as a creative city. By crystallizing a concept of "Berlin," the city's image and narrative becomes easily directed towards a specific message. In the case of Berlin, this message argues that Berlin is a city of creativity. Through the lens of creation and creativity, various stakeholders attempt to create a grand narrative about the city that transcends traditional imaginings of creativity. To do this, I examine the ways that stakeholders have attempted to shape Berlin's narratives into those of the creative city, and then how Berlin, as a creative city, provides a substrate for Silicon Allee. After establishing the relationship between the creative city and Silicon Allee, I ask what is at stake in the development of the creative city and the silicon place. Through the examination of the larger cityscape, my goal is to show the way silicon places are influenced by larger discourses on cities, work, and class. The fact that Silicon Allee popped up in Berlin is not a coincidence. This chapter illustrates the way silicon places and creative cities become intertwined in urban planning narratives and how silicon places, most particularly Silicon Valley, are used to illustrate the ideals of creative cities. Along with the focus on Berlin's carefully controlled image politics, this chapter also explores the way that the success of such policies are physically changing the city and the paradoxes created by these changes, which may ultimately end up undermining the bohemian culture that attracts so many people to Berlin.

Within the creative city, the term "creative" stretches to include fields and industries that are associated with literal processes of creation. Not only are fields like art and music examples of industry in the creative city, but science and technology are also included in this schema. People might not normally associate computing with creative enterprises, but since programmers and others in computing fields are often creating new things, the act of computing often (but not always) falls within the parameters of the creative city. While Silicon Allee was not necessarily a response to the top down policies of local government or the Berlin Partners' campaign (a private-public partnership responsible for promoting economic growth in the city), it does correlate with the increased push to "make" Berlin a creative city. As such, the influx of money and people associated with Silicon Allee are starting to change the city itself. By meeting the goals of the creative city rhetoric - attracting young people and establishing dynamic businesses - Berlin finds itself being gentrified. Young educated workers are displacing working class and immigrant workers and fancy restaurants and coffee shops are pricing out local *Imbisse* (snack joints) and *Kneipen* (pubs). The face of the city and the bohemian nature that attracted many people there is changing. This problem is not caused only by Silicon Allee alone but was an occasionally noted reality by those who were unwittingly contributing to the neighborhood change in the creative city. Hence, the success of the urban planners, government partnerships and industrial focus on altering the image of Berlin has been largely successful, although not uncontroversial.

## II. Making a Creative City

Soon after the *Wende*, the Berlin Partners, a private-public partnership responsible for promoting economic growth in the city, began to try and re-shape Berlin's international image, which was dominated by historical legacies and continuing realities of the city's many divisions. These activities match the larger global trend for urban planning inspired by the creative city and marks a shift from local governance focusing on helping residents to one which focuses primarily on "place making and marketing" (Barnes et al. 2006, 335). This approach has its basis in a form of neo-liberal urbanism which attempts to nurture economic growth and urban regeneration. Ponzini and Rossi note that one of the seductive parts of the idea of the creative city is that it seems to promise not only economic growth and urban revitalization, but it also attempts to provide people with, "a renewed sense of place-belonging within local communities" (2010, 1043). Inhabitants of the creative city are supposed to be equally invested in the changes of the urban sites as much as the government and industrial stakeholders.

By the late nineties, Berlin Partners was releasing advertisements emphasizing Berlin as a different kind of site for technology and industry. The advertisements transformed over time, and eventually, became the massive "*be* berlin" campaign; which I will discuss in more detail towards the end of the chapter. Throughout two decades of advertising and marketing the city, the message remained the consistent: Berlin is

creative and needs more creative people. The government and businesses are invested in drawing talented, young, middle-class people, who have extra funds to spare and spend, to the capital city. Once there, their presence would attract others like them, and hopefully, change both the real and perceived landscape of the city.

*Imagining the Creative*

The process of establishing the brand, narrative, and image of Berlin draws its theoretical underpinnings from the field of urban planning. The nature of urban planning itself implies a view towards the future with urban planners implementing strategies to shape the city into some ideal future. Ratcliffe and Krawczyk, two urban planning scholars, sum up this phrase with, "Imagine ahead - plan backwards" (2005, 15). For both city stakeholders and citizens, imagination is a key for experiencing and envisioning the urban place. The continuous imagining and re-imagining of the future Berlin and re-creation of the past are key facets of the project of branding Berlin. However, even through these various re-imaginings, the message remains the same: Berlin is a creative city.

One of the most influential theorists in the branding of cities as sites for creative, scientific enterprise is Richard Florida (2002, 2005, 2012). The creative city is described as the ideal city of the future and work of the creative city is done by the creative class. By establishing themselves as creative cities with creative citizens, Florida posits that cities will prosper economically. This creative class works with ideas instead of products or raw materials. With significant manufacturing and raw materials moving to the global

south, Florida suggest that urban sites should look towards creativity, particularly with regards to science and technology as the driving force for the urban economies. Florida's own work focuses on American cities with high populations of creative capital. He suggests that this creative capital is correlated with the regional growth often seen in places like the Bay Area in Northern California or Austin, Texas. The concept of the creative city rests on the establishment of an attractive city which attracts the ideal type of person. However, the purpose of pursuing the creative city as an urban goal is based on desires of economic growth and stability rather than focusing on directly on citizen's wellbeing.

The creative city embraces a wide and fuzzy definition of creative. As Ponzini and Rossi (2005, 1042) have suggested, the term "creative" has been particularly useful for urban planners and governments since it provides a high level of flexibility. Popular notions of creativity are typically associated with the arts and music. If this were the only basis of creativity, Berlin would have long ago fit the definition. While not associated with economic strength, Berlin has and has long had a robust art and "culture" scene. With a strong bohemian and avant-garde streak, Berlin has a history of being a place that nurtures artistic sensibilities. Nonetheless, even with numerous art museums and galleries, many theaters and cabarets, three opera houses, a small (but robust) film scene and a world famous philharmonic, Berlin is not what Florida means when he coined the term "creative city." Instead, Florida and similar theorists use the word "creative" as a description of entrepreneurs and people who create. This includes, but is not limited to, artists. Particularly within this theoretical framework, the concept of creative is tied to

intellectual, technological, and especially *entrepreneurial* creativity. Through this definition of creative, Silicon Valley is used by Florida (2012, 58) as a key example of a region that affirms the connection between creation and economy.

The foundation of the creative city is the creative class. Rather than working with the people who currently live within the city, the creative city depends on attracting a specific class of people. Barnes *et. al*. (2006, 335) illustrate this idea in their case study of a town in New South Wales, Australia. As they note, much of the energy of urban planning is focused less on helping and educating current residents and more on making the region look attractive for would-be newcomers. Consequently, rather than investing in the human capital which they already have, the creative city is most often based on attracting new people to the area. Even within well-established creative cities or regions, like Silicon Valley, the hunger for new people and new ideas is constant. Of course, places like Silicon Valley need a lesser amount of work in attracting people, because the creative city, once started, should continue to attract and become more attractive for potential residents in the "right" class. Based on this idea the creative city is seen as self-fulfilling. By attracting educated and skilled people, who invest in the region, the area becomes more attractive to educated and skilled people, who will also want to live in the area. As one of the primary assets of the creative city, people are important because of what they individually can do for the city, and also, because their mere presence is understood to help attract more creative people to the region. Florida illustrates this concept clearly when he says, "When talented and creative people come together, the multiplying effect is exponential: the end result is much more than the sum of its parts."

(2012, 193) Not only is the population of creative people supposed to be providing a collaborative synergy, the creative class ideally multiplies its influence by also encouraging a flow of new people into the region and with them new ideas, new investments, new businesses and new money.

In the academic realm, Florida's work has been widely critiqued. Some like Markusen (2006), Pratt (2008) and Scott (2008) have suggested that Florida's theory is too broad, too simplistic and fails to show clear correlation between a so-called creative class and urban growth. Others, like Barnes et. al. (2006) and Peck (2005) have focused on the implications for those following this model and the injustices often associated with gentrification and urban renewal. However, despite the many critiques of Florida's creative city, many cities and urban regions have adopted and implemented many of the ideas he espouses. Especially popular in Europe, the finger prints of Florida's theory is clearly reflected in the way that stakeholders have attempted to shape Berlin's public image. Berlin's image campaigns, both implicitly and explicitly, focus on establishing Berlin as a "creative city."

While none of Berlin's advertisements (or the campaigners themselves) directly reference Florida, Berlin's approach to branding the city indicate that stakeholders are probably quiet familiar with the concept of the Floridian creative city. Berlin's approach is unsurprising because, as Krätke (2010) and Colomb (2012) reveal, the idea of creative cities has become especially popular among German urban planners, politicians and social scientists. While Ponzini and Rossi (2010) presume that Florida never meant his work to be taken as a blue print for city planners, it has been. In the *Rise of the Creative*

*Class*, Florida (2002, 228) outlines the three things he believes are key drivers of economic development and uses them for the basis of his Creativity Index. He calls these the 3Ts: talent, technology and tolerance. These three necessities for the creative city are nurtured and emphasized in the branding process of Berlin. To better explore the themes within the context of Berlin, I re-interpret these three key aspects of Florida's creative city as people (talent), diversity (tolerance), and science/*Wissenschaft* (technology). In the next section, I will briefly discuss each of these three elements in relationship to Berlin and Silicon Allee, before I discuss in more detail the specific branding campaigns in Berlin and how they relate to Silicon Allee.

*Nurturing Talent*

Using the term "talent," Florida positions human capital as the key resource for the creative city. In almost any branding and marketing project featuring Berlin, the people are described as its chief assets. This focus does not come as a surprise, since a city is made by its people. Pushes for immigration and in-migration have historically focused on recruiting the "right" people for the right jobs. For example, Germany is no stranger to labor migrations; in the 1960's and 1970's recruited people from southern Europe and Turkey to work in low skilled jobs when many of the important jobs at the time were in manufacturing. Unlike the 20th century, which saw economic growth in the US and Europe through manufacturing and industry, the creative city foments economic growth through skilled work. Therefore, while for Berlin and the ideal creative city, talent does not refer to any particular person, but instead a specific type of person - a member of

the creative class. In an interview for *EuroActiv*, Florida suggests that, "we have to tap into the creative talents of every single human being" (EurActiv 2009) to be a successful creative city. This stance is not supported by the intense focus on attracting new talent; instead providing services and policies to encourage homegrown talent. In the Floridian concept of the creative city, while human capital is celebrated, this celebration of the citizen is typically focused on a specific type of person; someone who is highly educated, employed, middle class, (often) white and culturally European.

As many of the critiques of the creative city have pointed out, those people who are not classified as talent, are often treated as bothersome, who are at best ignored, and at worse, to be forcibly displaced. Those in the margins, like low skilled immigrants, the homeless, and the working poor are not valued by the narrative of the creative city. In the case of Silicon Valley, the increase of costs and the move of companies into San Francisco illustrate the way that economic success often comes at the price of others. In 2013, American headlines began popping up about San Francisco's frustrations with Silicon Valley neophytes moving into city spaces, with air-conditioned, wifi-supplied buses symbolizing San Franciscans frustrations with Silicon Valley's encroachment.[8] Therefore, even while Silicon Valley seems the ideal example of the creative class, the reality illustrates it may be an ideal place - but only for those who can afford it.

[8] Starting in 2013, newspapers, magazines and online news sources produced a huge amount of work on this topic, including demonstrations against the tech encroachment. Two examples include: Alba, Davey. "San Francisco's Vote on Google Buses Today Won't End the Controversy." In "Wired" Nov, 2015. Accessed from www.wired.com/2015/11/google-buses-battle-isnt-over-as-san-francisco-regulators-vote/ and Carrol, Rory. "How Wealth of Silicon Valley's Tech Elite Created a World Apart." In "The Guardian" May 25 2013. http://www.theguardian.com/technology/2013/may/26/silicon-valley-elite-san-francisco

Much of the focus on making Berlin a physically attractive place for the creative class comes ironically through the activities of the working class. In Berlin, this can be seen most directly through the role of construction work. Since the *Wende*, Berlin has, and continues to be, a place with continuous construction, including rebuilding buildings damaged by the Second World War, developing and updating infrastructure, and erasing the scar of the Wall. Because of this need, construction workers are instrumental in *actually* building the "new" Berlin. When fashionable lofts are retrofitted from old apartment buildings and the corner *Kneipe* (pub) is renovated into a trendy restaurant, these places which house and feed the creative class are actually created by another class. The work of the less desirable classes makes many of the campaigns possible by building the sleek modern, architecture that get highlighted in advertising campaigns. In regards to immigration and in-migration, Berlin needs construction workers as much as engineers and computer programmers, but these workers are not targeted by the Berlin branding campaigns. In fact, construction workers are often made invisible by these campaigns, which erect tall full-building size advertisements encouraging people to "*be* berlin"[9] in-front of the ugly construction work.

As per many of the critiques of the creative city, much of the recruiting and attracting of the desirable class comes at the cost of those who are undesirable. As I will discuss in more detail later in this chapter, Silicon Allee itself occupies neighborhoods that were once filled with immigrants and the working class. Because these affordable

[9] The capitalization of the B in Berlin is often inconsistent, but in advertisements during my fieldwork Berlin was often left lowercased. The "be" portion is often also italicized. To indicate the campaign I will use "be berlin" as the standard.

bohemian neighborhoods[10] attract the young, educated cosmopolitan workers of the "creative class," many of those who once called these neighborhoods home get priced out. While there is not one single part of the city that Silicon Allee occupies, one of the most start-up rich areas is Friedrichshain-Kreuzberg. This *Bezirk*, which is made up of both part of the former East Berlin (Friedrichshain) and an immigrant rich neighborhood (Kreuzberg), has experienced a great deal of change over the last decade and has been struggling with problems of gentrification. Yet, its colorful and inexpensive nature is what attracts "talent" to it.

*Nurturing Tolerance*

The second important aspect of the creative city, according to Florida's 3T's is tolerance (with regards to human diversity). Florida suggests that diversity not only attracts more liberal and educated workers, but the more diverse a population the more variety of ideas are introduced that help spark innovation. In his work on the creative class, Florida shows the correlation between economic growth and the Gay Index[11]. Florida argues that, "we see a strong and vibrant gay community as a solid leading indicator of a place that is open to many different kinds of people" (2005, 240). In other words, the more gay-friendly a region is the more *all* people are supposed to feel comfortable living there. Florida also correlates economic growth with a bohemian factors as well. In both indexes, Florida bases his research on the United States, but in *The Rise of the Creative Class* he actually mentions Berlin in regards to its history as a

[10] Florida has argued that there is a correlation between bohemian culture and the creative class
[11] Created by Gary Gates at UCLA.

bohemian (340). However, despite the acceptance of diversity and the bohemian nature of Berlin, Silicon Allee like many other Silicon places is quite limited in terms of diversity.

Although Florida and his followers value diversity, tolerance and a bohemian nature, the creative class is quite a small portion of society. In his discussion of Silicon Valley, Florida points out the diversity of Silicon Valley by noting that people like Jerry Yang from *Yahoo!* and Sabeer Bhatia from *Hotmail* (2005, 235) are not only founders of large companies but where raised outside the US. According to Florida's understanding of the topic, he believes that Silicon Valley is both diverse and tolerant. While Silicon Valley was long stereotyped as a place which was very diverse (and thus, tolerant), the level of this diversity and tolerance has been brought into question in recent years. The 2009 report from the Anita Borg Institute brought to attention the relative lack of diversity in Silicon Valley's technology fields (Simard). Not only did the report note that Silicon Valley has very limited numbers of what they call "underrepresented minorities" which include African-American/Black, Latino/Hispanic, and Native American/Native Hawaiians, but the higher in the corporate structure, the less diverse Silicon Valley companies become. In all ethnicities/races, women are also significantly underrepresented in technical jobs and higher corporate positions and boards. While Central and South Asians are more numerous, making up between a quarter and a third of tech workers, research suggests that they too are underrepresented in executive positions and boards (Gee, Hom and Anand 2014). Gender and ethnicity are not the only categorizations that limit people's opportunities, but other things like age, class, sexuality and ability/disability also play a role in the careers people choose and how successful

they are at those careers. Like Silicon Valley, Silicon Allee mirrors many of these same problems.[12]

If Florida's suggestion that diversity and tolerance attract liberal, educated workers, then diversity itself becomes a type of ornament in the creative city. The concept of diversity and tolerance are appealing to the elite creative workers, but the reality indicates that within Silicon places the expression of tolerance and diversity is quite superficial. Educated, middle class workers are often interested in living in a colorful neighborhood and enjoying "ethnic" foods, but as the cases of gentrification in Berlin illustrate (Marquardt 2013; Bernt 2012; Füller et. al. 2014), they are less willing to engage with diversity on a deeper levels which would mean addressing violence, poverty and the changes to gentrifying neighborhoods. While Florida emphasizes that correlation (not necessarily the causal) link between tolerance and success in creative work, part of his thesis is based on the idea that young, liberal urbanites, who make up the creative class are more mobile and able to decide where they want to live instead of being forced to live in a particular place because of a particular job. Therefore, diversity and tolerance - or at least images of them - are important to attract the desired class to a particular place.

Berlin is one of the most diverse cities in Germany, and yet, as in most places, that diversity is not without problems. In terms of attracting creative workers, the branding of Berlin focuses on the good, often superficial, aspects of diversity, while purposely avoiding the realities of violence and discrimination that accompany the

[12] Although 2016 publications from Berlin Partners: Web and Mobile Business in the Capital Region Berlin-Brandenburg" and "Digital Economy in Berlin. Start. Grow. Invest" suggest that Berlin is making a specific effort in attracting women into the startup community.

various forms of diversity in Germany. The "celebration" of diversity that one often sees in the United States is still uncommon in Germany but has found a place in some Berlin start-ups. Still this focus on diversity, as I will show in Chapters 6 and 7 tends include a very limited scope of people; perhaps even less diverse than Silicon Valley, since there are very few Asians working in Berlin's tech industries. An example of this can be found in Wooga, who like many American companies, celebrates that its employees come from over 40 nations.[13] However, upon visiting their website, one finds that the majority of these nations are either found in Europe or countries that tend to claim a history of European heritage (like the US, Canada or Australia). Most of the people coming to Berlin to work in Silicon Allee (from within Germany and abroad) primarily tend to be white, male and of middle-class background. Although Berlin has huge non-white populations, these people do not tend to fit into the category of the creative class, but instead, inhabit either the service or working class. Thus, because diversity becomes a superficial show of color to attract white liberals, it is unsurprising that the actual branding campaigns in Berlin also remain superficial and ignore the deeper systemic problems of ethnicity, race and religion in Germany.

*Nurturing Technology*

The final characteristic of the creative city is technology, which I interpret to include Wissenschaft/Science. While other aspects such as the arts are included in the various attempts to brand Berlin, science and technology remain dominate. Technology is the economic vehicle for the creative city but not just any technology, instead Florida is

[13] Wooga. "About Wooga." Www.wooga.com/about/

pointing to the process of technological innovation and development particularly in "new" technologies as a central driving force in the market economy. The creative city cannot be a city in stasis; instead something new must always be on the horizon. If tolerance provides the proper environment for the creative city and talent the workers, technology is the product. As I have previously mentioned, Florida and his followers point to areas like Silicon Valley and the Puget Sound (Silicon Canal) as examples of successful creative cities. Both these examples are famous for their intense focus both on using and creating technology, particularly technology associated with computers. Florida positions the creative city and its central focus on technological development against the American cities of yesterday, like Detroit, which were dependent on industrial, manufacturing work done by a low-skilled work force. This correlates with the concept that I will explore a little more in the next few chapters and that is the fixation on the "idea." The work of the future will be done in the minds of workers instead of with the hands; it will take place in offices instead of factories and it will require educated, creative workers instead low skill, low wage workers. This idea is perhaps one of Florida's least controversial ideas, since sites like Northern California, Seattle, Austin and New York seem, despite occasional bubble bursts, to be growing exponentially. Historically, Berlin, while a center for artistic endeavors, has not been associated with technology and innovation. As part of the branding campaign to attract "talent" to Berlin, many of the advertisements are eager to point out that Berlin is a city of science and technology by pointing out a long intellectual and academic history. Particularly since the Second World War, Berlin has been more associated with politics and less with

innovation. A primary example of the attempt to situate Berlin within science is seen during the "Capital for Wissenschaft" events of 2010, which I will discuss in the next chapter. While not necessarily causal, the rise of Silicon Allee correlates with the renewed focus on innovation, technology and Wissenschaft in Berlin's image campaign. In regards to branding Berlin, technology and Wissenschaft are clearly central concepts, which seem to have generated the desired results of attracting more tech-oriented business to Berlin.

## III. Branding the City

The majority of the work done to create and establish an official and focused narrative of Berlin is done by Berlin Partner GmbH.[14] This organization traces its roots back to the fifties in West Berlin, but developed into its current form as the "Partner für Berlin Gesellschaft für Hauptstadt-Marketing GmbH" after the *Wende* in 1994.[15] The company is a private-public partnership, commissioned by the Berlin Senate, and made up of over 270 member companies.[16] The sole purpose of the corporation is to promote economic growth in the city-state by supporting current industries in Berlin and by attracting investors and companies to Berlin. While their work consists of a variety of

[14] Berlin Partner merged with TSB Innovationsagentur (TSB Innovation Agency) to become Berlin Partner für Wirtschaft und Technologie GmbH (Berlin Partner for Business and Technology) in 2013, but I will continue to reference it as Berlin Partner in this dissertation.
[15] Berlin-Partner "Strong Partners for a Strong Berlin" http://www.berlin-partner.de/en/hiddensites/testseiten/berlin-partner-network/ note: original website accessed no longer available 2/9/16
[16] Berlin-Partner for Business and Technology. "About Us." Www.berlin-partner.de 2/9/16 between 2013 and 2016, Berlin-Partner has increased company membership by 100 from 170 to 270.

activities including consulting with companies to help smooth the move to Berlin, their most visible work is their active and ubiquitous marketing campaigns for Berlin, which attempt to encourage economic growth through a more general branding campaign for Berlin.

Soon after the *Wende*, the Berlin Partners began to try and re-shape Berlin's international image, which was dominated by gray images of Nazi Germany and the Berlin Wall. By the late nineties, Berlin Partners was releasing advertisements emphasizing Berlin as a site for technology, industry, youth and fun. These advertisements were so prolific that I remember as a teen in the late nineties stumbling across them in American news magazines. Although the advertisements have transformed over time and eventually became the massive "be berlin" campaign, the message remains consistent throughout the decades: Berlin is creative and needs creative/diverse/educated people and industries. Colomb (2012, 232) observes that Berlin's central theme of creativity becomes more predominate after the turn of the millennium when Florida's work started to become especially popular. The message balances the idea that Berlin *is* a place for science and art while also noting the need for *more* people to contribute to the sciences and arts. This balance is important, because it conveys the sense that Berlin is already an innovative and creative place to work and live, while also conveying that "your" talents are needed to make Berlin an even better place. In all cases, from beginning to end, even though not always explicit, the fun, excitement, creativity and innovation of Berlin is tied to Berlin Partner's purpose of encouraging economic growth.

The early advertising campaigns by Berlin Partners were more explicitly focused on economic growth. Advertisements either encouraged companies to move to Berlin, like one 2001 advertisement which features a white man dressed in a black suit peering out over the Berlin skyline at night and advises CEOs: "Change has always been the driving force behind the economy so get out there and change things. Come to where the new markets are. Come to where you can encounter new ideas, work with new people and gather new courage and inspiration. Come to a new city."[17] Other advertisements from this 2001 campaign were directed at young people who the advertisements challenged to, "Start up your own company in a truly exciting city." This 2001 advertisement right at the edge of the first dot-com bust is a nod to start-ups, which while not as plentiful as those in Silicon Valley could also be found in Berlin. Another aspect of these early advertisements is that the city starts to become personified. The same advertisement asking young people to start businesses notes that the city will "show its appreciation by inspiring you." These early advertisements mark the way that *the* city, becomes more than just *a* city. It becomes a character in its own story.

Creativity and innovation also feature predominately in these early advertising campaigns. An advertisement from a 2002/2003 campaign features a young woman holding a TV with the city in the background. The viewer is told "Berlin changes every day. Creativity is a way of life here and people are always experimenting and trying new trends."[18] These advertisements touch on many of the key themes of Berlin's branding process, which continue today - the creativity of the city and its people and the

[17] http://www.berlin-partner.de/en/marketing/image-campaign.html 8/29/13 (note: page no longer available)
[18] *ibid.*

excitement of the city itself abuzz with change and experiments. Although the people of the city are celebrated in the advertisements, one gets the overall message that it is not just the people that make Berlin great; it is the city itself. Likewise, later in the "be berlin" campaign, individuals are asked to *be* the city showing the way the city and its citizens become one. These early campaigns begin the process of crystallizing the Berlin brand, which was later perfected in the "be berlin" campaign.

## be*coming Berlin*

Despite a decade of advertising by Berlin Partners, a 2007 study by TNS Infratest survey concluded that Berlin still lacked a specific international profile and that people were more interested in living and working in other cities than in Berlin (Berlin Partner 2011a). Since the "creative" city is built on the shoulders of its educated, inspired and creative workers, the Berlin Senate and Berlin Partner decided to initiate a massive marketing campaign to crystallize the image of Berlin, and thus, hopefully make Berlin more attractive to the creative class and their businesses. By 2011, after the implementation of the be Berlin image campaign, TNS Infratest reported in a Berlin Partner press release that, Berlin "is increasingly regarded also as a location for business and industry, as an attractive place to live and work…People spontaneously associate Berlin with a good research landscape, innovative companies and innovative products" (2001b). The original 2007 findings by TNS Infratest and then Berlin Partners reaction to

it reveals the importance of the image in this period of late modernity. The city's regional growth and economic well-being is tied directly to how people view the city itself.

In 2008, the Berlin Senate commissioned the image campaign for Berlin. This campaign, known by the phrase as "be berlin" was launched in 2009 and featured various forms during its four year run.[19] The center point of the campaign is its slogan used in both English and German: be berlin and sei berlin.[20] This slogan was incorporated into various versions and sub-campaigns launched locally, nationally and internationally. Drawing on the slogan advertisements told viewers to "be" lots of various things - be free, be diverse, be colorful, be city, be change - and then always "be berlin." Each of these actions of being are organized along with the "be berlin" slogan to show that these are all characteristics of Berlin. The marketing of the city must walk a delicate path: on one hand it must show its urban unpredictability that attracts young people to a hip and exciting city while also taming it, commodifying it and packaging it for a general audience.

During my fieldwork, the campaign was a constant presence in the city and Berliners themselves a primary audience. The campaign was scattered throughout Berlin on trashcans, benches, flags, construction barriers, billboards and subway placards. Outside the city, these advertisements were found in magazines, trade fairs/conferences, and special Berlin Senate/Berlin Partner events. The branding campaign also included Berlin Partner sponsored events internationally which brought external attention to the city of Berlin. Although both these campaigns are active abroad and outside of Berlin, the

[19] Berlin Partner is, as of 2016, still using variations of the "be berlin" campaign.
[20] For clarity, I will be referencing the name in its English variation.

ubiquitousness of advertisements in Berlin seemed to be continuously reminding Berliners themselves of what it meant to "be" a Berliner. In this way, even though Berlin Partner notes on their website that they drew inspiration from actual Berliners, the campaign on location in Berlin seemed to continuously need to remind Berliners that they lived in a great city. The marketing of Berlin's image was as essential internally as it was externally.

The primary slogan of the campaign centers around the word "be." Within the context of the advertisement, the "be" can be interpreted as asking the viewer to embody the characteristics of the city. Therefore, the "be berlin" campaign asks visitors and residents not just to *be in* the city but to *be* the city. The boundaries between the viewer and the city blur; the individual becomes Berlin. As people travel through Berlin, the objects with advertisements tell viewers not only what it means to *be* there but what it is to *be* a Berliner. In this merging of the citizen and the city, the city begins to take on anthropamorphic characteristics. As people are being asked to embody the essence of Berlin, the city is brought into being. By ascribing human-like characteristics to the city, the campaign highlights the tendency by many people, including myself, to attribute agency to the city itself instead of its people. By making the city an active participant in its own development, Berlin Partner and the Berlin Senate become the invisible speakers for the city. Berlin is no longer being seen as represented by business and government leaders, but instead as the speaker of its own experience. The process of anthropomorphizing the city goes together with the process of the crystallizing the

essence of Berlin, which reflects the idealized but also marginalizing narrative developed by a public relations company.


Example of the "be berlin" advertisements outside of the Technischen Universität Berlin. Photo by Leonore Phillips, 2010.

*Being berlin*

From 2009 to 2011, two major advertisement types emerged as part of the “be berlin” campaign. The first type of advertisement is the word triptych. The format for these original advertisements always consisted of a three word sequence and always ended in either “be berlin” or “sei berlin.” The basic formula for the “be berlin” campaign suggested through their symmetry that the words listed in the triptych all were Berlin.

An example of this original, first type of advertisement was found around the roundabout at Ernst Reuter Platz, which is located in the heart of the Technische

Universität campus. The flags were red and featured the alternating flags some with German, “sei zukunft, sei innovation, sei berlin” (be future, be innovation, be berlin) and some in English “be creative, be innovation, be berlin.” In each advertisement’s case, the two words proceeding Berlin in the sequence are supposed to reference a positive quality of Berlin. Because of the diverse range of qualities it sought to highlight, many of the advertisements were often site specific, like this specific example. The flags around Ernst Reuter Platz, which include statements about innovation, the future and creativity situated in the campus of Berlin’s Technical University add additional meaning by being paired with the university and along a street with a high volume of traffic. The positioning of this sample advertisement shows the way that various words were used to illustrate desired qualities, but also, tie back to economic growth. Advertisements with words like “be learning” or “be research” would be redundant in the context of the Technical University, instead the ideas of being future, innovation, and creativity highlight the way discursive themes of economy, technology and growth are associated and get associated with sites of post-secondary learning.

The second type of *“*be berlin” advertisement includes a quote in English or German within a red square speech bubble. Like the triptych *“*be berlin” advertisements, these were also found all over Berlin. Construction sites, a constant in Berlin, created a common location for many of these larger advertisements. One such advertisement was found covering the *Staatsoper*[21] (National Opera) across from Humboldt University. This particular advertisement featured gigantic posters along the construction barriers that

[21] This is the oldest of the three major operas in Berlin dating to 18th c. and was located in the GDR during the split.

celebrated the diversity of Berlin with statements like *"be* Berlinternational" "Internationality has many faces in Berlin" (Internationalität in Berlin hat viele Gesichter) and "be city, be world, be berlin" (sei stadt, sei welt, sei berlin). On the actual building undergoing construction there was a building size advertisement with various pictures of people's faces, including many faces that would be marked as foreign in a German context because of their skin color (not white) or their dress (like head scarves).The advertisements function as a way to reference the diversity of Berlin, but this diversity is not advertised as German diversity, but instead these different looking faces are characterized as adding to Berlin's *international* flavor, even though many non-white people are not from abroad, but instead, are German citizens themselves.

Still, the *"*be berlin" campaign was one of the first times that Berlin, one of Germany's most diverse cities, began to incorporate immigrants into their advertising campaigns. This change points to the reality of Berlin and the increasing openness to "advertise" diversity in Germany. Because the discourse of the creative city encourages diversity and tolerance, incorporating immigrants and non-white workers is far from subversive, instead it marks the way that the fetishization of diversity is slowly being incorporated into German politics. The location of the large "be international" advertisement on the *Staatsoper* in Berlin's center directly across from Humboldt University's campus, and partially in English, also, cannot be overlooked. As a site that is frequented by many tourists (presumably international), visitors and academics, this advertisement seems to be targeting foreigners themselves. As I will discuss in later chapters, foreigners (at least the right kind) are imagined by state and business officials as

being essential for growth in Germany's MINT industries. As such, attracting educated immigrants and foreigners to Berlin aligns with Berlin Partner's goals of establishing Berlin as a site for science, technology and creativity thereby ensuring future economic growth. Consequently, these advertisements also position Berlin a safe place for those "creative" immigrants that are needed to fuel those industries. While not tied directly to the campaign, several of my foreign informants noted in my discussions with them that they specifically chose Berlin because it was easy for foreigners to navigate and live in and because they felt Berlin was, on a whole, more tolerant than other cities of outsiders, particularly those who look different.

Part of the problem with creating an image of the modern city is that cities are rarely one thing. Berlin Partner wrote that the advertising campaign "systematically highlighted the different aspects of Berlin, including its economy, scientific community, modern industry as well as sporting activities and social affairs."[22] The *"*be berlin" campaign managed to embrace this multiplicity by actually incorporating it into the campaign. While always telling people what Berlin is, the advertisements, in their numerous forms, also reveal the difficulty with actually *being Berlin,* at least in terms of short two word phrases. The advertisements and the city change given the specific context, and the advertisements almost threaten with their flexibility to become meaningless. In fact, Colomb (2012, 263) writes that as the advertisements were moved outside the city the concept of *"be* berlin" had less meaning for viewers, and so, the city revised the campaign to include the phrase "the place to be" for change, art, history, and other desired characteristics. In both cases, the individual and the city become

[22] http://www.be.berlin.de/campaign

synonymous, straddling the various boundaries of self and city, me and you, one and many. The beauty of this advertising campaign is that it was endlessly flexible allowing marketers to show a huge number of qualities of Berlin without having to pick one over the other. In this way, the marketing of Berlin through the "be berlin" campaign was equally complex, and yet, simple.

The ideals of these campaigns, outlining what Berlin is and who is a Berliner, are not entirely inconsistent with people's experiences of many middle class, white Germans and ex-pats living in Berlin. Berlin Partner notes on their website that they drew the characteristics of Berlin from a survey of Berliner's themselves. To find what Berlin is, Berlin Partners, called on the citizens of Berlin to actively participate by sending in "success stories," "catchy phrases" and original ideas."[23] The resulting narrative, culled from the stories of supposedly "real" Berliners was then reflected back at Berliners. So in some ways, the advertisements are feeding the experiences expressed by Berliners back to themselves. Colomb's work on the marketing of Berlin also notes the various ways that Berliner's have challenged official place marketing strategies. One example she illustrates is a subversion of the "be berlin" campaign with signs that say in German "be hip, be 'creative,' be 'exploitable" (sei hip, sei 'kreative' sei verwertbar) and "be self-determined, be in solidarity, be in resistance" (sei selbstbestimmt, sei solidarisch, sei widerstand), and finally, "stop gentrification!" (2012, 294). This example thus shows that, while exceptionally flexible and "real," the official narrative of Berlin only shows so much. Additionally, it reveals the way Berliners themselves see the role of economic changes in the city, because gentrification has and continues to be a growing concern for

[23] http://www.be.berlin.de/en/campaign/2008/ (no longer available; last accessed in 2013)

residents. Filtered through a public relations campaign, "being" Berlin gets boiled down into single words or phrases with the problems and dirt of a modern city hidden by happy, positive statements concerning internationality, innovation and creativity.

## IV. "Poor but Sexy:" A Failure of Success?

Sitting outside on a warm spring day in 2010, Lars motioned to the buildings around us – some of them freshly painted with new signs and modern additions and others with gray-brown crumbling plaster and faded hand painted signs. "It's changing," he said with disgust, sipping his cappuccino. He continued discussing the way that Berlin was changing from a grungy, funky place where rents were cheap and the fun,cheap place it had been into the "cool" place where rich young kids from all over Europe were coming and demanding expensive stores, *bio* (organic) groceries, and coffee shops. Lars's comments mirror those that had been popping up in conversations and in newspapers during my year of fieldwork with each of them pointing to the fact that Berlin was changing; and according to Berlin Partner it was. Even as early as 2010, the focus on economic growth and image that I discussed in the previous section had largely been successful. If Florida were to include an international success story, Berlin would be a perfect example of one city that adopted his ideas to help stimulate the economy. While Berlin's economy is still considered weak compared to other German cities such as Munich and Frankfurt, IHK reports continuous economic growth year after year (2015).

While Lars's words about change rang true, I couldn't help but notice that we both sat there, two white, young people drinking coffee from a hip café in a hip district of Berlin. Lars, despite his fervor, was not a social activist but a graphic designer, programmer, and a key player in the establishment of Silicon Allee, which has become a key force in the economic development and gentrification of Berlin. Gentrification in Berlin is a hotly debated topic since economic growth and community changes seem to come at the price of its rough-and-tumble character.

Both my informants and formal media outlets describe Silicon Allee in terms of the Berlin Partner's image campaign and the creative city. A 2011 profile of Berlin in "Wired UK," suggests that, "Since reunification in 1990, Berlin has re-established itself as a thriving cultural centre and, in the last five years, as a tech hub for entrepreneurs from throughout the world, not just Germany."[24] Within this quote, all three of Florida's T's are addressed – talent (entrepreneurs), tolerance (from all over the world) and technology (tech hub.) Yet, even while matching the three T's from Florida, another factor almost always comes into play when describing Berlin as a site for computing and creativity: being cheap. This quality is mentioned later in the "Wired UK" article and was often mentioned by the media and my informants. However, Berlin's "affordability" or "cheapness" always remains understated or left out entirely by the Berlin Partner's advertising campaigns. Being affordable came as a result of Berlin's poor economic presence after the fall of the wall, and as the economy becomes more robust and jobs more plentiful, the affordability of Berlin, as a big city, is endangered.

[24] http://www.wired.co.uk/article/berlin

A 2003 interview with Berlin mayor Klaus Wowereit helped make the words "Arm, aber trotzdem sexy" (poor, but still sexy) a slogan for Berlin. After Wowereit's interview the words "Poor, but sexy" became a popular way to describe Berlin, which while considered a great place to live with lots of things to do, lacked a strong economy. This concept meant that living there was cheap. In the story of how Silicon Allee came to be, the characteristic of being affordable is one of the oft mentioned characteristics of Berlin. Relative to other Western European and German cities, the cost of living in Berlin is pretty low. Again and again, my informants mentioned this quality as being one of the key factors that drew them to Berlin. Kevin, an American a systems administrator at Penguin Products, summed up his thoughts this way, "Munich is really expensive, and considering I am only home on weekends…Berlin is a good place to be…I mean Berlin is unique, it is a very unique place, and it's cheap." Unlike many other silicon places like Silicon Valley, the affordability of Berlin provided an environment where people could fool around with software and startups without worrying about the looming costs of housing, food and transportation.

The informal narrative of how Silicon Allee came "to be" refers to the affordability of Berlin: Berlin provided the perfect substrate for Silicon Allee, because, while the city had many educational institutions graduating people in computing fields, there were no jobs to absorb them. Instead of moving out of Berlin, many of these jobless graduates were able to continue in Berlin, working on small jobs and paying low rents, while working on their startups in their free time. It is the affordability of the city that reduced the risk of starting-up. While failure might be painful, Berlin provides a safer

place to fail than Menlo Park, New York, or London. This creation narrative of Silicon Allee explains the process of making Silicon Allee as a type of symbiosis between Berlin Partner, which was interested in attracting talent to Berlin, and the organic work of technophiles, who built Silicon Allee through their work. Like Lars, community members often described to me how they spent years trying to establish a community. In describing its beginnings, Lars reminisces how even though everyone had ideas, no one acted on it. And now, he says, people are just starting to see that things can be done. On one hand, the infrastructure for startups has improved, and coinciding with that, people, such as Lars, have been instrumental in establishing user groups, meet ups and various community events which have attracted educated workers, hobbyists and students.

Both the growth and the popularity of Silicon Allee is marked by some local successes like Wooga, Ableton and SoundCloud and by attracting other promising "startups" and companies like ResearchGate and Etsy. During my fieldwork in 2010, people often complained that there were too many jobs and too few people. Beth, a software engineer from Canada, often dizzily described the way that other companies in the city were trying to woo her away from her job with promises of more money and more creative freedom. As a city that continuously posts unemployment rates much higher than the rest of the country, this side of Silicon Allee often felt like an enigma. Subsequent to my actual fieldwork, Berlin Partner, noticing the huge growth of software and ICT industries and start-ups, turned its focus into nurturing this industry.[25] The growth of Silicon Allee aligns perfectly with Berlin Partner's economic growth goals.

[25] One way they did this was by creating specific programs to help encourage and attract startups and founders like the Startup Unit and the Startup Alliance, which I discuss in further detail in my Epilogue.

However, economic growth does not exist in a vacuum. The successes of the Berlin Partner campaign and the robust but slow, changes in Berlin's economy are changing the landscape and population of Berlin. To be clear, Silicon Allee is not the only thing contributing to the urban changes. Tourism is on the rise, and other industries, such as media, are also growing quickly in Germany's capital. Much of the city's original "creative" citizenry are not the upper-middle class workers that the city desired, but instead, often poor artists squatting in abandoned buildings covered in graffiti. Much like Mary Douglas's (1966) assertion that dirt is matter out of place, the creative art of Berlin is equally affected by context. In a gallery or startup, the creative enterprise is encouraged and desired; but in abandoned buildings, creativity produced by squatters or drug users is not worth as much. Still, much of the grunge-punk aesthetic that Berlin Partner uses to attract people to Berlin, and that actually *does* attract people to Berlin, is based on this kind of counter-culture creativity. So, the increased economic success of the city brings me back to the question of the way that Silicon Allee is affecting change in the city.

Gentrification is often discussed in terms of displacement of various populations, especially immigrants and working class. Bernt and Holm's (2009) use of Marcuse's concept of displacement in regards to gentrification shows that early urban renewal strategies after the *Wende* in Berlin have slowly given way to more neoliberal ones. Thus, while early governmental strategies kept inhabitants in mind and were "decisively anti-displacement," (316) newer strategies have indeed pushed longtime residences out of popular neighborhoods like Prenzlauer Berg with fewer than 18% of residences having lived there before 1993 (321). Silicon Allee occupies many of these popular areas like

Mitte, Friedrichshain-Kreuzburg, Neukölln and Prenzlauer Berg. Historically, many of these sites were often considered colorful, but also,"dangerous" immigrant neighborhoods with large populations of Turks. In addition to occupying historically Turkish neighborhoods, startups and related sites also found themselves at home within the eastern portion of Berlin were East German buildings are often renovated with chic, industrial interiors. Silicon Allee is not the only cause of change in the neighborhoods. As many, many scholars have documented (Holm 2006; Bernt and Holm 2009; Holm and Kuhn 2011; Bojadžijev 2015; Novy and Colob 2013; Huning and Schuster 2015; Füller and Michel 2014), there are many threads that come together in neighborhood change, from zoning to tourist interest. Silicon Allee is just one of these many threads that contributed to these changes in Berlin. On one hand it is easy to look at these young, white, and mostly male, workers as agents of change in historically immigrant/working-class/GDR neighborhoods. However, going back to my original conversation with Lars, who was waving his hands in disgust, it is also important to note that many workers themselves are not necessarily complacent with the changes in the city. The relationship between workers and gentrification is multi-layered, complex and often contradictory.

One way this change can be documented is trendy coffee shops,[26] particularly those aimed at ICT and other tech workers. Coffee shops with their fancy lattes and quiches are often described in the field as the social replacements of the working class *Kneipe* (pub). Although coffee shops are not a new phenomenon to Berlin (or German-speaking countries in general), they, like *Kneipe*, provide a place for people to socialize. But, unlike most Kneipe, many coffee shops are also sites of work. For a few EURO,

[26] I will discuss the role of coffee shops in Silicon Allee more in chapter four.

office-deprived workers often buy a fancy coffee and "rent" their outlet and Wi-Fi in a coffee shop. In fact, unlike many of the stereotypes of Silicon Valley workers, who are shuttled from their million dollar homes in San Francisco on luxury buses, most of the people in Silicon Allee are not even close to the definition of rich nor is wealth singularly their goal.

As a city with a Pirate Party [27]in its city senate, many of the workers attracted to Berlin are attracted by the idea of ordoliberalism, the democratic ethos and the large Linux and free/shareware groups. Many of those with whom I met, even those considered "successful," were living on the brink and living from freelance job to freelance job. Tim had been trying to start-up his company for several years, but in his two-person company project of passion, but not money, he poured all of his finances and free time. He was able to do that, in part, due to the fact that the cost of living in Berlin was quite low. Once again, as I mentioned in the beginning of this section, many of those working in Silicon Allee point to the affordability of Berlin as being an important quality, along with its quirky counter-culture tradition, as being important factors for drawing them to the city.

While government officials tout the success of Silicon Allee as the success of the creative city, those on the ground often see the situation in a more conflicted light. The success of Silicon Allee threatens its own possible demise. If, the city continues to gentrify with rents and the cost of living continuing to rise, the choice of many workers to reject traditional corporate and ICT job trajectories, follow pet projects, and focus on making things instead of making money may diminish. Clearly, being able to choose to work on a startup is itself a kind of privilege, and some people, especially immigrants, are

[27] During my fieldwork; it is less popular in 2016

less likely to choose work with start-ups due to their financial insecurity. Still, the model of the creative city narrated through the image campaigns of Berlin Partners and those of many of the workers in Silicon Allee are not always aligned. Economic growth, at least how its current incarnation, comes at a cost.

Finally, while Lars's mere presence in the city may be impacting the neighborhoods in which he lives and works, he, like many like him, doesn't acknowledge this impact for both himself, Silicon Allee and Berlin, since his goals and ideals are in opposition to it. Instead, he and many of the other people I met in Silicon Allee see themselves in opposition to gentrification and feel that gentrification will destroy their neighborhoods, and thereby, destroy their community. If the affordability of Berlin is one of the key factors in the creation of Silicon Allee, the question remains if Silicon Allee can grow past it. In many ways, the thing that makes Berlin unique, creative and different from other Silicon places is the freedom that its affordability allows.

## V. Conclusion

The fall of the wall and the reunification of a divided city marked the beginning of many changes in the famous German capital. For several decades, while depending on richer *Bundesländer* (Federal States), Berlin underwent construction projects, erected new buildings and tried to attract businesses to encourage economic growth. While Berlin has long been associated with avant-garde and counter-culture from Weimar cabarets to artsy squatters, the creativity of Berlin did not bring in money. Around the turn of the

century, Richard Florida's work on what he classified as "creative cities" proposed to show the qualities of a new kind of city, where economic growth was not dependent on raw materials or factories, but instead, on ideas and innovation. In media campaigns clearly inspired by the work of Florida, various European cities began to develop marketing strategies aimed at selling their city as a site for creative enterprise. Berlin, led by the private/public partnership called Berlin Partner, developed one of these campaigns. Since the implementation of the "be berlin" campaign, Berlin Partner has reported an increased awareness of Berlin as a site for business and has also reported continued economic growth, particularly in highly desired MINT areas.

The beginning of the "*be* berlin" campaign and the blooming of Silicon Allee, both occurring in 2010, is not a coincidence. While Silicon Valley began more organically and slowly, both northern California and Berlin share similar progressive urban areas saturated by educational systems that can feed young people, both graduates and drop-outs, into STEM/MINT jobs. While Florida's three T's - talent, tolerance, and technology - are easily critiqued and can be problematic, both Silicon Valley and Silicon Allee are in areas of the world that clearly attract a lot of workers, allow for and even celebrate diversity, and nurture technological innovations. In 2010, the urban substrate was ripe for Silicon Allee. Unlike Silicon Valley, which has had several decades and several bubble/busts to mature, Silicon Allee is a young site for creative technological entrepreneurship. In addition to the three T's outlined by Florida, Silicon Allee and Berlin had something else that helped it stand apart from Silicon competitors - affordability. While northern California, New York, Austin, Seattle, and London all

suffer from expensive rents and high living costs, Berlin seems to provide a creative urban haven without the costs.

For all intents and purposes, Berlin Partner has been very successful in marketing and establishing Berlin as a site for economic activity. They have continually met their goal of economic growth between 2010 and 2015[28], but this growth has also had unintended consequences. While Berlin does have talent, tolerance and technology, like many places, it also has other things that attract young workers. For Berlin, the avant-garde/grunge/punk aesthetic has long been a draw for young people, and this aesthetic has long thrived because of Berlin's affordability. However, with the increasing attractiveness of Berlin as a site for start-ups, technology companies, as well as non-MINT businesses (which Berlin Partner also promotes), the traditional creativity of Berlin is being endangered by rising prices, urban renewal and gentrification. Along with economic growth, neighborhoods have started to change, and even in 2010, workers in Silicon Allee began to note the changes in their surroundings. Time will tell if Silicon Allee can weather these changes and exist, like Silicon Valley, in an area of the world that is both costly and creative.

[28] http://www.berlin-partner.de/en/press/annual-reports-and-charts-of-reports/

# Chapter 3: A Future with a Past


Postcard that says "The computer was discovered in Berlin. Today the future." Berlin Partner 2012. http://www.sei.berlin.de/kampagne/kampagnenjahre/2012

## I. Introduction

On a blustery March day in Hanover, I stepped off the *S-Bahn* (tram) that brought me to the world's largest computer expo– CeBIT.[29] When the doors of the train opened in front of the *Messe* (conference center), people poured out of the *S-bahn* and began walking briskly to the gates. I stood back, took a few pictures, and let the environment sink in. As I learned to expect at most computing events, there were gigantic advertisements in the foreyard and people handing out fliers to the attendees rushing by.

[29] CeBIT stands for **Ce**ntrum für **B**üroautomation, **I**nformationstechnologie und **T**elekommunikation (Center for Office Automation, Information Technology and Telecommunication) but it is really only referred to by its acronym.

Amid the sea of suits and various advertisements, I noticed something familiar. On a light blue Segway, towering over the other flier distributors, was a young man in a red Berlin Partners shirt. I recognized the logo on the Segway right away, it was an off-shoot of the "be berlin" campaign; one that I had been following back in Berlin because it directly focused on technology. However, as I neared the man, I realized that I had never seen this particular advertisement before; where as other "ich bin ein Berliner" (I am a Berliner) advertisements showed things like birth control pills and solar panels, this one showed a computer laptop. At the bottom of the advertisement, echoing the more general "be berlin" campaign, the advertisement says in English, "the place to be for future industries."

The past is used by stakeholders in establishing the legitimacy of a particular place, specifically with regards to the creative city. While Silicon Valley and other silicon places sometimes project a type of ahistoricality, the history of companies and business in these areas is just much shorter in relationship to other fields. As an object that really has only been widely available in the last fifty years, the computer seems both simultaneously ahistorical and squarely placed in our own personal pasts. Because of this, the computer and similar technologies are not as often told in the traditional "history book" sense that is presented in secondary schools, but instead, through personal histories and the media. The media is a key figure in the sharing and legitimization of silicon places through the past. While Silicon Valley has no need to try and legitimize its place as a silicon site, this is not the case in Silicon Allee. As a relatively new addition to the silicon world, stakeholders in Berlin cling to tiny fragments of computer history to try and legitimize a

utopian techno-future. In each advertisement, referencing the "first" computer, Berlin's advertisements follow up with the idea that the *future* is equally enticing.

As I discussed in the last chapter, Berlin Partner was motivated by the weak economy to launch the "be berlin" and other similar image campaigns. While this CeBIT advertisement, which I will discuss in more detail later in this chapter, suggested the computer is a "Berliner," until 2010 Berlin was not known for its computing industry. Drawing on the work of Berlin Partner and the idea that Berlin is a creative city, I both narrow and widen my topic in this chapter and focus on situating Berlin and with it Silicon Allee within both the history and geography of computing. Specifically, I examine how narratives of Berlin as a site for computing are used to validate itself and attract businesses and professionals to Silicon Allee. Within this focus, I write more broadly about the idea that Berlin is a city of science and technology and how that narrative draws on history to shape the city's current and future image. I begin this chapter by exploring the event called the "Hauptstadt für die Wissenschaft" (Capital of Wissenschaft) which occurred during my fieldwork. This city-wide, year-long event sought to celebrate various "birthdays" of Berlin's scientific institutions, and Berlin's place as both a past site and future site of wissenschaft. The second part of the chapter is more specific to computing and focuses on the Zuse narrative and the way Berlin gets legitimized as a site for computing. Just like the creative city narrative, which finds tension in both trying to create an identity that fits all and celebrate the multitude of the city, discourses about science and technology also uncover tensions and complications through their usage.

The narrative of wissenschaft in Berlin, co-opted in the pursuit of image making, is far from simple. While many places, particularly those aiming for credit as a creative city, draw on history to validate their position in the MINT/STEM fields, Berlin's history is uniquely difficult. The citizens of Berlin, particularly those of German decent, are forced to wrestle with a complicated history which has left physical marks on the city. As the capital of the Third Reich, various sites remind citizens and visitors of the horrors of both the government and of war; throughout the city, homes of murdered Jews have small plaques in front of them, ruins of bombed-out buildings are left intact, and memorials small and large are curated around the city. Likewise, as a city that was bisected, Berlin still bears the scars of its infamous wall, with a metal line indicating its location, and galleries of leftover wall sections. In less touristy regions of Berlin, the evidence of the GDR and the separation of East and West are apparent through crumbling infrastructure, buildings, abandoned barracks and occasional references to occupying forces and dividing lines. Therefore, basing the current and future position of Berlin as a site for computing through the past is tricky. In particular, the celebration and advertisement of Berlin as the site for the first computer, finds itself in the middle of Berlin and in the middle of the Second World War. This specific chapter is not just a history chapter, but an examination of the way the past gets implicated in the pursuit of a technological future. Furthermore, I use the adoption of the past by Berlin's image-makers as a way to uncover subtle (and not so subtle) conundrums in regards to Berlin, the past/future and art/science that arise through various narratives of the creative city.

## II. A Site for Technology and Wissenschaft

As I have reiterated again and again, Berlin's stakeholders adopt the discourse of the creative city for the sake of economic growth. Part of premise of the creative city is that it is preparing the city for the work of the future, which is based on science and technology. Furthermore, the work of the future is expressed by the mind instead of the hands. Part of the shaping of Berlin as a creative city focuses particularly on Berlin as a city of science and technology or a city of wissenschaft. In German, the concept of *Wissenschaft*, although often translated into English as science, actually references a wider concept of science than commonly held in English. The word itself made up of the words *Wissen* (knowledge) and *-schaft* from the verb *schaffen*, which means to create, make or to bring something into being. Together the word wissenschaft references the process of producing knowledge of all types from philosophy to the natural sciences. This concept fits perfectly in the concept of the creative city, which is a place for creating ideas and producing knowledge. In many ways, Berlin has long been known as a place for wissenschaft. While it may not have a robust ICT history, Berlin has a fairly established history in various sciences including linguistics, geography, biology and medicine. Among the *Köpfe* (Minds/Thinkers) who the city boasts are polymath William Liebniz, naturalist Alexander von Humboldt, architect Karl Schinkel, philosopher Georg Hegel, linguists Jakob and Wilhelm Grimm (the brothers Grimm), inventor Werner von Siemens (founder of Siemens), and physicist Albert Einstein. Still, education and wissenschaft do not alone boost the economy; to do that, wissenschaft must turn to

innovation. Knowledge is not produced merely for its own sake, but instead, so it can do work for the economy through inventions, innovations and (profitable) ideas.

In 2010, Berlin celebrated a whole Year of Wissenschaft as the "Hauptstadt für die Wissenschaft" (Capital of Wissenschaft). As the website for Berlin's Year of Wissenschaft proclaims on its "welcome" page, this event celebrated "an all-year birthday for wissenschaft in Berlin" (Ein ganzes Jahr Geburtstag der Wissenschaften in Berlin).[30] Although presented through its media, events and exhibits as a solid, undeniable reality, and framed by the blurring of time by expanding a birth*day* (Geburts*tag*) into a full year - the Year of Wissenschaft – the concept actually highlights the way that Berlin and its history get reworked, re-imagined and squeezed into the specific goal of creating Berlin as *the* place for wissenschaft.

This year- long birthday refers to the several approximate jubilees celebrated during 2010: 350 years of the Staatsbibliothek zu Berlin (State Library of Berlin)[31], 300 years of Charité Universitätsmedizin Berlin (Charité Medical University), 300 years of the Berlin-Brandenburgische Akademie der Wissenschaften (Berlin-Brandenburg Academy for Science), 200 years of Humboldt-Universität zu Berlin（Humboldt University in Berlin), 200 years for Berlin's Museum für Naturkunde（Natural History Museum), 400/200 years for the Botanischen Gartens und Botanischen Museums Berlin-Dahlem (Botanical Garden and Museum in Berlin-Dahlem), and 100 years of the Max-Planck-Gesellschaft (Max Planck Society). These jubilees are approximate in that several of them do not actually represent the recorded history related to the founding of these

[30] http://www.wissenschaftberlin2010.de/willkommen.html 6/17/13
[31] State Library of Berlin; Although translated as the state library, it is not part of the regional library system and belongs to the Stiftung Preußischer Kulturbesitz (Foundation for Prussian Cultural Heritage)

institutions. For example, the *Staatsbibliothek* was founded in 1661 thereby celebrating 349 years, while the Max Planck Society was founded in 1911, thus, celebrating for one less year than noted. The botanical garden pinpoints 1679 as date when someone first decided to plant a garden, and then 1882, as the year that the garden became part of Berlin's museum system. Time is pushed and pulled to fit with the social program outlined by the city. These manipulations and blurrings, often in the form of dualities bleeding into each other, are key for understanding the way that Berlin is "created" into a site for science and for computing.

*A Year of Wissenschaft*

> "…the scientific society in which we live is not new. It has existed since the beginnings of human culture. Babylon, Athens, Alexandria and Rome are former powerful scientific societies. Today, those places are San Francisco, London and Paris. Berlin has a long tradition too as a city of science, experiencing its golden age in the 18th, 19th and at the beginning of the 20th centuries. All the disciplines in natural sciences, art, culture, economics and politics had a part in this development. Berlin became "Athens on the Spree."[32] Names such as Leibniz, Frederick the Great, Humboldt, Schinkel, Hegel, Virchow, Helmholtz, Koch, Planck and Einstein are closely associated with Berlin" (Ganten and van Dülmen 2010).

During 2010, the advertisements for the city of wissenschaft were ubiquitous throughout Berlin. Like the "be berlin" campaign which provided context to specific places based on location, the blue W of the Year of Wissenschaft dotted Berlin's

[32] The Spree is the river that runs through the center of Berlin

cityscape highlighting various sites of science. One such place with a giant blue W was the Bayer headquarters, which I passed by almost daily on the bus during my fieldwork.


Potzdamer Platz during Berlin's Year of Wissenschaft (2010) exhibit "Köpfe der Berliner Wissenschaften." Official Photo from Kulturprojekte Berlin / Jens Jeske und Sergej Horovitz. http://www.wissenschaftberlin2010.de/presse/fotos/blaue-info-treppe.html

Another, more elaborate site was at Potsdamer Platz.[33] In 2010 Potsdamer Platz, a place that emphasizes the way that old and new are enmeshed in the Berlin narrative, had an advertisement/exhibit "Köpfe der Berliner Wissenschaften" (the minds/thinkers of Berlin's wissenschaft). As seen in the promotional photograph above, the exhibit had pictures of various scientists and philosophers that had once made Berlin their home along with a giant blue W, blue "info" steps, and a sign advertising the Year of Science, noting in English, that Berlin is the "place for science." Berlin Partner also took advantage of the Wissenschaft Year and interwove various parts of their advertising

[33] Potsdamer Platz was largely considered to be the pre-WWII center of Berlin but was destroyed almost completely by Allied air raids. The Wall, which went directly through the Platz, ensured that it was not rebuilt during the Cold War. After the *Wende*, the city made recreating Potsdamer Platz into the center, with a modern futuristic flair, a key priority and symbol of reunification.

campaigns into the events and was partially responsible for the "celebration." In this old and renewed center of Berlin, passersby are reminded simultaneously that Berlin's history of science both validates and creates Berlin as a place for *future* wissenschaft.

While celebrating the history of many of Berlin's institutions, the future of Berlin was always in the forefront. At the opening of the Year of Science, Dr. Arend Oetker, the President of the Stifterverbandes für die Deutsche Wissenschaft,[34] explicitly connects the past and future when he says, "A year with five jubilees provides ample reasons to contemplate the meaning of wissenschaft in the city and region. I hope that the year of Berlin science will not be limited to the event's success. Rather it should be asked: what role does wissenschaft play for the future of Berlin and what role does Berlin play for the future of wissenschaft?"[35] The importance of the future was also emphasized in the special "Berlin: Hauptstädt für die Wissenschaft" ("Berlin: Capital for Wissenschaft") magazine, which was published for the year-long celebration. The magazine, part advertisement for Berlin and part event calendar, reminds the reader that science is not just important to Berlin but central for future life and economy. One article in the magazine asks various children from Berlin about their invention ideas, stating: No one knows better than children and young adults, which inventions their world needs (Niemand weiß besser als Kinder und junge Erwachsene, welche Erfindungen ihre Welt

[34] Foundation for German Wissenschaft although it goes by the name "Stiftverbandes" in English
[35] Original: "Ein Jahr mit fünf Jubiläen bietet ausreichend Anlass, über die Bedeutung von Wissenschaft für Stadt und Region nachzudenken. Ich wünsche mir, dass sich das Berliner Wissenschaftsjahr nicht auf das Feiern erreichter Erfolge beschränkt. Vielmehr sollte gefragt werden: Welche Rolle spielt die Wissenschaft für die Zukunft Berlins und welche Rolle spielt Berlin für die Zukunft der Wissenschaft." http://www.wissenschaftberlin2010.de/fileadmin/user_upload/dokumente/pressemappe/Aktuelle_PM_Berliner_Wissenschaftjahr_2010.pdf 6/17/13 released on 1/22/10

noch braucht)(Gronau 2010, 40). Here, as in various dialogs about MINT fields, youth are both the symbolic and real representatives for the future of science.

In narratives regarding the future, the *Idee* (idea) is the seed for future growth. The *Idee* is privileged not only as a starting place but also a symbol of innovation. Often in my fieldwork I came across people and publications noting (and sometimes arguing against) the importance of the idea. One article from Berlin Partner in the Wissenschaft Year magazine notes, quite clearly in German, that Berlin is "making the future from ideas (Aus Ideen Zukunft machen). The article features an interview with René Gurke, the director of Berlin Partners. Gurke says, "We have no raw materials/stuff in Berlin. But we have the stuff from which the future is made - knowledge and talent" (Wir haben in Berlin keine Rohstoffe. Aber wir haben den Stoff, aus dem die Zukunft gemacht wird-Wissen und Talent) (2010, 25). Gurke's statement is telling since it notes that Berlin is not a traditional site for industry, because it does not have access to raw materials (*Rohstoff*) the way that other areas of Germany do (like the coal found in the Ruhr Valley). But Gurke's statement implies that in the future these tangible materials will be secondary. Instead, production will move away from producing items to producing ideas. The past is associated with physical, dirty labor, whereas the labor of the future will be intellectual and found in the sterile environment of a lab. Therefore, the worker of the future becomes a factory for ideas.

Like René Gurke from the Berlin Partners, scientists, politicians and business leaders enjoyed outlining the ways that Berlin's *Stoff* (Stuff/Materials) made the site perfect for science and technology. The various descriptions of the resources available in

Berlin are clearly aligned with those found in the creative city. The lecture series *Treffpunkt WissensWerte*[36], which outlived the Wissenschaft Year, focuses on the new and upcoming in science, specifically in the Berlin-Brandenburg region.[37] In various *WissensWert* lectures, speakers describe the importance of wissenschaft in Berlin. In a very calculated fashion, the mathematician Günter Ziegler describes wissenschaft in Berlin through the formula "W in B = K^3" or wissenschaft in Berlin equals: "Köpfe, Kooperationen und Katalysatoren" (minds, cooperation and catalysts).[38] Once again, *Köpfe* makes an appearance reminding people that Berlin's true resource is found in the mind and between minds (*Kooperation*) and the organizations that spark those minds to produce (*Katalysatoren*). Aligned with Gurke's statement, TSB director, Norbert Quinkert suggests that, "Wissenschaft in Berlin is an untapped resource and reservoir for technological transfer" (Wissenschaft in Berlin eine unerschöpfliche Quelle und ein Vorrat für den Transfer in die Technologie).[39] Quinkert's quote especially reminds the listener of the way that technologies produced from the minds of thinkers (*Köpfe*) are described in the language of traditional industry with its resources and reservoirs of raw materials. Again, noting Berlin's potential, the future is referenced, and its ideal position in future industries as opposed to traditional ones. It is the people and the organizations in

[36] *Treffpunkt WissensWerte* (Meeting Point Value of Knowledge), which is sponsored by Technologiestiftung Berlin (Technology Foundation Berlin; goes by TSB or Technologiestifung in English) and rbb Inforadio. Radio Berlin Brandenburg; lectures were available in person, online and via the radio. rbb is purposefully not capitalized.
[37] While most Year of Wissenschaft was directed at Berlin in particular, Berlin often gets associated and included in the larger Brandenburg region. On a map of Germany, Berlin is the donut hole in Brandenburg, but each are their own state; Berlin being a city-state.
[38] "50. WeltWissen – Was zeichnet den Wissenschaftsstandort Berlin aus?" October 20, 2010. https://www.technologiestiftung-berlin.de/fileadmin/daten/media/podcasts/101020_TWW50_WeltWissen.mp3
[39] *ibid*.

Berlin, a city without traditional industrial resources that make the *Rohstoff* for Berlin's wissenschaft *and* economy.

The concept of innovation and its various German forms, such as *Innovationprocess* (innovation process), *Innovationimpulse* (innovation impulse), *Innovationkultur* (innovation culture), and even *Innovationsschmiede* (innovation forge), is central to various narratives of science, of progress and of economy. The word "innovation"[40] itself with its prefix suggests a forward motion and its main Latin root (*novāre)* meaning "to make new" is also oriented towards the future. From examples in the field, the concept of innovation, admittedly often overused and under-analyzed, references two intertwining themes: the future and the economy. For the creative city, innovation along with the *idea* propels the economy forward. In this way, innovation, while imagined as large discoveries, creations and inventions, is used more often in a "small" sense where it becomes the expected lubricant for the path(s) of economic success.

During the Year of Wissenschaft, this implicit and explicit connection between science and economy often surfaced. As expected, the heavily sponsored *Hauptstadt für die Wissenschaft* magazine highlights the requirements of innovation for a robust economy. An advertisement by Berlin Partner reminds the reader that "Business needs Science" (2010, 24) in English, and then, in a blurb written below suggests in German that among other sciences ICT remains a key vehicle for the transfer of ideas between the

[40] The German language borrows from this Latin form, even though the noun innovat*ion* is most common, not the verb form "innovate" - where *Änderungen* (change) or *Neuerungen* (improvement/innovation) is used instead. Additionally, although *Neuerung* (with the root word "new" or "neu") would probably be considered the best German translation of innovation, the Latin based word is much more prevalent, particularly in science and technological fields than its sibling of Germanic origin. Still, both versions of the word rely on the prefix meaning "new."

science (that creates them) and the business (that uses them).[41] Another advertisement from Year of Science sponsor, Bayer HealthCare/Bayer Schering Pharma, reveals the way that innovation is imagined as a forward force. Their advertisement writes: "One needs a lot of power/strength (*Kraft*) to fight against the diseases of the world: Innovation-power/strength" (Man braucht viel Kraft, um gegen die Krankheiten dieser Welt zu kämpfen: Innovationskraft) (26). Bayer's advertisement, once again, adopts a tone of progress through the discourse of traditional industry. Viewers are told that a lot of *Kraft* is going to be needed for this future; referencing perhaps industrial power or its workforce, but in the end to the viewer's surprise, Bayer lists a different type of power - the power to create. It is the power to create and the power to innovate that will not only win the battle against illness, but will win the battle for the future.

Again and again during the Year of Wissenschaft, the past is brought forward to remind people of how Berlin's history is indicative of its future and how that future is through the work of the mind. Wissenschaft and ideas are Berlin's raw materials, and its workers know how to translate the raw materials of academia into products of business. Berlin is ideal for this future economy because it already has the past experience of engaging and nurturing thinkers.

*WeltWissen: Knowing the World*

Few events of the Year of Wissenschaft presented the connection between past and present as clearly as the WeltWissen exhibit, which was considered the "high point

[41] The advertisement also includes information about the website www.berlin-sciences.com and the lecture series called "Business needs Science"

of the Year of Wissenschaft" (Höhepunkt des Berliner Wissenschaftsjahres) (WeltWissen 2010b). Walter-Gropius-Bau, which housed the exhibit, is a stately neo-Renaissance exhibit hall that at one time was an art museum. Like most pre-war buildings, the Walter-Gropius-Bau is rebuilt mostly in its old form, but also, with modern additions. Anywhere you look in Berlin, one finds the past physically enmeshed in the present much in the way the glass cupola sits atop the Reichstag building. It was at this site, in *Mitte*, between east and west, between then and now, that the Walter-Gropius-Bau presented *WeltWissen: 300 Jahre Wissenschaften in Berlin* (World Knowledge: 300 Years of Wissenschaft in Berlin). As the crown jewel in the Year of Wissenschaft, the exhibit particularly focused on cementing Berlin's place within the history of science and, in turn, the place of science in the future of Berlin.

The WeltWissen exhibit guides the guest through the chronological history of the Berlin sciences with various artifacts reaching back 300 years and ending not just with the present scientific landscape but by asking guests to participate by further imagining Berlin science in the future. Emphasizing this idea, the forward to the exhibit catalog notes, "With the exhibit 'WeltWissen. 300 Years Wissenschaften in Berlin,' forming the high point of the Year of Wissenschaft , we do not want a pure historical exhibit of Berlin science history and also not a pure theoretical presentation of scientific methods, instead we want to demonstrate much more, how the Berlin scientific landscape is characterized in the past and present"[42] (Henning and Andraschke 2010, 9). Rather than being merely a

[42] Original Text: "Mit der Ausstellung "WeltWissen. 300 Jahre Wissenschaften in Berlin," die den Höhepunkt des Wissenschaftsjahres bildet, wollen wir keine rein historische Ausstellung der Berliner Wissenschaftsgeschichte und auch keine rein theoretische Schau wissenschaftlicher Methoden präsentieren,

retelling of the chronology and the practice of science in Berlin, the exhibit attempts to ask, and possibly answer, the question about *why* Berlin is a site for science and *why* that relationship is important. Through the lens of the past and the present, these questions are poised to be answered by the visitors to WeltWissen.

Both purposefully and accidentally, the exhibit also reveals the difficulties of putting spatial boundaries around science. Prior to going to the exhibit myself, an acquaintance noted the contradiction in the name saying that he found the name "WeltWissen" for an exhibit on Berlin sciences to be quite ostentatious. The name WeltWissen can have dual meanings implying both knowledge *from* and *of* the world. The exhibit title capitalizes both W's in the word WeltWissen thereby emphasizing the importance of both the *Welt* (world) and *Wissen* (knowledge) both together, and also, as individual words. This method of presenting the word can suggest a kind of global knowledge, which is tied to understanding the world. On the other hand, the actual word, *Weltwissen*, without the capitalization of *Wissen* indicates a general worldly knowledge or a kind of process of getting to know ones world. Because of this the name of the exhibit gets caught up in double entendre and the dichotomies of global/local spaces. The ideas of Berlin's science presented in the exhibit find their place within and beyond the city. Like the conundrum of a year-long birthday, WeltWissen exhibit is bounded by the city-state while still reaching around the globe.

The exhibit itself reveals the difficulties of trying to limit science to a particular city and perhaps inadvertently bringing up the question of what it means to do

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sondern wir wollen vielmehr demonstrieren, was die Berliner Wissenschaftslandschaft in Vegangenheit und Gegenwart charakterisiert"

wissenschaft *in* Berlin and when does wissenschaft count as Berliner wissenschaft. In this way, the concept of Berlin as a city of wissenschaft is confounded by attempts to demarcate its boundaries. The science of Berlin is the science of the world. This point is emphasized in the opening press release in which Jochen Hennig, the director of the exhibit, is quoted saying, "We want to show, how scientists in Berlin work, how they network internationally, push the boundaries of their disciplines and developed Berlin into a wissenschaft metropolis" (Wir wollen zeigen, wie Wissenschaftlerinnen und Wissenschaftler in Berlin arbeiten, wie sie sich international vernetzen, die Grenzen ihrer Fächer sprengen und Berlin zu einer Wissenschaftsmetropole entwickelt haben) (WeltWissen 2010a). This theme is reiterated in a sheet on background information for the exhibit which states: "WeltWissen presents the Berlin sciences and their networks inside the city, as a main point, but also reveals at the same time, that scientific creations do not end at the city limit (WeltWissen stellt die Berliner Wissenschaften und ihre Vernetzungen innerhalb der Stadt in den Mittelpunkt, thematisiert dabei aber gleichzeitig, dass wissenschaftliches Schaffen nicht an einer Stadtgrenze endet) (WeltWissen 2010c). For a city, whose history is so caught up in the stories of boundaries, WeltWissen taps into the blurring of boundaries: of past and present, of city and world, and of disciplines themselves.

Embedded at the center of the exhibit, is the question about what makes Berlin science more than just science that occurs in Berlin. The question is not answered directly and instead the visitor is left wondering: can Alexander von Humboldt's fieldwork in Latin America and Russia be understood as Berlin science, even though it was done

abroad? Or can Albert Einstein, who was pushed out of Germany by the Nazis, really be claimed as a Berliner considering that his tenure there was quite short? Moving beyond the superficial claims of space, the question of what it means to do science in a specific place relies on an underlying idea that that there is something particular to that place that makes it special. Science, the exhibit implicitly suggests, exists in Berlin because of some kind of essential quality of Berlin that fosters the development of ideas.

Much in the way that time and space are reworked and blurred in the Year of Wissenschaft, WeltWissen's exhibit shows how the dichotomy of art and science are merged together through the act of creating. In Henning Meyer's description of the central exhibition hall, called the *Lichthof* (atrium), he notes, "As often is, art mirrors the core of science and its boundaries" (Wie so oft spiegelt die Kunst den Kern der Wissenschaft und ihre Grenzen" (Henning and Andraschke 2010, 84). WeltWissen, although technically an exhibit on the history of science, was also an art exhibit. From the advertisements for the exhibit to the way artifacts were presented, the exhibit was part science history and part art project.

Starting months before the exhibit, billboards around Berlin showed abstract images of colorful silk fabric.[43] These images were photographs of fabric mid-movement and each advertisement, like Meyer's observation that art mirrors the core of science, illustrated a different scientific theory. The science that inspired the fabric artwork was not at once apparent and was only revealed at a later date. Each advertisement, in addition to the abstract blurs of color from the fabric photos, asked an open ended

[43] Made and designed by BUREAU Mario Lombardo a Berlin based design firm, which also helped design the exhibit and magazine.

question to the viewer, such as “Is there an answer to every question?” (Gibt es auf jedge Frage eine Antwort?). The five advertisements illustrated the following themes from the WeltWissen exhibits: gravitational waves, a visualization of honey bee thought processes, a heart catheter, a Mars crater and the Z3 computer. The images themselves became both a model and a metaphor for the WeltWissen exhibit itself.


Advertisement for WeltWissen featuring silk scarves in movement. Created by BUREAU Mario Lombardo, 2010.

Dotting the cityscape, these striking but enigmatic posters and billboards asked Berliners to become philosophers on their daily commute. The advertisements were designed to be a type of riddle by the Berlin design company, BUREAU Mario Lombardo. Each advertisement, with artistic swirls and images that seemed to be flowing, were supposed to encourage the viewer to look deeper and get them to uncover

the illustrated scientific processes. By being embedded into the Berlin cityscape the lines between inside and outside the museum and between the viewer and the participant were dissolved. Although visually stunning, with riddle-like questions, the advertisements also illustrated the realities of exhibits in *WeltWissen*, where wissenschaft, specifically *Berliner* wissenschaft, often became displayed more as art than as science.

The central room of the museum, from which all other parts of the exhibit extended, was a stunning presentation of scientific artifacts called the *Lichthof Installation* (atrium installation) designed and assembled by American artist Mark Dion. This cabinet of curiosities, two stories high and lit from behind to create shadows on one side, contained artifacts from various museums and archives located in Berlin. Entering the center hall, the visitor is initially at the "backside" of the display and only able to see the shadows of the various artifacts. According to the WeltWissen website, the purpose of this part science and part art display was to mark a boundary between the known and the unknown.[44] The *Lichthof Installation* literally brings the unknowable into the light from the shadows. Like the advertisements for the exhibit, the viewer and visitor are presented with a riddle to solve; the images - the satin cloths or the shadows of artifacts - are not immediately knowable. It becomes the task of the viewer to become the scientist struggling with the unknown in an effort to know the world.

As implied, WeltWissen and the Year of Wissenschaft in Berlin was not only a celebration of Berlin's wissenschaft culture and landscape, but also, an advertisement for it. Once again, here another blurred area is revealed by the Year of Wissenschaft; the space between celebrating and advertising. The case for Berlin's future as a center for

[44] http://www.weltwissen-berlin.de/index.php/ueberblick-266.html

science and technology is made through its robust history as a place of the mind. From events to exhibits, the product becomes clear - the city itself. As such, the advertisements themselves are not only key to the Year of Wissenschaft , WeltWissen and the creative city but to my research and this dissertation as well.


**“**Ich bin ein Berliner” advertisement for the "first computer." Postcard collected at CeBIT in 2011.

*“Ich bin ein Berliner”*

In the beginning of the chapter, I described getting an advertisement in the foreyard at CeBIT; the CeBIT special advertisement features the silhouette of a white laptop on a light blue background. Written on the laptop in large type are the words “ich bin ein berliner.” This sub-campaign of the larger “be berlin” campaign shows silhouettes of different technologies that have been (supposedly) invented or developed in Berlin with

the statement “ich bin ein berliner” (i am a berliner). Unlike the more general “be berlin” campaign, this campaign, started in 2010, was specifically focused on demonstrating Berlin's technological history and future capabilities in order to lure potential scientists, engineers and businesses to Berlin with promises of technological opportunities. The main tag line “ich bin ein berliner” speaks for 15 products in little text bubbles and included hormonal birth control (Bayer), a hybrid car (Deimler), a gas turbine (Seimans) and solar power represented by a sun (Inventux Technologies). Each of these advertisements pretends that each of these technologies is a “citizen” of Berlin by having it announce that “ich bin ein berliner.”

Although never mentioned, not even on the “be berlin” website, the statement also echoes the phrase made famous by John F. Kennedy, in which he declared himself a Berliner. This phrase is immediately recognizable to foreigners. The phrase “ich bin ein Berliner” is a much-quoted line from Kennedy’s 1963 speech in Berlin where he aligned the United States with West Berlin after the onset of the Berlin Wall construction. Kennedy’s speech is one of the most remembered (and repeated) moments from the Cold War, particularly in Western Berlin where Kennedy remains a city favorite. Not only is this statement famous, but it has also developed its own urban legend where the translation erroneously suggested that Kennedy accidentally declared himself a jelly donut instead of a citizen of Berlin (which, in fact, he did not). Overtime, the jelly donut legend has almost become as popular as the actual speech and one can find buttons and souvenirs in Berlin featuring the famous jelly donut.[45]

[45] Outside of Berlin, a Berliner is a type of pastry similar to a jelly donut, but in Berlin they are called *Pfannkuchen*. Kennedy’s phrase “ich bin ein Berliner” is the way to say “I am a Berliner” and so Berliners

Referencing this famous phrase, so often internationally misunderstood, hints at the role of the foreign solidarity during the crisis, the steadfastness of Berlin's technology, and the casual humor of a mistranslated phrase. The advertisement reflects on a time when the politicians and people of West Berlin were looking for support from foreigners. Today, instead of international solidarity, the Berlin Senate evokes this phrase to hint at a different type of crisis - not having enough trained workers for engineering jobs. Additionally, the phrase is ripe with humor with various levels of translation confusion - initially, the supposed mistranslation by Kennedy in his 1963 speech, and subsequently, the actual (and still popular) mistranslation by Americans, who think that Kennedy had inadvertently called himself a jelly filled donut. By using the "ich bin ein berliner" phrase, the campaign referencing the simple idea that various technologies belong in Berlin, and also, exhibiting a more nuanced nod to history and humor.[46]

At the bottom of the advertisement, echoing the more general "be berlin" campaign, it says in English, "the place to be for future industries." Berlin is generally regarded as having a weak economy and not as much industry as the rich, southwestern portion of Germany due to the fact that the city was physically divided for almost half a century. The advertisement, although not mentioning it directly, refers to this division through the "ich bin ein Berliner" phrase (associated with Kennedy) and then reaffirms its current position in regard not only to industry but to industries of the future. This underlying idea

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were never mixed up about his phraseology. When I first mentioned the legend to my Berliner friends in the 1990s they had never heard of the jelly donut story (although it has now become more popular there).

[46] Of course, by referencing Kennedy's speech during the Cold War the advertisement also references a "German" history that privileges the West (as opposed to the East).

suggests that despite it all, including half a century of division, Berlin was, is, and will be the site for technological development.

During my fieldwork, the "ich bin ein berliner" advertisements, like many of the Berlin Partner advertisements, were all over the city - plastered at bus stops, at train stations and in magazines. I saw the many, various forms of the advertisement in person, but never, the light blue laptop found on the CeBIT flier. In fact, the official campaign website does not even include the laptop version.[47] Unlike the other versions of this campaign, where a technology developed by a current company in Berlin is highlighted, this card merely tells the viewer in English "In 1937, Berlin was home to the first computer. And still it is the capital for future ideas." While the definition and history of the "first" computer is much more complex than this advertisement suggests, this advertisement attempts to legitimize and localize the awakening of computing in Berlin by highlighting its supposed birth. Still, the inventor, the context, and even the computer's role in the future of computing, is left invisible and unsaid. While limited in space, the other advertisements in the same campaign are attached to longer and more developed descriptions of the history online. One would imagine, that if Berlin was the site of the invention of one of the most important machines in the last century, it would not be so coy concerning the story of its invention. Instead, this specific card grabs the viewers' attention, tells us about Berlin's past and its potential, but leaves one wondering: who created this 1937 computer?

[47] I do not know why the advertisement was only available in this limited edition format. My main theory is that the advertisement does not reflect an actual current company in Berlin as do the other advertisements. Two other contributing factors could be the complex, sometimes disputed, nature of the "first" computer or, as some of my German colleagues have suggested, the fact that this first computer was developed during the height of the Third Reich.

## III. A Site for Computing

Within the first few days of my fieldwork, I found myself walking across the frozen Havel with my friend Anna, a short brown-haired woman who grew up and raised her family in the FRG island of West Berlin. As we crunched through snow hiding the icy river, she told me the problem was that West Berlin, despite the FRG's attempts to lure companies there with tax breaks, was never considered an economic pillar. At its best times, the city was a symbol of hope for FRG, and at its worst, a hopeless cause. Except for a couple outliers, few major corporations wanted to situate their headquarters on a capitalist island in the heart of Eastern Germany. On the eastern side, Berlin was a solid contributor to the GDR economy, which stood out among the countries of the Eastern Bloc. However, after the *Wende*, many of the companies and businesses that survived in the planned economy failed to thrive in the new economic situation. Prior to Silicon Allee and because of these economic factors, most major ICT companies occupied sites far removed from Berlin. So, in a city that historically had a clear lack of computer technology firms, how does it advertise itself as "the place for future industries"?

When I first start fieldwork in Berlin, one of the most common questions I got, was "Why Berlin?" Anthropologists always have to defend their field site whether it be to grant committees, colleagues or just curious bystanders. But people had a right to question me since, to say simply, Berlin was not the center of computing (if there even is

one in Germany.) Even with the work of the many professionals in Silicon Allee, the academics studying computing, and Berlin Partner encouraging growth, Berlin's history of computing is quite barren between the fifties and the turn of the millennium. Until recently, there were no major ICT corporations headquartered in Berlin - let alone having a branch. The major corporations that dominate the German markets reside mostly in the southwestern areas of Germany. The centering of computing and ICT firms in the mid-to-southwest serves as a reminder of the way that the political economy has shaped the economic landscape of Germany.

While not focused on computing or ICT, my conversation with Anna is indicative of the stories long-time Berliners tell about the economy and the reasons for it. During the post-war boom, with the influx of money from the Marshall Plan, Berlin was in many ways a conundrum: it was a city-state which did not belong to its own state but to foreign powers, and it was a place where family members were indefinitely separated by only a few hundred meters between them. During the Cold War, at the center of a tug-of-war between the East and the West, Berlin was geopolitically very important but geographically quite insignificant. As a tiny island in Brandenburg, West Berliners used to joke that Berlin was the only place in the world where the sun never sets - it only rises - because East was in every direction. While I was studying in Berlin in 1998, they celebrated the fifty year anniversary of the *Luftbrücke* (airlift), which, as many Berliners told me reminded them of how vulnerable West Berlin was during the Cold War. While many of the markers of the Cold War have been erased or brought back in specific

touristic contexts, the separation of East and West Germany, and the war that preceded it, lingers on.

*Story of a City; Story of a Computer*

With sticks, strings and plumbs, the machine clicks away in the middle of the room, and as if having a purpose of its own, the strings pull and the levers move up and down. Ralf Baecker, the creator of the mechanism, writes, "The machine turns away from the visitor and carries out its computations only for itself."[48] This sculpture, named *Rechnende Raum* (Computing Space), is made of wood, strings and plums, and exists as an inverted machine with its insides revealed for all. But unlike a computer, which it mimics, this *arti*fact attempts to remind the viewer of the blind spots in our relationship with computers. At this point in American and Western Europe, computers occupy a central role in the daily lives of most citizens. Like the artifact, which clicks and lifts gears, computers of all types, sizes and functions hum with activity around the clock and the more integrated they are into our lives, the fewer people see them. The blind spots of computing are all around modern people. Not only does is the functioning of the machine frequently invisible to us, but the history of modern computing, while relatively short, remains often unknown and under taught. However, as I have suggested, the history of computing is important to Berlin as a foundation for presenting Berlin as a place which has an innate tendency towards science and technology. In Berlin, the history of computing refers to one thing - Zuse and his computers. These computers and their odd

[48] http://www.rlfbckr.org/work/rechnender_raum accessed 6/27/13

story function, inform people about the role Berlin played in the development of computers, and more importantly, often inform people about Berlin itself. In a very particular way, the narrative of Zuse is the modern narrative of Berlin; with blind spots, destructions and renewals.

Berlin's claim to computing history is that it was the site of the first computer. Stories of technologies are incorporated into stories of civilization, modernity, and progress. These narratives are often punctuated by stories of "firsts": the first printing press, the first light bulb, the first airplane, the first computer. Few inventions are spontaneously independent inventions like their accompanying narratives might suggest, but the site of a "first" seems to be able to claim some special authority on the topic. The first computer depends, of course, on how one defines a computer. In this case, the first computer of Berlin is not so much about history, but how it fits into narratives about technology in Berlin today.

The *Deutsches Technikmuseum Berlin* (German Technology Museum, Berlin) shares on its website that, "the world's first computers were built in Berlin."[49] From the advertisement from CeBIT to the *Deutsches Technikmuseum Berlin*, Berliners seem to know a secret that few others do - the first computer was from Berlin. The website continues:

> "Many people are surprised by this, since the United States of America is generally viewed as the birthplace of the digital revolution.
>
> In fact, the information age can be said to have begun in the 1930s, within walking distance of the German Museum of Technology. In

[49] http://www.sdtb.de/Mathematics-and-Computer-Science.1256.0.html

> Berlin-Kreuzberg, the inventor Konrad Zuse built the world's first computers."

Not only does the Zuse story mirror that of Berlin, but the narrative cannot be disconnected from Berlin as a place. The Deutsches Technikmuseum, like the "be berlin" advertisement, reminds visitors of Zuse's contributions which occurred *in* Berlin *within* walking distance from where a visitor would be standing. The Deutsches Technikmuseum provides a 3-D experience of this corner of computing history. I am going to use the exhibit as a basis for the retelling of the Zuse narrative in this section. This narrative, along with other specific science and technology narratives, events and promotions are an essential element in presenting Berlin not only as a creative city, but as a creative city of science and technology - or as they are often described - future industries.

Two-thousand ten was the hundredth anniversary of Konrad Zuse's birth in 1910, and the year honored him in the form of *Zuse-Jahr* or Year of Zuse.[50] The Year of Zuse was tacked on to the various other jubilees for the Capital of Wissenschaft in 2010 but was not limited to Berlin. As part of the Zuse Year, the museum upgraded its computer exhibit, which consists of both original and re-built Zuse computers. The new exhibit invites the visitor in with a sign in English and German that says, "The First Computer: Konrad Zuse and the Dawn of the Information Age." The exhibit is open-ended meaning that visitors can either move forward in time or back in time depending on which way they start the exhibit. In this way, the visitor becomes an active participant in the way that

[50] There were events throughout Germany for the Year of Zuse.

the flow of time is experienced. At either the beginning or the end, a single room houses a rebuilt Z1.

Z1 Computer at the Deutsches Technikmuseum. Photo by ComputerGeek 2005, CC-BY-SA-3.0 https://commons.wikimedia.org/wiki/File:Zuse_Z1-2.jpg

The Z1 stands in the center of an open room with blue walls and is about the size of a dining table. Its parts and pieces, protected by clear plastic, almost look like a miniature model of a futuristic city with metal pillars holding on the various flat levels of metal. The Z1 was Konrad Zuse's first calculating machine. As an East Prussian engineer, whose work required long, tedious calculations, Zuse, with a few friends, started tinkering in an effort to create a calculating machine. Working in his free time in his parents' living room, he funded the development of his first computer both by working

for Henschel Aircraft Company in Berlin and, often downplayed, by getting a grant from the *Reichsluftfahrtministerium* (Reich Aviation Ministry). The Z1, with its tiny metal pieces creating a cityscape chimera that was built between 1936 and 1938. In Berlin at the eve of the Second World War, the completion date of the computer is fuzzy. Because of its unreliable beginnings, narratives often split the difference and establish the creation date of the Z1 as 1937.

The Zuse-origin narrative reflects on a history of computing that is much different than the historical narratives found outside of Germany. With their computers closely connected to military funding at big laboratories, the United States and the United Kingdom tend to dominate the history of computing. Having been developed during times of war,[51] early computer development in the US and the UK is very specifically tied to a military function. Early computers at Bletchley Park were used to decrypt German ciphers made by the Enigma machine in the early forties, thus giving the Allies a key military advantage. Likewise ENIAC,[52] developed in the United States during the late forties was funded almost completely by the military, built in a military laboratory and designed to calculate artillery trajectories (Yort 2005).

Of course, for both the US and the UK, the development of computers in conjunction with the Second World War holds little stigma. Conversely, technological developments that were funded and used during the Third Reich are often tainted by their history. The German Technology Museum notes that, "While the war made Zuse's work on computers more difficult, Zuse also profited from National Socialist military

[51] Specifically, the Second World War and the Cold War
[52] Electronic Numerical Integrator and Computer

contracts."[53] Still, while Zuse did receive funding from the *Reichsluftfahrtministerium* and the *Deutsche Versuchsanstalt für Luftfahrt (*DVL) (German Aeronautics Research Institute)[54] for work on the Z3, the Zuse narrative is distinctly different from other wartime computer narratives like those found in the UK or US. Zuse and his friends labored outside of work, during odd hours; like unknown artists or writers driven by passion. In his autobiography, Zuse writes that the computers themselves were, "not considered vital. It was considered, more or less, to be something for the amusement and private pleasure of my friends and myself" (1993, 64). The Z1 was built in Zuse's parents' apartment. Thus, the Z1 finds itself, like the "be berlin" advertisement referencing it, literally at *home* in Berlin in his parents' living room. For his later models, Zuse and his friends worked in a cellar. Unlike stateside computers, whose narrative does not find them *at home* until the personal computer, Zuse's models were both created and stored in the domestic sphere. This focus on the domestic realm keeps the computer situated not as an instrument of war but as a victim of it.

The cycle of creation and destruction is a central trope to many mythologies and popular in general storytelling. Both the city of Berlin and the Zuse computers find themselves both destroyed and rebuilt. The Z1 is relatively small; less than two square meters, but after it was built it would not fit though the door of his parents' apartment. This meant that the Z1 was stuck where it was unless they took it apart. Soon, the machine, like much of Berlin was destroyed in an Allied bombing raid. Shortly after creating the Z1, Zuse began working on his second computer named the Z2. The Z2 was

[53] http://www.sdtb.de/Mathematics-and-Computer-Science.1256.0.html
[54] This along with other organizations eventually became the *Deutsches Zentrum für Luft- und Raumfahrt e.V.* (DLR) which is analogous to the United States's NASA.

an improvement on the Z1 and created as a prototype for the yet to be built Z3, which he started to build before the Z2 was destroyed. Like the Z1, the Z2 met its eventual demise in an Allied bombing raid. The Z3, finished in 1941, became the, "first fully functional, program-controlled computer in the world" (Ceruzzi 2012, 250), but it too did not last the war having once again been destroyed in a bombing raid. Continuing to work on computers until the end of the war, Zuse began work on the Z4, moving it part by part to various locations around Berlin to avoid destruction before finally moving it out of the city. In an almost Sisyphean manner, Zuse and his friends find their work continually destroyed upon completion. Each time the computer was destroyed, a new version[55]– better and more advanced- arose from the ashes. Finally, the fourth incarnation was spirited from Berlin and traveled south, piece by piece, first to the university town of Göttingen, and eventually, to the Alps in Austria, where it was stored in a barn.

Zuse recreated the Z3 for the *Deutsches Museum* in Munich and the Z1 for the German Technology in Berlin. Despite these recreations, the machine themselves remained a mystery as Raúl Rojas, a Zuse historian, recounts, "Actually, nobody in the world understands the Z3! The machine itself was destroyed in the war. Zuse made a reconstruction of it in the 1980s, when he was around 70. He never documented it… If you want to understand the machine you have to go there and take it apart. That is what we did" (2006). Rojas' quote reveals how, after the war and after the recreation, the Z3 is "destroyed" again by computer historians when they took it apart and put it back together while trying to figure out the workings of this computer. After Zuse's death, his son, Horst Zuse, was also responsible for recreating the Zuse computers; this son built a Z3

[55] Both technically and historically, the Z1 was not yet destroyed when Zuse started the Z2 and Z3

for the WeltWissen exhibit. Zuse's creation and destruction narrative fits perfectly with the popular narrative of Berlin. The city of Berlin is defined by its destruction during the Second World War by air raids, which reportedly destroyed over 80% of the city's infrastructure[56] and killed hundreds of thousands of people. The reconstruction of Berlin is one that began quickly after the end of the war by *Trümmerfrau* (rubble women)[57] and continues to this very day. Berlin, like the Zuse computers, currently stands new, old, and recreated.[58]

At the Deutsches Technikmuseum Berlin exhibit, which features other later versions of his computers along with information about the company that he founded, there are also displays of Zuse's abstract and expressionist paintings. The various paintings of large cityscapes displayed in the Z1 room mimic the city-like scape of the computer itself. At a VDE lecture, Horst Zuse highlighted the way that his father's interest in art was both instrumental to and intertwined in the development of the Zuse computers. Within the Zuse narrative, one finds links again and again between art and logic. Instead of the traditional western associations connected with computers (and engineering and science) which posits the logic of science as the antithesis of art, Zuse's creation narrative embraces the processes of creation and creativity through both engineering and art.

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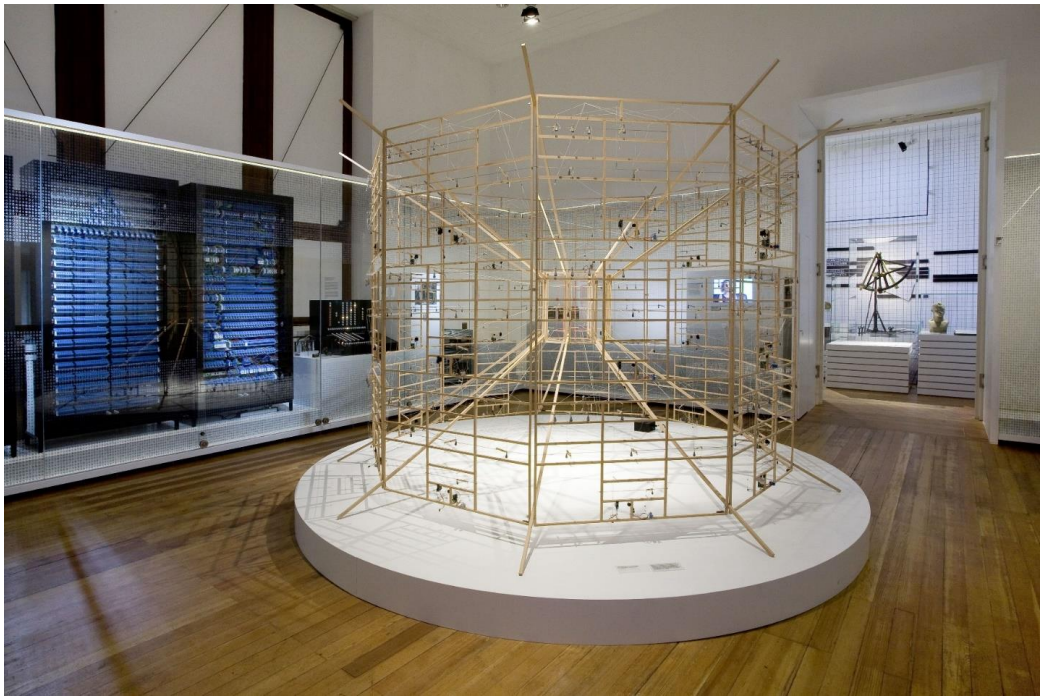
[56] This is not necessarily a "fact" but instead the percentage that is usually quoted by people I know in Berlin and is generally taken as "fact."

[57] Women who cleaned up the rubble from destroyed buildings as part of the reconstruction process after the war.

[58] Due to the nature of the history of the Zuse computers, they remain, although sometimes offered as "firsts," outside the trajectory of traditional computer history. Not only were Zuse's first computers - the Z1, Z2, and Z3 - both physically and intellectually isolated by an ongoing war, but Zuse's success at creating profits from his computers remained relatively limited. His company eventually closed and later in life he devoted his time to recreating his first creations and his painting.

At the WeltWissen exhibit, there was one room simply entitled *Rechnen* (Calculating/Computing). Horst Zuse rebuilt a Z3 for the WeltWissen exhibit and the Year of Zuse. However, like the art sculpture (*Rechnende Raum*) in the center of the *Rechnen* room there is more about the Z3 than presented. This artifact makes an appearance in the BUREAU Mario Lombardo advertisements for WeltWissen, where the relays appear on the blue satin like an underwater city with tiny buildings. The actual artifact is a recreation, but not quite a replica, of the original machine which was destroyed in the Second World War. Unlike other drab recreations of the Z3, this display was stylish with blue switches and a black case. The computer itself is covered with glass imprinted on top and bottom with 0's and 1's reminding viewers of its binary nature.



Promotional photo from WeltWissen which shows Baecker's *Rechnende Raum* and the Z3. Photo by RomanMaerz 2010.

Centrally located in the *Rechnen* room is Baecker's sculpture the *Rechnende Raum*. Across from the newly recreated Z3, it clicked away at its noticeably invisible processes in front of visitors. Of his sculpture, Baecker notes: "Even though the tasks and their logic runs directly in front of the viewers [*sic*] eyes… it is not possible to follow the succession of the single conditions of the machine. On one hand by turning the machine inside-out its function is completely transparent, on the other hand a strict self-referentiality and ignorance to the viewer is realized."[59] Like the sculpture *Rechnen Raum*, the Z3 bares its interior to exhibit visitors. Although its parts are visible for all, the processes of calculating are invisible. In a less fancy manner, the Z1 at the German Technology Museum also does not hide behind casing; its metallic metal organs are ready for visitors to scrutinize through its clear plastic covering. Once again, Z1 is exposed, but even if we could see it running, its processes are invisible to most people. Again and again, as a continued theme in both the *WeltWissen* and the history of Berlin's computing, the act of merely seeing is not enough. The truth remains obscured even when the bowels of a machine are on display reminding viewers of the gray between knowing and not knowing.

Baecker's *Rechnen Raum* sculpture mirrors Zuse's own work on digital physics. In fact, the sculpture itself is probably referencing Zuse's work through its title. In 1969, Zuse published a book titled *Rechnender Raum* (Calculating Space/Cosmos; literally "space that is calculating").This book theorizes that the universe is being computed by a computer. It is through this work that Zuse moved from the physical processes of creating

[59] http://www.rlfbckr.org/work/rechnender_raum accessed 6/27/13

to thinking about the theoretical processes of creation or the nature of nature. In addition to the book on calculating space, Zuse painted an artistic interpretation of the *Rechnender Raum*, which shows various vertical and horizontal lines and together imply a three dimensional grid against a mostly aqua background. Like the crisscrossing of the lines in Zuse's painting, Zuse's legacy reveals an approach to computing and information technology that crosses over disciplines, bridging fields of physics, philosophy, art and engineering, and ultimately, questioning the nature of the cosmos. In almost all ways, Zuse becomes the perfect representation of a citizen of the creative class and thus, his narrative, provides the city stakeholders with great material for their marketing campaigns in Berlin.

*Becoming Silicon*

Except for Zuse, Berlin and much of Germany is absent from the history of computing. Given the limitations in available workers, raw materials, infrastructure and Allies/governmental restrictions, Germany never really established a robust computing industry after the Second World War. As Anna explained to me as we walked over the frozen Havel, the political and economic geography was hugely influenced by the post-war occupation that did not officially end until 1991. Given the strong influence of American technologies on the field of computing after the war, it is not surprising that most of the key companies - IBM, Microsoft, Deutsche Telekom, and SAP - are found in the areas of Germany occupied by the Allied forces, most particularly the Americans. Even Zuse's short-lived company, Zuse KG, was established in the American zone.

IBM's headquarters are located in the area near Stuttgart, Microsoft in Munich, and SAP in Walldorf (Baden-Württemburg). Deutsche Telekom, while primarily a telecommunications firm, is the exception to the southern dominated computer behemoths with its headquarters in the central western city of Bonn. Siemens is headquartered in both Berlin and Munich, but has only recently started focusing more on ICT. Not only do the Americans dominate computing history in the post-war period, but even within the two Germanys, most computing and ICT companies flourished in the American sectors.

For that reason, except for the small beginnings of Zuse, Germany's history of computing is localized in the rich, conservative south. No major ICT corporations from the GDR managed to find their footing after the war either. This means that Berlin was mostly left out of the beginning of Germany's "digital revolution." Still, it is perhaps *because* of this very history which lead to a dearth of major computer corporations that has allowed Berlin to become a silicon place. Rather than large corporations attracting talented professionals into their ranks, Berlin, with its many universities and technical colleges, produced many young people looking for work. In this way, Berlin's Silicon Allee was truly in the beginning processes of being made. Unlike other silicon sites, which are well established, well-funded and filled with major corporations, most of the companies in Berlin are small and adopt the term "startup" to describe themselves, even if they may have technically have outgrown them. Without any other firms to dominate the computer "eco-system," adsorbing graduates from various universities and technical schools, the seeds of Silicon Allee would presumably not have set root.

Silicon Allee is succeeding in nurturing a relatively new kind of company - the internet startup. Only popping up in the mid-nineties, the internet startup is ideal for Silicon Allee, because it does not require the support or infrastructure necessary for larger, more established companies. While I will discuss startups more in chapter five, the internet startup has inexpensive starting costs compared to other startups, and ideally, their size allows for quick responses to user and market forces. The focus of internet startups in Berlin means that Berlin still is not the center of German computing; it has merely become one of many. Still, despite the focus on internet startups, the "internet" term remains often unsaid. Most media sources, cite startups as the key to Silicon Allee, but often fail to note that Silicon Allee is home mostly to *internet* startups. In an article about Silicon Allee, *Spiegel Online* noted in its tag line, "Berlin is home to an ever increasing number of innovative new technology startup companies"[60], but only describes examples of internet startups. In almost every case, from the *New York Times* to the *Frankfurter Allgemeine Zeitung*'s online blog *Netzwirtschaft*, Berlin's technology is related to internet startups. In these articles and on the ground itself, internet startups have since 2010 pushed Berlin's computing into the European, even international, spotlight.

## IV. Conclusion

Until I started my fieldwork, people would often question my choice of Berlin for a site to study computing and information technology. Despite a strong intellectual history,

[60] Charles, Hawley. "Europe's Silicon Allee: Berlin on the Road to Becoming a Startup Mecca." *Spiegel Online,* April 22, 2011, sec. Business. http://www.spiegel.de/international/business/0,1518,758097,00.html.

many people familiar with Berlin questioned my northern choice of a field site. With a weak economy and the majority of ICT corporations in the southern and western portions of Germany, Berlin seemed to be an odd place to study computing. Unlike firmly established places like Silicon Valley and London's Silicon Roundabout, Berlin's Silicon Allee seems to be arising out of nowhere. Notwithstanding, Berlin's image-makers have focused on establishing Berlin, as a site for wissenschaft and technology, and more particularly, a site for computing. As I will show in future chapters, this work is not only done by Berlin's image-makers, but also, through people's daily work. As I have shown in this chapter, the general history of computing in Germany, and for the most part, Berlin is both rich, yet limited. For a sliver of time in the early-twentieth century, Berlin was home to some computer innovators. While Germans have long prided themselves on technological achievements, the aftermath of the Second World War and the Cold War limited Germany's economic success with regards to computing. Those companies that did find a home in post-war Germany either did not survive to the present day, or like most commercial ventures during the Cold War, were not established in Berlin (or Eastern Germany), but instead, in the Western Occupied areas of Germany which dominated the Western and Southern *Bundesländer* (Federal States).

In 2010, multiple birthdays of various scientific achievements in Berlin gave the city a reason to simultaneously celebrate and advertise its position as both an intellectual and economic center for wissenschaft. Drawing on a rich history, the narratives of Berlin's wissenschaft suggested that because of its past of wissenschaft (often, very much in the past), that Berlin was ready and equipped for a future of wissenschaft. The focus on the

past is important for maintaining that Berlin's intellectual climate of yesterday and today is an ideal place for nurturing innovation, technology and wissenschaft.

Because information technology and computing play a key role in "future industries," the narrative of Zuse, and his "first" computer was often part of the general wissenschaft narrative. Even more than other narratives, Zuse's story almost perfectly echoes the narrative of Berlin itself; a narrative about success and loss, death and rebirth, art and science that are key elements to both the historical narrative of Berlin and Zuse. Like a phoenix dying and being reborn from fire, narratives of that time often focus on the destruction of the past in favor for a better future. In the same way that Jesus's life and death are mythological markers of time restarting (from BC to AD) and life for Christians, *Stunde Null* (hour zero) wipes the slate and starts time over for Germans, who supposedly realizing their political, moral and humanitarian foibles are now able to start anew. Yet, by advertising itself as the birthplace of the computer, the narrative also contradicts itself by suggesting that some type of essential quality, which nurtured scholars and inventors like Zuse, survived the rubble and remains to inspire current workers and innovators.

In many ways, the narrative of Berlin's sciences tries to celebrate the history of wissenschaft in spite of that history. As a site that is marked by the brutal history of the Second World War, and then, the resulting physical and ideological split, the focus on wissenschaft seems to provide a sanctuary from past while still weaving a future through it. With the narrative of the creative city playing a central role in the way that Berlin's politicians, bureaucrats, and business leaders have attempted to shape the narrative,

Berlin’s history of wissenschaft and computing is put in play enabling it to shape the economic future of the city.

# Chapter 4: Offline Web 2.0 Mobilities

## I. Introduction

Since the turn of the millennium, few things have been as integral in silicon places as the concept of Web 2.0. On the surface, Web 2.0 seems to be a mere revision of the original web or what could be known as Web 1.0, but the ideas and functionality of the actual Web 2.0 have grown past the product and are now embedded in wider computing culture. In this way, Web 2.0 is provides a perfect example of the way silicon ideologies are embraced and integrated into international computing communities, like Silicon Allee. Much in the same way that the creative city depends on assumptions about the future of successful cities, Web 2.0 rests on assumptions about the future of humanity. In both cases, these ideas are a method of shaping current behaviors focused on the idea that this new way of doing things will create a brighter, better future. Although not created together, Web 2.0 finds an obliging home within the creative city. In fact, most of Florida's descriptions of the creative city depend on the type of worker that embraces the Web 2.0 ideals. The worker in the age of Web 2.0 is indeed a creative worker; they are flexible, hardworking, tech savvy. Through the marriage of capitalist and modernist ideas, Web 2.0 offers a model for success that privileges an individual's agency and spontaneity within the larger community.

In the previous two chapters, I focused on larger city-wide approaches shaping the narratives and discourses of a silicon place through the ideal of the creative city. In this

current chapter, I turn my gaze more locally, focusing on the way that individuals themselves embrace and practice the concept of Web 2.0. A theme within this dissertation is idea that silicon places, like many other places in this age of reflexive modernity, are constantly changing, amorphous and in motion. These spaces produce and challenge what would be considered traditional boundaries and dualities. The places of Silicon Allee do not eschew dualities or boundaries, but instead, they get remade and remapped. This kind of reworking evokes both feelings of enchantment and excitement (Bennett 2001) for the people of Silicon Allee, including this fieldworker. However, these junctions can also correspondingly bring up an *unheimlich* (uncanny) quality; a type of unsettling that is not quite apparent. Focused on sites where these kind of hybridities are occurring, or at least where these kind of hybridities are made visible (Latour 1993, 2003), I explore the way that Web 2.0 is used to structure places and practices in the silicon place. This shaping mechanism is understood as a "new" method for disrupting the traditional way of work and life, while still maintaining capitalist ideals of profit and success.

This chapter is structured in three parts. First, I will give some background and definition on what Web 2.0 is, and what it has become. Then, I will branch off and explore the way that the characteristics of Web 2.0 get enacted in two specific cases: coworking sites and bar camps. I describe the way Web 2.0 moves beyond the screen into the physical world; in other words, how it becomes a shaping mechanism for behavior and physical space that is designed to encourage sociality in a world where many people are working on their own. Of course, like most things in the world, the changes

encouraged by Web 2.0 do not just always have a positive impact. In the end, I try to show in this chapter the way that Web 2.0 is both exciting and fun, but also, indicate the way this kind of rhetoric can likewise be used to further exploit workers. So, while Web 2.0 pushes users to buy-in to the concepts of sharing and community, the end point always seems to return to economic feasibility within a market economy.


A Web 2.0 tag cloud created by freelancer & Berliner Markus Angermeier (2005). CC BY-SA 3.0)

*Web 2.0*

Web 2.0 is integral shaping silicon culture at the beginning of this new millennium. In its very basic form, Web 2.0 represents the idealization of social

interaction and interactive democracy on the web. Although early musings on Web 2.0 began appearing on the web in 2004, it remained popular in 2010 and 2011's Silicon Allee. Web 2.0, while technically only describing the nature of the web, is something that saturates the cultures of Silicon Allee. As such, it permeates all aspects of life in Silicon Allee shaping both physical and virtual spaces. Like the term "silicon," Web 2.0 indexes not just an object but an ideal. This form of future/utopic thinking is at home in silicon places.

In its very basic definition, Web 2.0 describes the innovations and characteristics of the internet after the dot-com bubble burst in the early 2000s. The dot-com bust, which burnt people all the way to Berlin, is a cautionary tale for startups; Web 2.0 is the phoenix born from its ashes. There is no clear distinction between Web 2.0 and the web before it - Web 1.0. In terms of categorization and identification, Web 1.0 did not even exist until Web 2.0 was named, so Web 1.0 only come into existence as a differentiator of the past. As a result, Web 2.0 is a marker of the fresh start and, as such, uses the character of software versions (a decimal number) to indicate a continuation, a change, but most of all, a supposed improvement.

The concept of Web 2.0 is not without critiques. The most common critique is that there is no distinction between Web 2.0 and what came before it simply because there is no difference between the two. Tim Berners-Lee, who is credited with being one of the inventors of World Wide Web, suggested in an interview, "I think Web 2.0 is, of course, a piece of jargon, nobody even knows what it means" (2006). Berners-Lee is specifically critiquing the "thing" that is Web 2.0, but as with many of the critiques of the

creative city, Web 2.0 is successful not *despite*, but *because* of, its flexibility and vagueness. Like the creative city, which can change from city to city adapting to different populations and places, Web 2.0's amorphous nature means that everyone can have their own definition and nobody is wrong.

In terms of technological changes, web pages (as one of the primary aspects of Web 2.0) became more dynamic between 2001 and 2010. Changes and development in software, like JavaScript and PHP, allowed web developers and programmers to create websites that allowed a broader range of interaction than was previously available. On this "new" form of the web not only was interaction between participants encouraged, but the dynamic web provided a platform for users to edit or interact with websites themselves to varying degrees. Accordingly, Web 2.0 is primarily and technologically characterized by a dynamic and interactive web that draws on the collective data of participants. A classic example of Web 2.0 can be seen in the development of Wikis, which allow people to read information "passively" as one would on Web 1.0, and also, add and change information thereby becoming simultaneously a creator and consumer. This process of creation is moved outside of the individual (while still dependent on the individual) and crafted as a social process of the group. Of course, the suggestion that the web before 2001 was merely passive ignores the longer history of the internet, which, as Berners-Lee suggests, was equally about sociality and connecting people (1999). Still, I am of the opinion that the dot-com bust provided the caesura, which along with technological innovations and accessibility for lay persons, makes Web 2.0 seem distinct from its predecessor.

More than actual changes in technology, both bloggers and media scholars have argued that Web 2.0 point to something larger. Some scholars, like Ian Davis, the writer behind *Internet Alchemy*, declared in 2005 that "Web 2.0 is not a technology, it is an attitude."[61] While others, like Anna Munster and Andrew Murphie, have argued that Web 2.0 is not a "thing" or even an "attitude" [62]but a verb as the title of their article in *Fibreculture* suggests "Web 2.0 is a doing word." In trying to define Web 2.0, Munster and Murphie ask:

> "What, then, do we call something that sits somewhere between doing, being and qualifying? That systematises, indexes and categorises, on the one hand, and yet, on the other, willfully overruns categories and enthusiastically keeps adding to its own lists of things, activities and characteristics? That is poised between what has just happened (Web 1.0) and what will be about to happen in a minute, soon, or later (Web 3.0, the semantic web, next web)? That seems ineffable, not quite there (attitude) yet is also everywhere (lists, lists and more lists)?" (2009)

As such, Web 2.0 exists as a multi-dimensional chimera, existing as verb, noun and maybe adjective, here, there and not quite anywhere (as Berners-Lee might argue). Munster and Murphie's description of Web 2.0 notes the way that Web 2.0 seems not only to ignore traditional attempts at definitions, but similarly, traditional depictions of time. In many ways, Web 2.0, like the Western concept of the present; it exists suspended in the eternal "now" but always appears to be ready to become the "future." When discussing Web 2.0 in the field, people often visited the follow up of Web 2.0, Web 3.0

[61] http://blog.iandavis.com/2005/07/04/talis-web-2-0-and-all-that/
[62] Munster and Murphie actually wrongly cite Tim O'Reilly as the originator of the declaration that Web 2.0 is an attitude in their article, even though it is occasionally attributed to him, most sources, including Ian Davis' site suggest that Davis published the phrase.

or the semantic web, but no one seemed as intrigued by this "future" web as they were with future "now" that Web 2.0 offered. Even if there are continued changes to the web in terms of technology, I believe that in many ways Web 2.0 might survive, because as I have shown above and as suggested by people like Munster and Murphie, it is not so much a description of technological change, but instead, a way of thinking, a way of doing things, and a path not only to the future but to utopia.

Despite the enigmatic nature of Web 2.0, it was still adopted and often heard about in (often in its English rendition) day-to-day activities in Silicon Allee. Before doing my fieldwork, I had heard of Web 2.0 but never understood it as a larger concept. Again and again at various events like Web Montag and Community Camp, people would use Web 2.0 as a way to describe an ideal behavior of people, not just on the web, but in wider life as well. At one camp I attended, they asked people to shout out important, defining concepts for their work on the web, and the first thing shouted out and put on the board was "Web 2.0." At Web Montag, where people often discussed potential projects, participants seemed to wrack their brains to figure out the ways to incorporate the "social" into products and software. While seemingly focused on community building, this idealization of socialization was likewise about the individual. Both Silicon Allee and Silicon Valley draw on a similar culture which depends on a specific idea of the individual as actor and agent of his or her own destiny (as I will discuss in depth in Chapter 6), and this western understanding of the individual fits in quiet nicely with the Web 2.0 concepts of community.

In many ways, Web 2.0 is the re-realization of the electronic agora (Barbrook and Cameron 1996). The electronic agora is based on the concept of the *Agora* in ancient Greece, which as the central square of the city provided a place for people to gather, talk, shop and learn the news. The electronic agora is based on an idealized understanding of democracy, which allows people to have an equal voice, stand on (mostly) equal footing and for information to be freely exchanged. Long before the concept of Web 2.0, the web was supposed to be the modern day embodiment of the agora and in many ways, Web 2.0 can further be seen as an evolution of the agora. This early connection between the web and democratization of information argues that supposedly data does not discriminate; every user (having a connection) is equal, has a voice and has access to (free-ish) information.[63] The web has changed considerably in the last thirty years, and even when information was less monetized, one can clearly argue that the web has never been democratic; for example, although less so now web access has always had limited participation to those who can get on-line. Not only does accessing the internet (now and in the past) require specific technologies like a computer or phone, but the internet correspondingly requires access to specific infrastructure. So, clearly as a democracy the internet is far from perfect. But still, it is this basic yearning for democratization that creates the social foundation for Web 2.0. Because of this history of democratic socialization, Web 2.0 privileges peer-to-peer contact, community building and flat organization. Web 2.0 takes these democratic ideals further and implements them into a form of practice, where participation is not only valued but valorized. Because of this,

[63] The democratic appeal of the internet has been widely discussed. Including, Sandor Vegh, B. R. BarberBerry Hague, Brian Loader, Richard Moore, Mathew Hindmann among others.

interactivity, both on and off the web, is the guiding principle of Web 2.0. The idea of interactivity surfaces in the actual products of Silicon Allee, and it is played out and mapped onto the activities and the physical locations of Silicon Allee.

A final aspect of Web 2.0 is the understanding that this new interactivity will allow for a disruption of the status quo both economically and socially. It is this interest in disruption that actually energizes the transformation of Web 2.0 off the screen and into the office. In itself, Web 2.0 does not necessarily refer to economics, but nevertheless, everything on the internet must be paid for in some way. Whether money, data or a mixture of both, Web 2.0 is indeed intimately tied to economics. Before the beginning of the new millennium Barber, imagining the future of technologies, observed, that, "It is certainly true that market forces push the new technologies in directions that serve corporate efficiency, media communications, and consumer entertainment, but it is not clear that they do anything for electoral efficiency, civic communication, or political education" (1998/1999, 576). Once again, Web 2.0 exists simultaneously poised to disrupt and maintain traditional economic power structures. Within this basic concept, Web 2.0 supports a robust, open software, freeware and shareware communities based on the idea that everyone is a participant. Yet, as I will show in this chapter and the next two chapters, Web 2.0's focus on interactivity and community is used to develop new software and new businesses with the promise of low startup costs, limited staff requirements and exponential growth. Perhaps more than anything, this promise of potentials shows Web 2.0 is something that is not actually new, but merely a re-invention of the status quo.

## II. Translating Web 2.0 into the World

Silicon Allee reflects Web 2.0 in more ways than one. Some of the ways it compares are accidental and indicative of modern urban space instead of necessarily a technical community. Other aspects, like office layouts, popular hangouts and the concept of camps purposely imitate the idea of Web 2.0 and its emphasis on disrupting traditional life and order. Notwithstanding, the accidental and the purposeful blend together quite effortlessly.

Over all, Silicon Allee reflects the constant shifting, creating and unbounded movements characterized by not only Web 2.0 but the web in general. Although more common in anthropological research since the turn of the millennium, this kind of unbounded field site, not limited by tangible geographic and clear social boundaries, remains difficult to study in a field that (in many ways) still idolizes the village. New concepts of mobilities and liquid social dynamics have helped inform the study of urban space, which instead of a bounded unit of space, can be understood more like a constantly changing matrix with people moving between and around key sites that exist with a degree of flexibility and fluidity. Much of the work on mobilities tends to focus on global or transnational movements (Heyman and Howard 2009; Appadurai 1990, 1996, 2013; Ong 1999; Tsing 2005, 2015, and many others) while this kind of movement is indeed part of Silicon Allee, I am using the concept of mobilities here, to focus on smaller movements within the city, within the neighborhood, and even in a room from

person-to-person. Sheller notes that one must, "consider how mobile communicational technologies play a part in the enablement of new kinds of mobile publics, hitherto unimagined and unpredictable. By easing the affordances for some social actors to slip in and out of different contexts, identities, and relationships, such mobile publics allow for the momentary 'gelling' of public identities and actions across dynamic social spaces and scales" (2004, 41). While Sheller is not just referring to Silicon places, her work aptly describes the "liquid social dynamics" of Silicon Allee and other silicon sites, particularly because of the way that public and private spheres become intermingled, and often, indecipherable.

Unlike some Silicon sites, which really are more densely populated with ICT companies, venture capitalist firms and other technology-related places, Silicon Allee really is "all over the map." Silicon Allee is spread out over a city filled with people doing other things, and given its young existence, the physical locations of Silicon Allee are often short-lived, in flux, or embedded in some other kind of organization. Moreover, given its youth, Silicon Allee is not fully formed (or at least lacks) the maturity seen in other places where infrastructure changes take into account the huge ICT presence. There is no Infinite Loop [64](or similar), and surprisingly, there is not even an Allee (Ally); instead, Silicon Allee really is more (in)finite or in the continual process of becoming. Prior to the adoption of the name Silicon Allee, there was no real way to describe the emerging matrix of people, places and ideas. Yet, Silicon Allee emerged from a mature city (although one that is also demonstrative of constant change) to become an amorphous place.

[64] Apple's Headquarters in Cupertino, CA is on Infinite Loop

Even now, there is not much consensus on what Silicon Allee is and what is included in the terminology. Does Silicon Allee refer merely to the strong internet startup scene? Or is the wider, more varied computing landscape in Berlin also included in this definition? Furthermore, can sites outside of Berlin, such as Potsdam, claim to be part of Silicon Allee? Or is it reserved only for those in the Berlin *Stadtstaat* (city-state)? No concrete answers to these questions exist. Perhaps because the term Silicon Allee is as subjective as the places it occupies, I choose to understand the term in perhaps its broadest sense, not limited to the startup scene, but also including the collection firms, schools, gatherings, and people that together feed the computing culture in Berlin. I do this, not only because this is my own definition, but because like the California locale that Berliners are trying to emulate, startups, while perhaps the shining stars of the eco-system, are really intertwined in the larger webs of international computing.

The description of the modern urban space that Silicon Allee and other silicon sites occupy actually coincides with scholarship on new mobilities and fluid modernities. Because of this, it is reflective of Web 2.0 ideals; not because Web 2.0 is necessarily providing a model for this kind of urban space. Instead, I would suggest that, because people such as programmers, engineers and other ICT workers occupy this kind of modern urbanity, they are comfortable with the sociality and social dynamics revealed by Web 2.0. Once again, Web 2.0, with its preoccupation of sociality, while attempting to reorganize it, references its position in liquid modernity/reflexive modernity which, as Beck, Bonss and Lau (2003, 2005) suggest, requires constant boundary management in the face of changing conditions. Additionally, one notices that before computers were in

most people's homes and before the internet was something that you logged onto, Haraway's concept of the cyborg also finds relevance. While referring to common dualities like self/other, mind/body, culture/nature, and maker/made, Haraway observes that, "High-tech culture challenges these dualisms in intriguing ways. It is not clear who makes and who is made in relation between human and machine. It is not clear what is mind and what is body in machines that resolve into coding practices. Insofar as we know ourselves in both formal discourse…and in daily practice…, we find ourselves to be cyborgs, hybrids, mosaics, chimeras" (1985, 36). Again and again, through the web of Web 2.0 (and again in later chapters), the dualities which social scientists have tried hard to break down and move away from still manage to frame the discourse in their destruction. As such, a key aspect of Web 2.0's transition into the physical realm includes the questioning, reorganization and recognition of previously taken-for-granted dualities and boundaries of work/play, private/public, here/there, and real/virtual (among others).

In the next section, when I discuss the way that Web 2.0 ideals get mapped onto social spaces and into social activities, it is important to remember that these social spaces and social activities exist within a larger reorganization of sociality and is also definitely influenced by it. Still, as I will show, given the embrace of Web 2.0, the idealization of Web 2.0, and the popularity of Web 2.0 during my fieldwork, I contend that Web 2.0 is the primary instigator. Still, I want the reader to keep in mind that many of the behaviors idealized by Web 2.0 would not be possible without the infrastructure and social changes available to people in this age of liquid modernity. Instead of seeing Web 2.0 as something distinct and separate, I think it is safe to consider it a part of this

new age of increased mobility, flexibility and fluidity for some humans, things and information.[65]

## III. (Re)Working Work

Like the web, which is characterized by a network with various nodes being more significant than others, the landscape of Silicon Allee has a few places which are more popular than others. Also, similar to the web, various sites in Silicon Allee exist (mostly) permanently, semi-permanently or just for a moment in time. In this section, I will discuss examples of locations (mostly permanent) and events then, in each case, discuss how they reflect or embody the offline version of Web 2.0. Mobility is often dependent on the immobile; in other words, the movement of people, things and ideas are dependent on things like roads, wires and buildings, which help facilitate mobility while remaining immobile themselves (Kesselring 2006; Sheller and Urry 2006b). Although, like most things in Berlin, they are susceptible to change and mostly exist in a physical space such as a building, an office, a co-working site or a cafe. In this sense, these places exist as places in the traditional sense. They have an address and usually have specific hours of accessibility with various people having various levels of access. However, as I show in

[65] Scholars like Tsing, Kesselring, and Caletrio have pointed out (rightly so) that the concept of mobilities is not a totalizing concept since many are left out.

the case of the newthinking store even these "permanent" places are susceptible to change. When discussing the web, the internet, modern mobilities and social matrices, one runs into the problem that they neither start nor end, and so, most every attempt to structure writing around these topics is a battle between avoiding enforcing boundaries that are not necessary and maintaining a level of readability.

*The Un-Work: Coworking*

One of the keystones of Silicon Allee is St. Oberholz Cafe. As a multi-purpose site, St. Oberholz exists as a meeting place, a working place, and even, a living place with a cafe/restaurant, coworking sites and apartments. With its focus on social interaction, it is telling that the symbolic "center" of Silicon Allee is not an office or a school, but a cafe. Although not everyone goes to St. Oberholz, everyone seems to *know of* St. Oberholz and its status within the community. Furthermore, while squarely catering to those in the ICT, the cafe's clientele, like most cafes in a busy city, is not limited only to those in computing fields. As one of the center points of something that is amorphous, St. Oberholz is itself symbolic of Web 2.0, and even Silicon Allee itself, revealing a place that is not easily defined and that willfully engages and plays with traditional boundaries. The cafe is characteristic of the way places are being remade through various crossings (Bennet 2001). The categorizations of traditional dualities like work and leisure, private and public space, and art and science are being questioned and re-imagined. Furthermore, the introduction of people using new technologies in spaces that were previously

"private" or "public" serve to further erode "traditional" delineations of the private and public spheres (Sheller 2004); This is characterized by the movement of traditionally public spaces, like offices into the home, or private spaces, like personal phone calls, into public ones, like the *U-bahn* (subway). Like Silicon Allee and Web 2.0, St. Oberholz engages in these boundary crossings not just for fun but for profit. By gaining the reputation as a place for programmers, students, entrepreneurs, and other dreamers, the cafe ensures its own existence.

One of the functions of St. Oberholz, beyond its original function as a cafe, is its position as a coworking site. Born from the Web 2.0 ideals that place a priority on sociality, coworking is advertised as the antithesis of the "traditional" cubical filled office. Coworking sites are offices were people can rent a space for a monthly fee and work, not alone, but as a part of a pre-established, paying community. As betahaus, one of the most popular coworking sites in Berlin, writes on their website, "high quality value is no longer created in classic offices."[66] At coworking sites, each person has their own devoted space for working, but most often, these spaces are not private but shared with large tables for several people to use as desks. Skytop,[67] a coworking site that hosted several User Groups, provided some "private" work areas which were separated by walls with large windows; so, even if you needed a quiet space, you would still be visible to others. In many ways, it is not surprising that St. Oberholz is both a cafe and a coworking site, because cafe's themselves are a kind of precursor to the concept of coworking sites. Historically, the cafe in Western Europe has been a place of leisure, but also, a place for

[66] http://betahaus.de/about-3/?lang=en (no longer available; last accessed 2013)
[67] Pseudonym

people to meet, share and talk.[68] In 19th century Viennese cafe culture, "The cafe offers a site where different perspectives can be tried against one another. Its place in the city exemplified the shifting ground of Viennese urban modernity, as it provided a key location for the blurring or breaking down of time-honored hierarchies and social frameworks of exclusion and inclusion" (Ashby, Gronberg and Shaw-Miller 2013, 4). This description of the cafe mirrors both the description of the coworking site and ultimately Web 2.0. In all three cases, these things represent conceptions of place that both reinforce social interaction by reworking traditional understandings of space and sociality.

As one of the most popular coworking spaces in Berlin, betahaus,[69] reflects the "hip" style of Berlin; it expresses it through local art which hangs on its tall walls and during one of my visits included *unheimlich* (uncanny/creepy) photos of taxidermy animals. Once again, although perhaps unintentionally, the art of dead animals posed like living ones, references the way in which the various hegemonic dichotomies of modernity are uncovered by bringing them together; thereby, resulting in what Bennet (2001) calls a "surprising encounter" that is equal parts novelty and discomfort.[70] The resulting hybrid, representing something not alive, but appearing to be so, is like the

[68] European cafe culture has been widely written about in both the humanities and social sciences; fiction and non-fiction. From Flaubert's descriptions of cafes in *L'Education sentimentale (*1869) to Jürgen Habermas' *Structural Transformation of the Public Sphere* to more recent accounts in Jane Cowan's ethnography *Dance and the Body Politic in Northern Greece.*

[69] betahaus is lowercased

[70] While Latour's concept of hybrids would work here; I take a larger view of the concept of modernity than he does in his work and prefer Bennet's approach to modernity, which is equally filled with hybrids and crossings, because she sees it as a type of state of enchanted discomfort.

uncanny valley slightly disturbing and curious in a way that is not quiet tangible.[71] As a kind of parallel to St. Oberholz, betahaus is both a cafe and a coworking site; instead of being primarily a known as a cafe (as St. Oberholz is), betahaus is chiefly fashioned and advertised as a coworking site. The website for betahaus describes their coworking space as, "a combination of a Vienna-style coffee house, a library, a home office or [sic] university campus."[72] In an un-ironic suggestion, betahaus writes on their "about" page that, "If you need silence, you can go to our old telephone booth and work there without being disturbed."[73] In these sites of crossings, old spaces of communication (telephone booths) are refashioned into places for quiet self-reflection. Like St. Oberholz, which also offers coworking space, betahaus is a site of hybrids - it is a place for noise and quiet, for work and play, for going it alone and for collaboration.

If Web 2.0 could be made into a physical place, it would end up looking like a coworking site. Coworking is an attempt to thwart the regular work place environment and cultivate more of a cafe environment. While cafes in silicon sites have become places of work, a coworking site is specifically fashioned to be a place of work. The idea is to create a collaborative-type salon where people, who are working on different projects, can be inspired by what others are doing. While each person works on his or her own project, their proximity to each other and the daily chatter of the office is expected to inspire workers to produce something where the whole is greater than the sum of its parts.

[71] The "uncanny valley" was created in 1970 by Masahiro Mori to describe the idea that "a person's response to a humanlike robot would abruptly shift from empathy to revulsion as it approached, but failed to attain, a lifelike appearance." Mori's article was originally published in an obscure Japanese journal called Energy but was republished (and translated) by IEEE Spectrum on 6/12/2012. Quote in this footnote is from the introduction to that article.
[72] http://betahaus.de/about-3/?lang=en 2013 (no longer available; last accessed 2013)
[73] http://www.betahaus.com/berlin/faq/ 2013 "what is the working atmosphere like?"

Although coworking sites are available to all people (who wish to pay for the space), they are primary populated by those in ICT and similar fields (and occasionally artists). The close relationship between startups and coworking is seen by the mere fact that Berlin's Startup Map lists them not as start-ups, but as places where those starting up can work. In 2012, the Berlin Startup Map[74] listed over 51 coworking sites in Berlin with the majority falling into Mitte and Fredrichshain-Kreuzberg with clever and cutesy names like co-up, Smile!, Someone & Sons and Welance. In order to make themselves integral to the larger ICT population, coworking sites often opened their doors on evenings and weekends for events, meet ups and user groups where people can build robots or discuss (code) golf.[75] While Web Montag was originally held at the newthinking store, once it closed, there was discussion about where it would be held or even if it would continue in Berlin. Eventually, for a while, the event found a home at Jesery25, a bohemian coworking space and since then has moved to several other places. By becoming flexible and multi-purpose coworking sites ensure their survival and advertise their presence to newcomers.

Like Web2.0, which celebrates creation through collaboration, coworking focuses on community and the cross-pollination of ideas. For an area that is often stereotypically presented as socially awkward and shy, it places a heavy emphasis on

[74] berlinstartupmap.com/ (this particular website is no longer available. A similar map is available at https://startup-berlin.com/startupmap/ )

[75] This is an activity where programmers attempt to make a specific type of function in the shortest amount of code possible. During my fieldwork, the goal was to write code that could fit into twitter's 140 character limit.

being social.[76] While this kind of community of workers is not necessarily a new invention, the explosion of this kind of workspace has made it more visible and accessible to people. Breaking spatial and metaphorical boundaries of workspace, disciplines and interests, the coworking space exists often as a social space, a work space, and a relaxation space where traditional notions of work and employment are redefined. Often, coworking sites offer not just work spaces but coffee and food for workers and visitors. The need for these kinds of untraditional offices open up as ICT and computing jobs move out of the office because of the increased acceptability of telecommuting, the increased number of freelancers working on temporary assignments, and the increased number of people "starting up." The betahaus website describes this reinvention as work occurring in "different locations, at different times, in changing team constellations and without permanent employment."[77] Like a square dance, betahaus' representatives imagine the future of work as one where people are constantly moving, changing partners and never sitting still. Through the prism of Web 2.0, the language of mobilities and flexibilities comes through.

The ideal of Web 2.0 put into practice is often less than idyllic. Harry, a programmer for his own startup, NeuvoFilm, rents a space a betahaus. When describing betahaus for me, he first listed the same kind of ideas that they list on their website: open offices are supposed to encourage interaction and the sharing of ideas is supposed to foster innovation. However, Harry reveals that this ideal was somewhat unfilled in 2010's

[76] This can be seen in pop culture, like Silicon Valley, which features a number of Silicon Valley "types" with the founder being particularly socially awkward. Likewise, within the field itself, I had several people mention the social awkwardness and shyness of people to me.
[77] http://betahaus.de/about-3/?lang=en accessed 2013 (no longer available)

betahaus. As someone who had traveled and worked extensively in Europe, Harry noted that other versions of coworking sites were better at fostering sociality; he mentioned that he particularly liked the one in Paris. Despite his critique, Harry still worked daily at betahaus, renting a space instead of working from home. During my interview with him at betahaus, he waved and said "hi" to several people coming and going through the cafe. Ultimately, even if betahaus did not do it well, it still helped shield people from the isolation that solitary work can provide.

Coworking spaces and the sociality it tries to foster are mutually constitutive. While many workers moved into cafes to get out of the house and work in a more social atmosphere, these places already have a long history in Europe of being sites for intellectual and social interactions. Coworking sites, on the other hand, are a more deliberate addition to computing eco-system. Drawing on the ideals of Web 2.0, which privileges mobilities, crossings and liquid social dynamics, the space of many coworking sites is created so people can work side by side on different projects, at different times, and possibly at different places. Coworking sites seek to replace the sociality of work that is lost when people do not have an office. Furthermore aligned with Web 2.0 is the idea that the space is a place for democratic sharing of information. In the way that the ancient agora or the 19th century cafe supposedly allowed for sites of reinvented social interaction and equality, the coworking site does not have a "corner" office that suggests rank. All who pay their dues are welcome to work and share.

*The Un-Conference: BarCamps*

While the Web 2.0 ideal is important for shaping physical spaces - from how desks are arranged to where you can get quiet time - the ideals espoused by Web 2.0 are also important in "reinventing" events in silicon places. One of the most popular events that occur from time to time are called "camps." Like coworking sites, which position themselves as places where work is being re-imaged, camps are described as a disruption of the traditional conference and often branded an "un-conference."

Conferences are an important event for those in silicon sites. Conferences are supposed to be opportunities for people from different jobs and different ranks to mingle, meet and learn new information. Sometimes conferences are used by companies as places to display and advertise new products and meet with potential customers. While part of the focus is education, a key aspect of conferences is supposed to be social interaction and networking with one's peers. However, most conferences introduce a ridged rank structure, which to the democratic Web 2.0 ideal, is stifling for creativity. The un-conference tries to do away with this. At camps, there are usually no keynote speakers, there are no "experts" leading talks, there are no panels with question and answer series, and in fact, there is little planning beforehand. Moreover, unlike regular conferences, there are usually no fees for participation. The event is completely volunteer driven, and depending on its popularity, may be sponsored by various companies (who can get their name out, but are not supposed to influence the structure or topics). The low cost of attending also means that camps get a wider range of people (particularly young people and students), who might be more wary about paying several hundred dollars or euro to simply attend a conference. Sometimes in an un-ironic gesture, camps are actually held

the day before a "real" conference. Since Berlin is the capital of Germany and fairly centrally located in continental Europe it is home to many traditional conferences and so, it is also the home to lots of camps.

The first camp was created in Silicon Valley and remains one of the biggest, most popular camps around the globe - its name is BarCamp, which was based on another event called FooCamp (sometimes spelled FOO Camp). In the early 2000s, Tim O'Reilly from O'Reilly Media apparently originally created a get-together for tech hotshots or "Friends of O'Reilly" called FOO Camp to chat and drink. According to internet folklore, it was named as such because it would allow them to create a "foo bar" at the event as a kind of geeky joke. According to Justin Watt, who literally camped out in the orchards behind O'Reilly Media, the event was invite-only and attended by people who created Firefox, del.icio.us, Wikipedia, Flickr, BitTorrent, and many other recognizable groups.[78] Focused around the informal setting, sharing of ideas between experts and drinking, FooCamp even developed its own "Web 2.0 drinking game." In an account of the 2005 FooCamp, Watt, on his personal website, illustrates the way that even before camps became "Camps," they were influenced by the idea of Web 2.0.[79] However, because FooCamp was by invite only, it limited the democratic appeal of Web 2.0. On his personal web page, Tantek Çelik, one of BarCamps founders and a self-described "indie coder" writes that

> I related…how much fun I had at FooCamp in 2004 and the fact that I had not (yet apparently) been invited to attend in 2005 and how I felt about that…I asked the rhetorical question: "Why don't we do our own

[78] http://justinsomnia.org/2005/08/foo-camp/
[79] It also happens that Tim O'Reilly is often credited with popularizing the term Web 2.0

> FooCamp?" followed shortly thereafter with something like "We could call it BarCamp and make it open." (2006)

Echoing Celik, the official BarCamp website which is also a wiki, quotes Andy Smith's description of the event as:

> "Meet BAR Camp, an open, welcoming, once-a-year event for geeks to camp out for a couple of days with wifi and smash their brains together. It's about love and geekery and having focal point for great ideas…like FOO but open." [80]

While BarCamp was originally supposed to mimic and complement FooCamp, which was occurring at the same time, it actually has grown into something much bigger and has become well-known on its own (instead of something related to FooCamp.) People camped out at the original BarCamp, but none of the camps I attended or heard of in Berlin offered the option to spend the night. Today, the BarCamp website boasts locally run and organized camps all over the world from Songkhla, Thailand to Bangalore, India to less expected places like Douala, Cameroon. Likewise, Germany and Berlin have seen their fair share of BarCamps and other camps in general. Barcamp, while the official name of the original event, is often used as a kind of catch-all name for the event; usually events that have a more specific focus drop the "bar" and replace it by something more relevant. During my fieldwork, I was able to attend three such camps: CloudCamp (which was focused on cloud computing), CommunityCamp (which was focused on building and maintaining virtual communities) and InfoCamp (which was an offshoot of

[80] http://barcamp.org/w/page/401310/BarCampPaloAlto2005
Note: the original source for Andy Smith's quote is no longer available.

Infomare, a merging of informatics and library sciences). Each of these three camps had their own personality and their own layout, but each one shared some key similarities; similarities which mirror the democratic and social ideals idealized through Web 2.0.

The most important requirement for camps, fashioned after BarCamps, is that there are "no spectators, only participants." Everyone is expected to be involved in some way and the events are usually run by volunteers. On the website for CommunityCamp (which is held every October in Berlin) suggested ways in which you can participate are: "Prepare yourself for exchange (Beteilige Dich am Austausch), "write a report about the camp on your blog" (Schreibe Berichte über das Camp in deinem Blog) and "take a look at the documentation [webpage] and help to make it complete" (Schaue dir die Dokumentation an und hilf mit, sie zu vervollständigen).[81] Front and center of all camp events is the concept of participation. At the various events, I found myself helping create a working definition of cloud computing, discussing the pros and cons of citation statistic software, and discussing in a part-therapy/part-rant session the frustrations of managing online communities.

Many camps start off similarly to the conferences that they are trying to both emulate and unmake. For CommunityCamp in 2010, the event began with checking in at a table covered in ID tags. Each tag on a cord had participants names printed neatly on it. There were a few blank ones on the table that were there in case someone did not sign up in advance. From there, different camps unfolded differently, sometimes a few people who have agreed to speak give a little pep talk, nothing particularly prepared or calculated, because participants are supposed to avoid "advertising" their companies or

[81] CommunityCamp Wiki. "Einführung" https://communitycampberlin.tixxt.com/pages/campwiki

products although talking about one's life usually means talking about ones job, and therefore one's products. After the introductory talk and depending on the size of the event, everyone is supposed to introduce himself. Almost a hundred people were introduced at the CommunityCamp, and participants described where they worked and were supposed to describe themselves in three words. The words ranged from the playful - like *Kekse* (cookies) to more work-oriented notions like "community management." My three words were "innovation, informatik and kulture" (innovation, informatics and culture). After the intros and a large group meeting, the goal was to come up with different workshops.

The concept of workshops is focused on spontaneity and egalitarian appeal. After the main group meeting, people are usually given some time to wander around, to chat, and to write workshop ideas on either a large piece of paper taped to the wall, a white board or a wall with pinned note cards. These workshops are not pre-designed and people do not necessarily come pre-prepared (although they can if they want to). Depending on the number of people, how many rooms and how much time is available at the different events, there may be several sets of workshops, one after another, so people can attend several of them. At CloudCamp, which was quite small, but attracted people from all over Europe including Turkey, there were only enough people to fill two sets of two workshops. At CommunityCamp, which had many rooms set aside for almost two hundred people, there were many more workshops and some workshops were even held

in the *hinterhof* (courtyard) [82] of the building. After the brainstorming of workshops, people are able to give a little description of their workshop idea. When all the workshops have been described, people vote on whether they would attend a specific workshop or not. Based on the casual votes, the organizers assign locations (larger rooms for more people; smaller for fewer), and the workshops start. The workshops can really be anything and sometimes don't even seem to reflect the topic of the camp. For example, while most of CommunityCamp's workshops dealt with on-line communities and on-line communication, one workshop invited participants to fly drones in the *hinterhof*; consequently, this was the most popular workshop at the event. By opening up the conference to the wide range of possibilities of whoever happens to be there, one never knows who they might meet or what they might learn. No one asks for credentials; it is assumed that by being there everyone is in the position to share and learn something.

Part of the excitement about Camps is that one never knows what to expect. The excitement is palpable. As an outsider to the community, I was always surprised the passion and fervor with which people approach their field. Coming from academia, which tends to a somewhat cynical view of the world, people in Silicon Allee, and even more so at Camps, acted like there were big things happening and they were part of them. Part of this reinvention, or un-conferencing of conferences, is focused exactly on the idea that everyone has something to contribute and that now is the moment. Ben, an organizer for one of the Camps in Berlin, but not from Berlin, says that when he first discovered Camps 2008, he was,"so taken by the idea that I decided to initiate my own barcamp in

[82] Berlin is known for its building plans which privilege *hinterhofs* meaning everyone has some view of nature. Usually there can be two, three or more courtyards, one after another, depending on how large the building its.

Stuttgart in 2009" (von der Idee so angetan das ich mich entschlossen habe selber 2009 ein eigenes barcamp in Stuttgart zu initiieren). Ben's statement reveals a level of excitement that is not necessarily individual to him; by bringing people in and getting them involved, there is a kind of ownership over the event that people enjoyed. When I asked Ben what made him prefer camps to typical conferences, many of his responses echoed the things that attracted people to Web 2.0. First, he noted the ability to respond quickly to emerging topics and ideas; whereas topics and research presented at traditional conferences "maybe already old" (vielleicht schon veraltet) by the time the researcher gets an opportunity to present it. Another thing he noted was that, "the working group-form is different than that at 'normal' conferences. There are no speakers, instead there are participants. One realizes that in the working groups, it is very intensive that everyone is discussing with one another" (Die Arbeitsform ist anders als bei 'normalen' konferenzen. Es gibt nicht Referenten sonder Teilnehmer. Das merkt man in den Arbeitsgruppen sehr intensive da alle mitdisskutieren). Ben's observations about camps, reveal many of the same ideals of Web 2.0. He mentions the importance of everyone participating instead of just a handful of pre-selected people, and he notes the democratic way that everyone gets to participate. Ideally, everyone gets an equal voice from the topics that are chosen to the direction the conversation goes.

While camps certainly have a place in the silicon place, they do not replace the traditional conference completely nor do I think they ever will. The reinvention of the conference with its flexibility and spontaneity provides one way for people to communicate; however, as a venue for presenting research or new ideas, the forum may

be limited to what people want. While people in most conferences do indeed still "vote with their feet" with regards to which panels they want to attend, the visitor to the un-conferences is often competing not with other researchers, but with activities that may seem (or are) more fun (like flying drones.) As has been criticized in terms of web 2.0 classics like wikis, by treating everyone equally those with key research or who actually are experts may be overlooked or ignored in favor of those who are simply the loudest or the most fun. In fact, because of their format, comparing camps to conferences may be a red herring. Because of this, two different social gatherings exist with similar purposes but different means. Ultimately, BarCamps, like coworking sites, are focused on reinventing traditional social settings into something that is more user-friendly, more participatory, and ultimately more fun.

## IV. The Benefits and Costs of Web 2.0

Silicon places are exhilarating places to be and many of the people working there enjoy their work and are passionate about it. This attitude is infectious. People in Silicon Allee are excited; they are enthusiastic about the future, about computing, and most of all, they are motivated about their role in everything. In these situations, there really is a feeling that anyone can change the world. For example, in Silicon Valley, it is an open joke that every new product is going to "change the world." Various media sources from the New York Times (Da Loba 2015) to GQ (Biddle 2015) have run articles/opinion pieces about Silicon Valley's "changing the world" rhetoric, and HBO's series *Silicon*

*Valley* uses this concept as a common gag throughout the show. For many people in Silicon Allee, there is some truth to this witticism. This kind of focus, the idea that what one is doing is significant not just to the economy or to one's self, but to a larger world, is quiet seductive. Paired with the Web 2.0 ideals of encouraging social interaction, participation and democracy, it's hard to see the downside. Much of the utopian ideal of Web 2.0 is inherited from its previous incarnations. Berners-Lee from the World Wide Web Consortium, who sees Web 2.0 as merely a continuation of Web 1.0, sums up the idealistic feelings of many in the industry when he describes what he sees as the future of the internet and web in a 2006 interview:

> In general, I hope that we as humanity can learn to use this information space to understand each other, that we can form ourselves into groups in lots of interesting ways so that between us that sort of just tangled web of human groups spans the world and makes that so that it's not ... you aren't too many clicks across the social Web from any one person to any other one person, so that start really pulling together in the world and solving the huge challenges which we've got without being distracted by fighting each other.
>
> So I suppose scientific progress and world peace -- and the things that we've all got in the back of our minds -- have always got to drive us. And I think anybody, in fact, who does Web development, when you ask them about what they're doing for a few minutes, they'll end up back at those fundamental human desires.

Berners-Lee's idea that the web is something that connects some people to others, from a starting point all the way to world peace, shows how the simple ideas and ideals of different aspects of the computing industry become so impactful. Those who advocate for a world shaped by Web 2.0 either purposefully or accidentally are drawing on a utopian

ideal where information and interaction are seen as the building blocks for a better, more peaceful future where all people are equal and enough data can solve anything.

Part of the problem of using this kind of idealistic discourse as a guiding principle, is that it pushes people forward without questioning some of the larger things at stake. Scholars (Rattle 2010; Pellow and Sun-Hee 2002) have pointed out many of the ways that computers, computing culture, and ICT are troublesome for many things such as the environment, social justice and gender equality. While these are all legitimate concerns about the use of developing technologies, my goal here is not to de-bunk Web 2.0 or its ideals, but instead, to focus on the way it impacts the lives of the very people who accept and espouse it.

Beck, Bonss and Lau (2003) suggest that boundaries that once seemed stable become more difficult to maintain in the age of reflexive modernity, and Sheller (2004), drawing on their work, suggests that one of the places where we see this boundary at work is in the way public and private spheres are being brought together and blurred. The silicon place is filled with such blurrings, between private and public and between work and play, human and machine, self and other. However, as these boundaries begin to breakdown,[83] the lives of workers change. Instead of having a place for private time (home) and a place for work (office), the two become mingled. For freelancers, home may become a place for work. To escape, the merging of home and work, coworking arises to try and replicate some aspects of the office, while doing away with others. Additionally, for those who still work in offices, the office is often incorporating aspects

[83] Not that they were ever true boundaries to begin with but as Latour (1993; 2003) suggests we imagined them as pure

of *gemütlichkeit* [84](comforts of home). With bean bag chairs and an open fridge, the office begins looking more like home.

Many aspects of ICT and computing communities rework boundaries in the quest to make work more fun, but also, to encourage more work and longer hours. From everyday offices to special events, coworking sites and other community gatherings are always sure to include some type of "perk" to attract workers, and also, perhaps, dull the reality of working late into the night and on weekends.[85] Most events that occurred in "off" hours of the day, like nights or weekends, included free or subsidized beer, cola or mate for participants. Betahaus advertised this work/play erosion through things like a Sunday party for the Berlin Hardware Accelerator complete with a Waffel-DJ[86], who made waffles and plays music. As I will discuss more in the following chapters, the divisions of work/home and work/play, while artificial, are muddled by both individuals and companies in the computing field. Silicon Valley companies are known for all kinds of "perks" that help blur the line between work and play/work and home with places like Google offering workers nap pods, a ball pit and a personal concierge service. Facebook offers employees' kitchens stocked with free food, treats and drinks, arcade games and even a mini-city where employees can visit the doctor, get a haircut or drop off dry-cleaning.[87] Karl Heins, the CFO of a software start-up in Silicon Valley during the turn of

[84] While roughly translated "comfort," it refers to a type of cozy comfort associated with the home. An example would be akin to the comfort of being at home and sitting in a big cushy chair while drinking tea in front of the fireplace.
[85] Especially in a country like Germany, where weekends are treated like a sacred right. Many stores are closed on Saturday and everything closes down on Sundays (including grocery stores).
[86] Betahaus.com 2/13/14
[87] These kind of descriptions are widely shared in Silicon Valley (even since the 90's) but two sources are from Luckerson, Victor, "10 Most Lavish Job Perks in Silicon Valley." Time, Oct 14, 2014 http://time.com/3506815/10-best-job-perks/ and Stangel, Luke. "Facebook's 12 most fantastic employee

the millennium, mentioned in a conversation with me that you can always tell how many hours people are working by the type and number of perks they get. If their workers were not pushed to work long hours, Google would not need nap pods, or if workers have enough time off to do basic chores, Facebook would not need a dry cleaner and hairstylist on the premises. On Wall Street, Karen Ho describes similar types of perks, which while "first understood as 'perks' of the job, became not only taken for granted, but also expected and 'owed' given the time spent" (2009, 91). Truly, these perks are not perks at all but another form of payment used to encourage workers to stay longer in the office. Although not necessarily new, the examples of perks and pleasures together with the blurring of work and play, reveals the way that pleasure becomes a form of payment itself. Workers in Silicon sites, both permanent and freelancers, are expected to devote long hours to their work; so much so, as I will discuss in Chapter 6, when one's work is one's own startup, the division of work and "life" becomes indecipherable .

The seducing quality of Web 2.0 is that the ideals of democratic sharing of information, the sociality of communities, and the joy of doing something can all be achieved without sacrificing economy. In Gehl's (2010) work on Web 2.0, he notes that the web encourages user participation through pleasure while simultaneously profiting off of the users' participation. While Gehl describes this pleasure/profit complex as something existing on the web, like many things with Web 2.0, it can be translated off screen. In an article written before Web 2.0, Terranova argues that much work in the

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perks" in Silicon Valley Bsiness Journal April 8,2013; http://www.bizjournals.com/sanjose/news/2013/04/03/facebooks-12-most-fantastic-employee.html?s=image_gallery Its important to note that this kind of attempt to make work a home are not particularly new; ex. Fordlandia in Brazil attempted to make a work utopia

digital economy is based on, "productive activities that are pleasurably embraced and at the same time often shamelessly exploited" (2000, 37). Once again, while Terranova was describing work done on the web, this kind of exploitation of pleasure also translates into the way that various organizations and companies in silicon places exploit the labor of their own workers through the coupling of work/pleasure and the blurring of home/office. Workers become entangled (Latour 2003), both replicating and being subjected to ideals that encourage them and undermine them.

Thus far, I have discussed places that successfully embodied Web 2.0 in space and in actions. However, like many things in the silicon place, success is rarely achieved and never guaranteed. While St. Oberholz and betahaus are both wildly successful, the newthinking store is an example of an important site that did not last. The newthinking store, located in Mitte, was a "store" based around Open-source software. While the newthinking communications GmbH is a consulting firm that specializes in Open-source strategies and projects, the actual store, was designed as a site for workshops and events. The newthinking store, unlike most stores, did not have any merchandise besides the space and ideas that they offered. Like coworking sites, the newthinking store was designed with social interaction in mind. As a place that was important for community events, it had open space with lots of glass letting light come in and letting people see into other rooms. Included in the space was a small bar, which sold beer and mate, and a large event room, which was lined with window seats, regular seats and a place for a projector to shine. However, unlike the newthinking store, St. Oberholz and betahaus included cafe's and open spaces where people could visit at most any time during the day

and spend it chatting or visiting friends. The newthinking store was much more limited in its availability. It was only open during specific times; mainly, during events like Web Montag. In other words, people did not go to the newthinking store just to hang out or chat over coffee, but instead, to attend specific events. Still, the newthinking store, unlike St. Oberholz, was founded with the sole purpose of being a place to share. The events were open to anyone and rarely had a cost. Guided by an Open-source ethic, which argues that all profit when all share, the newthinking store was supposed to be a "store" but not one where things were for sale. Unfortunately, this idealistic ethic is not able to survive without any funding. Because the store had a limited fan base that people could essentially only use during specific events, it was not surprising that the store closed in 2010, and newthinking communications decided to pursue different projects. In an advertisement for their goodbye party, the newthinking store's owners wrote that they had to close, "because despite the many (mostly free) events, they rarely got enough [money] to pay for the costs of rent, electricity and other things"[88] (weil über die vielen (meist kostenlosen) Veranstaltungen in der Regel nie genug reinkam, um die Ausgaben für Miete, Strom und Sonstiges zu refinanzieren). In this case, the cost of the Web 2.0 ideal comes to the forefront. While St. Oberholz and the newthinking store provide examples of boundary crossing and places challenging the status quo, the newthinking store demonstrates that even in the era of interaction there are boundaries within the capitalist economy that cannot be traversed. Just as the new mobilities depend on the immobile, the new spaces and places of silicon sites do cost money to keep open. Therefore, while Web 2.0 does encourage social interaction and does foster a large open

[88] http://newthinking-store.de/party/abschied/20101210 (website no longer available)

source and community run services (like wikipedia), it is still beholden to the pressures of the market economy. The costs of Web 2.0 through time, information and data must eventually be able to translate, in some way, to money.

In the end, despite all the re-working and re-imaging of work, workers and businesses are still beholden to the market economy and its stakeholders. This technologically-based economy, often referred to as the "digital economy," is one where, as Andrejeciv writes, "the ostensibly counter-hegemonic strategies of fluidity and de-differentiation re-emerge as flexible strategies of control" (2006, 21). As part of the larger infrastructure that supports the digital economy, coworking sites, while parading as sites of revolution, are still businesses which require customers (or workers) to pay for their space. Turned around, the coworking site instead can be viewed as an office that requires its workers to pay for their attendance. But really, coworking is really a side effect of the larger "movement" in the United States and Europe, where more and more workers are required to bear the burdens that corporations used to accept. In the Barley and Kunda description of contingent labor in the US, they point out the fact that the ICT and computing industries lead in the use of contingent labor. Barley and Kunda describe a no-win situation where contingent workers, "were no longer imprisoned in an 'iron cage of bureaucracy,'" but instead, "they found themselves suspended in webs of dependency that were no less constraining" (2004, 291). Likewise, returning to my topic, the re-organizing of work, in some cases by workers themselves, must still operate within a market economy. While Germany's work culture is different than the United States in many regards, countless workers in Silicon Allee held contingent employment. So,

unlike a traditional office, where one is paid, the coworker, usually a freelancer, pays to participate. In the future of work that betahaus describes: permanent employment is a thing of the past where employees move from job to job, offering often cheap temporary employment, which frees larger corporations from the financial burdens of a full time employee. Once again, this points to the ideology of Web 2.0, which while "breaking" all the rules, blurring the boundaries, still conforms and even embraces a type of capitalism, which pushes people to work longer hours with less stability, while often only rewarding only a few.

## V. Conclusion

Web 2.0 created a fresh start for workers in the ICT industry after the dot-com bust. Neither the technology nor the theory of Web 2.0 were new, but Web 2.0 instead re-made, re-focused and refined, aspects and ideals of the previous web (1.0). At its base, Web 2.0 is about the technological changes and innovations that became more widely available to people and allowed more web interactivity during the end of the first decade of this millennium. However, as I have illustrated in this chapter, Web 2.0 is much more than mere technological changes in the web. Through the advent of Web 2.0, the ideals of the web were able to spread even further and enrapture even more participants. Web 2.0 focuses on the importance of the social while still maintaining the singularity of the individual. Considering that more and more people, particularly those in computing fields, occupy most of their time connected in some way or another to the web, it is

foreseeable that the ideals espoused by Web 2.0 would be applied to "real life" applications. [89]

At the same time, I argue that Silicon Allee is a site of reflexive modernity where boundaries are multiplied and blurred. In this age of mobilities of which silicon sites are at home, the previously "pure" dualities of public and private space, work and life, self and machine and many others are purposely brought into question, reworked and re-imagined by people. Therefore, through the lens of Web 2.0 and reflexive modernity, the office is no longer a place for just work and home is no longer just a place for private life. Thriving on these ideas, coworking sites and camps reproduce the ideals of Web 2.0 into physical space and social practice.

With a focus on democracy, information and interaction, workers embrace the ideology of Web 2.0, both reproducing it themselves in their own spaces and reproducing it in their work, which also places heavy emphasis on the idea of participation. Despite seductive nature of these ideals, Web 2.0, as a silicon ideology has some downsides. In the long run, as something existing in market economies, Web 2.0 requires some form of payment. For companies that profit from these ideals, it often means putting a greater responsibility and burden on the workers themselves through the process of contingent work. Likewise, the enjoyment of participation also allows the people heading companies and corporations to take advantage of workers; often trading longer hours and more work for fun "perks." As Barley and Kunda (2004) suggest, this new movement towards contingent labor is neither purely top down nor bottom up, and likewise, neither

[89] This is not to say that "real" life, perhaps did not influence web 2.0 in the first place. I believe they are mutually constitutive and as I will show in the next chapter really a false dichotomy.

completely beneficial nor harmful. Instead, like most things, particularly in this age of late modernity, the reality of life practiced is ambiguous and complex.

# Chapter 5: Being There (Virtually)

**"We are at a moment, I believe when the experience of the world is less that of a long life developing through time than that of a network that connects points and intersects with its own skein." (Foucault [1967] 1984, 1)**

## I. Introduction

Silicon sites, including Silicon Allee, revolve around the internet/web. Many scholars have pointed out the way that information and communication technologies are important to the mobilities paradigm is by changing perceptions and experiences of time and space (Aneesh, 2006; Castells, 2001; Germann Molz, 2005; Sheller and Urry, 2006). While this kind of time/space distortion is something experienced by many people in technologically rich sites where people have increasing access to transportation and the internet, it is especially central to the lives of those in silicon sites. Silicon sites are responsible for much of the production of both soft-and-hardware, and because of the level of buy-in from workers in computing industries, workers themselves are some of the most ardent users of these technologies. As both users and producers of the web, workers in Silicon Allee are almost constantly on-line and engaged with others in a

virtual setting.

Partially drawing on Web 2.0, I use this chapter to explore the way the virtual becomes a social object, and how it is used by people in Silicon Allee as a site for sociality and community making. As a discipline, anthropology, like many of the social sciences, has often been "grounded" in a history of sedentarism. This sedentarism, which treats, "as normal stability, meaning and place, and treats abnormal distance, change and placelessness," (Sheller and Urry 2006, 208) caused more of a challenge to anthropologists because the use of the internet and web have become more wide spread. Therefore, this chapter delves into the way people in Silicon Allee use information and communication technologies, and simultaneously, is an experiment on how anthropologists can incorporate the use of these technologies into the evolving nature of fieldwork and ethnography. In fact, one of the key difficulties with studying people's use of ICTs is that the language and theory of this type of sociality, like the technologies themselves, is still quiet young and quickly changing. Additionally, like the web itself, writing about this kind of unbounded, multi-connectivity is difficult when one also wants to maintain a traditional writing coherence; however, in this chapter, I have tried to find a balance between the two.

I begin this chapter by focusing on some of the theoretical approaches and difficulties in studying a highly connected population. While I problematize the division between "real" and "virtual," to a degree, I also choose to use it to describe things that people do on-line and off-line. Of course, these divisions are merely analytic categories and neither mutually exclusive nor neat and tidy. I draw on Foucault's brief and

incomplete foray into the concept of heterotopia, literally meaning "different places," to explore conceptions of space in relationship to the internet and web. As a heterotopia, the space of the internet/web/virtual, while not a physical space, can be understood as a kind of other-space that allows for changes in the experiential shape of space/time for the people deeply engaged with it. Additionally, it seems apropos to understand the internet/web as a heterotopia, when both the internet and the web are often tied in with utopic and dystopic views of the future; the heterotopia is one way to address this duality.

After exploring some theoretical approaches to the virtual, I will then turn to more concrete examples of the way these theories of space and interactivity get played out in Silicon Allee; in other words, I show how people use the internet/web. As shown in the previous chapter, Silicon sites are places were work is increasingly de-coupled from the office. I continue this theme with an analysis of telecommuting and virtual migration. Also, I address how locality is maintained on a network that spans the globe. Specifically, I use this section to examine the ways people in Silicon Allee use twitter and wikis to engage with the local community while also allowing people to engage with wider global networks. As part of the philosophy of the silicon, Web 2.0 is at home at on the web. In the last chapter, I indicated how Web 2.0 has influenced physical spaces and "real world" behaviors. Now I return to its home on the web. I explore how Silicon Allee is co-created on the web and how the ideals of Web 2.0 are integrated into the community through the web. Sheller and Urry (2006) point out that mobilities are more and more the everyday experiences of many people around the world because of information and communication technologies. Not only do people in Silicon Allee and other Silicon sites experience and

embrace these technologies, but in many cases, they are also the one ones involved in making them. Given the importance of their roles as both maker/users, I will briefly touch on it in this chapter and will devote most of the next chapter to this theme. Once again, this chapter draws on the inspiration of reflexive/liquid modernity in understanding the way that boundaries multiply, become visible, and are blurred, but again, do not disappear. Dualities of self/other, here/there, virtual/real, human/machine are brought to bear through the use of the virtual. While one can recognize these as false dichotomies, their perseverance remains pervasive even in their *Aufhebung* (pick-up/sublation).[90]

## II. Finding Space in the Virtual

The space of the internet/web, often described as virtual or cyberspace, simultaneously draws on concepts of reality and located-ness. Slavoj Žižek writes that one must approach the computer parallel to the way that Levi-Strauss' approaches food as an *object á penser*, "because of its 'incomprehensibility,' it's almost uncanny nature,

[90] This is drawing on the difficult to translate word *Aufhebung* that is used by Hegel to describe sublimation. Of the use of the word, Hegel writes, "Aufheben und das Aufgehobene (das Ideelle) ist einer der wichtigsten Begriffe der Philosophie, eine Grundbestimmung, die schlechthin allenthaben wiederkehrt, deren Sinn bestimmt aufzufassen und besonders von Nichts zu underscheiden ist. - Was wich aufhebt, wird dadurch nicht zu Nichts. Nichts ist das Unmittelbare; ein Aufgehobenes dagegen ist ein Vermitteltes, es ist das Nichtseiende, aber als Resultat, das von einem Sein ausgegangen ist; es hat daher die Bestimmtheit, aus der es herkommt, noch an sich. Aufheben hat in der Sprache den gedoppelten Sinn, daß es so viel als aufbewaren, erhalten bedeutet, un zugleich so viel als aufhören lassen, ein Ende machen.…-So ist das Aufgehobene ein zugleich Aufbewahretes, das nur seine Unmittelbarketi verloren hat, aber darum nicht vernichtet ist." From Hegel, Georg, *Wissenschaft der Logik, Erster Teil.* http://www.gutenberg.org/ebooks/6729 p131. The best English translation that I could find is a quoted source in Kassiola, Joel's *The Death of Industrial Civilization* on page 201 (but I could not find the original source that Kassiola grabbed the translated source from) -- *Aufheben* and das *aufgehobene* (*das Ideele*) is one of the most important concepts of philosophy, a basic determination which occurs practically everywhere…what is sublimated (*Aufgehebt*) is mediated; it is that which is not, but as a result, having issued from what had being; it is therefore still characterized by the determination from which it comes. *Aufheben* has in the [German] language a double meaning that it signifies conserving, preserving, and at the same time also making cease, making an end. …Thus what is *aufgehoben* is at the same time conserved and has merely lost its immediacy but not for that reason annihilated.

the computer is an 'evocatory object,' an object which, beyond its instrumental function, raises a whole series of basic questions about the specificity of human thought…" (2001, 18). As part of what one might consider "the computer," the internet/web additionally draws one quickly into thinking about the human mind and how people think about the world, space, themselves and ultimately reality. On a very basic level, both the internet and World Wide Web are used to connect computers and people and transfer information and data over large (and short) spaces (almost) instantaneously. However, as an "evocatory object," the internet/web operates as a symbol for and illustrations of an alternative space.

In his description of cyberspace, Heim writes, "cyberspace is more than a breakthrough in electronic media or in computer interface design. With its virtual environments and simulated worlds, cyberspace is a metaphysical laboratory, a tool for examining our very sense of reality" (1994, 83). In Heim's quote he is emphasizing the way that the internet/web requires one to re-evaluate human (western) notions of reality. For me, however, equally interesting is the language that Heim uses to describe this "space." Heim talks about cyber*space*, virtual *environments*, simulated *worlds* and metaphysical *laboratories*. Each of these descriptions brings the concept of the intangible to bear against the tangible. Even with the cyber, virtual, simulated and metaphysical, the internet/web finds itself not just in space, but *a* space. In general, the vocabulary used to describe the web, in both English and German, tends to be a strange amalgam of positioning the internet/web as both a place and a non-place. The very word "website" references the idea of a *site* situated in a *place* on the web. While a legitimate argument

can be made that the internet/web is not a space and should not be analyzed as such, in much of western culture, the internet and web are often described, and even experienced, in terms of space. While I originally explored ways to understand the internet/web through other means, I eventually decided to adopt the native vocabulary and symbolism of the internet/web as space, because I feel it provides a richer way to unpack human behaviors and sociality.

In functionality, the huge swatch of actives, behaviors, software and interactions that occur on/around the internet/web is less and less like the virtual world described by Boellstorff described in *Coming of Age in Second Life*. Boellstorff (2008) has perhaps a stronger argument for describing Second Life as a type of cyber-*space*, which purposely mimics the spaces of the "real" world. However, do emails, texts, chats, IMs, and googling, which have limited associations of space, deserve to be included in cyber*space*? Yes and no. I find the term "cyberspace," which became popularized by William Gibson's *Neuromancer*, a poor and dated description for what I have decided to call in this dissertation "the virtual."[91] Many theorists from the 1990's and even early 2000's (for examples of this see Escobar 1994; Heim 1994; Young 1998) tend to use cyberspace as a kind of umbrella description for the internet/web, but as information and communication technologies become even more woven into the daily fabric of people's lives simultaneously experienced along with living life, I find the concept of cyberspace to be too isolating and separate to deal with the realities of today's internet/web. And yet, at the same time, neither academics nor popular culture seem to have come up with a way

[91] Please note, while I do not use the term cyberspace myself, I still draw on work that uses the term.

to describe the various connections of people through a variety of technologies. Germann Molz (2006, 378) introduces the concept of *interactive travel* to describe traditional (tourist) travel that integrates on-line use. However, translating this vocabulary into the larger concept of "interactive life" seems redundant (is life not already interactive?) and not particularly useful. The term virtual, often clinging to the concept of "reality," derives from the post-classical Latin word *virtualis* which relates to the, "power or potency…that has the power to produce an effect" (OED 2016). By decoupling the virtual from reality, not only does this realize the impact of the internet/web/etc., but also removes it from the false dichotomy that is in place when paired with reality. So, for a lack of better word, I will be using the term "the virtual" to describe the "space" that is experienced by people through various forms of information and communication technologies like phones, tablets and computers.

Just as the development of telephones and airplanes changed the way that people experienced and understood space, so the web allows for people to experience and understand space differently. Although criticized for historical determinism (Winston 1995), in the 1960s McLuhan described the electric media as a way to, "resume person-to-person relations as if on the smallest village scale" (1994, 256). Much in the way that McLuhan describes electronic media, the virtual provides for vast global connections on a personal scale (Mullen 2006). For my work, I specifically focus on the experiential quality of space instead of the tangibility of it. In the recent past, the experience of the virtual was more or less tied to physical locations through the use of landlines. However, with the increase use of wireless internet, cellular connections and the "internet of

things,"[92] experiencing the virtual is no longer tied to a specific place but, like the mobility it engenders, is mobile itself. Therefore, rather than existing as its own space separate from the material reality of the world, the people with access to the virtual, like those in Silicon Allee, demonstrate the way that physical locations and virtual experiences are increasingly indistinguishable. The internet, which can be accessed from almost everywhere on many things, exists simultaneously here, there, everywhere and nowhere.

*The Virtual Utopia?*

In the last few chapters, I have consistently, albeit briefly, touched on concept of utopia. Facing the future, both the creative city and Web 2.0 promise utopic versions of the future. The web itself, as evidenced by Berner-Lee's (2006) hope for "scientific progress and world peace," at its brightest motivates people with utopic visions to compute their way to paradise (Rattle 2010). David Trend suggests that this new approach to utopia is different than those in the past because of, "the way it extends individual subjectivity, social relations, and institutional power into increasingly ephemeral and elusive dimensions" (2001, 123). Trend's observations reveal, not only the importance of exploring these new movements towards utopia, but the similar way that they are equally difficult to grasp. Utopia draws on the ancient Greek *οὐ* (not) and *τόπος* (place) (OED 2016), which suggests that it can never exist; being, by definition, a non-place. Additionally, Hetherington (1997, preface viii) points out that the word utopia, first

[92] This describes a network made of the "things" of daily life like thermostats, coffee makers or even cars which are now increasingly connected to each other and the internet.

intended by Thomas More, combines the Greek words meaning good place and no-place to create a place that while perfect is not real; perhaps it is the consummate pentacle of perfection which is always just out of reach. The virtual equally engenders dystopic images; a future place where nothing is good. In the nineties, Virilio argued that along with liberalization and deregulation, the Western world is experiencing a "loss of orientation" (caused by the information superhighway). Virilio's doomsday prognosis suggests that "we" have no clue what is going on and that:

> Here lies a new and major risk for humanity stemming from multimedia and computers. Albert Einstein, in fact had already prophesized as much in the 1950s, when talking about the "second bomb." The electronic bomb, after the atomic one. A bomb whereby real-time interaction would be to information what radioactivity is to energy. The disintegration then will not merely affect the particles of matter, but also the very people of which our societies consist. This is precisely what can be seen at work with mass unemployment, wired jobs, and the rash of delocalizations of enterprises. ([1996] 2001, 25)

While Berner-Lee's hopes and Virilio's concerns provide drastic examples of the feelings the virtual helps to stimulate in people, neither utopia nor dystopia seem particularly useful nor realistic in this age of mobilities. Instead, I propose that the heterotopia provides the most useful way for understanding the space of the virtual. Heterotopia, which means "other-space," is a term that existed before Foucault, but was popularized by him in the essay, "Of Other Spaces" ([1967] 1986). Foucault's foray into the heterotopian space is limited and incomplete. However, drawing on his work, others' work, and ultimately adapting it to my work within my own standards, I find the concept of heterotopia a better way to understand the virtual. A kind of *Aufhebung* in the travel

through -*topias*.

In his description of heterotopias, Foucault writes that these are sites that are, "simultaneously represented, contested, and inverted. Places of this kind are outside of all places, even though it may be possible to indicate their location in reality" ([1967] 1986, 24). In a thoughtful description of heterotopia, Foucault uses the concept of the mirror to describe the way that:

> The mirror functions as a heterotopia in this respect: it makes this place I occupy at the moment when I look at myself in the glass at once absolutely real, connected with all the space that surrounds it, and absolutely unreal, since in order to be perceived it has to pass through this virtual point which is over there… it is also a heterotopia in so far as the mirror does exist in reality, where it exerts a sort of counteraction on the position that I occupy. ([1967] 1986, 25)

Foucault's description of the mirror is what first drew me to the idea of heterotopia in terms of understanding the way that humans experience and interact with the virtual/internet/web.[93] Specifically, I see heterotopia as a method for understanding the way humans both experience and do not experience the virtual as a type of space. Rather than trying to make it fit into a "real" or "unreal" space, the heterotopia allows one to appreciate the way the *projection* of space is experienced by the observer. By making the virtual a heterotopia, the opposition it faces in reference to "the real" is also eliminated. Through the heterotopia, "the real" and "the virtual" are not at odds and no longer a

[93] From that description, Foucault continues on to list five principles of heterotopia. While some scholars have attempted to show the heterotopian-ness of something based on these five principles, I do not find them that particularly useful. Not only did Foucault under-theorize and then later drop the concept of heterotopia, but I find the five principles both too specific and too vague to be particularly helpful.

(false) dichotomy. Still, like the mirror, the experience of the virtual leaves room for the de-centering and unstable aspects of sometimes interacting with the virtual. Hetherington (1997, 42) adopting and revising Foucault's heterotopia suggests that heterotopic places are spaces that ultimately challenge the way that people understand and order the world. Like liminal or marginal spaces, the heterotopia is a challenge to the status quo, but unlike spaces of liminality, sites of heterotopia are increasingly integrated into our daily experiences. Because of this integration into daily lived life, sites of heterotopia while transgressive are not (necessarily) understood or experienced as inherently threatening to the social order.[94]

As a heterotopia, the virtual becomes a place that is both within and without our traditional social ordering and is a place for traditional boundaries, dualisms and concepts to be rewritten. Still, as I noted in the previous chapter, these crossings and blurring are rewritten within a specific set of parameters. My foray into the virtual as heterotopia is not without precedent. Young (1998), Rymarczuk and Derksen (2014) have also struggled with understanding the virtual (cyberspace) in terms of the heterotopia and eventually argue that it is a useful tool for examining the virtual. As a tool, Young notes that heterotopias, "not only exist as a way of categorizing, but as a way of examining social spaces, they give rise to new discourses about what those spaces are, how they arise and what they may mean. New discourses about knowledge, power, and society. Which ultimately are reflected in the constitution of our human relationships" (1998). Like Young, I find the usefulness of the heterotopia not in its ability to categorize space, but instead, in its ability to provide a tool for approaching "other spaces," like the virtual.

[94] Although as Virillo shows, it is not without threat.

So, for this dissertation, I am interested in the way that Silicon sites, like Silicon Allee, adopt and integrate these heterotopic experiences into daily routines and how physical and virtual spaces become intertwined, interdependent and made through each other. For many people in technology-rich regions of the world, the virtual is reordering traditional social behaviors; through the virtual, people are changing how they interact with each other, what it means to be a stranger and a friend, and ultimately, what it means to be part of a community.[95]

*(Virtually) Locating Silicon Allee*

Without the internet, Silicon Allee would not exist. While other key Silicon sites, like Silicon Valley or Silicon Hills, have strong and established hardware companies, Silicon Allee both makes and is made by the internet. Unlike hardware, software and the internet, software requires less space, less equipment, and less money. Because of this, one can say that much, if not the majority, of Silicon Allee exists in the virtual. While the people in Silicon Allee may reside in Mitte and work at betahaus, a huge part of Silicon Allee exists through the processes of producing and consuming websites, blogs, apps, and software. The user and the consumer are often one in the same. The virtual Silicon Allee is found on official websites, in the software and apps from various Berlin-based companies, through workers and groups that make up an interlinking and hyperlinking network on the web; it is created through the tweets, emails, updates, check-ins and internet-based calls. In essence, Silicon Allee is made just like any other place, through

[95] Of course, these are not the only things that people are changing in the virtual, but these are the things that I am most interested in exploring in this dissertation.

the social interactions of the people who reside and work there, but unlike other sites, these social interactions exist partially in the virtual.

At its base level, Silicon Allee is made by the infrastructure of the Internet.[96] This infrastructure, while visible when pointed out, is often rendered invisible in daily use. However, as Rubio observed in 1996, "Seducers and seduced, we acquiesce in the hiding of technical details." Much of the world of the virtual depends on the way it hides in plain sight. As the virtual becomes more and more integrated into peoples' lives, it also becomes better at hiding itself. Although the tools of the virtual are often clearly seen (like computers), other aspects such as servers and code, are even hidden through their use. Like a film, the quality of production is typically revealed through its invisibility. For that reason, even while the virtual becomes a larger and more important part of life in some parts of the world, it remains equally opaque.[97]

As a heterotopia, the virtual plays with traditional formulations of space and the "juxtaposing in a single real place several spaces" (Foucault, 28). People in Silicon Allee are able to simultaneously engage locations like the physical servers and physical locations of offices in Berlin, while also, either intentionally or unintentionally, engaging other servers and other physical locations throughout the world. Each interaction in the virtual equally engages a network of spaces that overlap and change depending on a variety of changing variables. Because of this, the virtual Silicon Allee is not limited to Berlin or Germany, or even, Europe. Silicon Allee is everywhere, just as every other silicon site is everywhere. Yet, just because it can be everywhere, does not mean that it is

[96] Capital intentional
[97] I want to draw the reader's attention that this is the same way that computers themselves get rendered invisible in their functionality, which I discuss in Chapter 3.

accessible everywhere.[98] Through various overlapping laws and jurisdictions, the "everywhere-ness" of the virtual Silicon Allee can be curtailed. The traditional notions of space impact the experience of virtual space (Gordon and de Souza e Silva 2011). In fact, although the boundaries of cities and countries seem to become negated through the virtual, they can impact how people are able to connect to the internet, what they are able to see, where they can go and what can be done.

Just as the heterotopia can simultaneously engage several spaces so does the experience of time become altered in the heterotopia. When not "online," the virtual operates for the workers in Silicon Allee through asynchronous communication (Chandler 1997). People from around the world access Silicon Allee (intentionally or not) even when workers are not around and sometimes when workers are long gone. In this way, the people of Silicon sites use and interact with each other and other people both synchronously and asynchronously. By means of the front end, people experience Silicon Allee via sites that only occasionally require people. Sometimes, through bots, webpages are not even accessed by humans at all. Thus, the division between machine and human becomes less defined; and the "who" that is behind actions is not always clear. One finds that the separation between human and machine becomes increasingly muddled (Haraway 1985).

Websites themselves exist and cease to exist at various times for various users. They are constantly made and remade, through a click of a mouse, refreshed, and reloaded. Each reload engages in the cycle of creation and destruction forming a virtual

[98] Things like the "Great Firewall of China" through government control, copyright controls implemented by companies from different countries. Socio-economic-geographical limitations mean that, although conceptually everywhere, varies aspects of the virtual are not available everywhere.

that is inconsistent. As the web matures, people become aware that virtually nothing ever dies, but equally, one can never count on permanence. In 1996, observing the continual flow of data, Rubio observed, "As I write these words, seven days after I wrote the sentence that begins this essay, the number of home pages listed on Yahoo has grown to 17,579. Another 656 people have joined the home page community in the last week." This inconsistency became clear while I was trying to find a copy of Rubio's essay, I encountered two links that no longer functioned – a dead end; a 404 page. Furthermore, the many websites that Rubio mentions, even the directory of pages that Rubio describes in the quote, are long gone. Yahoo! which was the model story of a Stanford drop-out success is now under Mayer's guidance and being sold to Verizon with an unsure future. The virtual forces people to act as if everything and nothing is permanent.

Of course, the question remains: where is the virtual Silicon Allee? As something that is made both physically and virtually by the web, one expects to be able to find it, picture it, describe it; and yet, as something that exist in the heterotopia it exists in multiple locations, at multiple times, and perhaps, even at times it does not even exist at all. If one were to make a map, with connections to both physical and virtual locations, it would probably look a lot like a three dimensional matrix with various nodes connecting to other nodes both locally and internationally, and yet, it would also be in a state of constant flux. As I suggested earlier, scholarship simply does not have the vocabulary to describe this kind of place; and yet, the heterotopia seems the best way to describe it.

Although this is possible, locating Silicon Allee on the web is not just about finding and pin pointing the websites to make a map. Instead, the nature of the virtual is

one that is being made and re-made; not just in the social sense that we make our world, but also, in a very real sense. The virtual is actually being put together, piece by piece, by people through line-by-line of code, through webpages, emails, other internet services, and through the social connections that support that process of making. The workers in silicon sites who make the virtual through their activities also become the primary consumers of them. Returning back to the concept of Web 2.0, one sees that it encourages the proliferation of the user-maker and "prosumer", and, on all levels, it depends on it.

In this section, I outlined the way that the virtual is both intriguing and frustrating to understand in relationship to space. Until now, the majority of my work in this chapter has been fairly theoretical without many concrete examples. For the rest of the chapter, I will particularly focus on the way that people engage the virtual in Silicon Allee; how this changes (or reinforces) traditional associations of sociality, and eventually, how it relates to understandings and experiences of space and community. Furthermore, by examining the way that virtual and physical relate to each other through the lens of the heterotopia, one can better understand the way that Silicon Allee's virtual location, reaches far beyond the boundaries of Berlin, while simultaneously maintaining and reinforcing experiences of the *local* community.

## III. Working at Home from Abroad

The virtual is a slippery place where information can easily be connected and

moved across national boundaries, where people can work on a single project in different countries, or while a company actually seems to be based in one country is actually physically based on a server in another country. In this age of mobilities, location seems to be less important than the process of moving - not just bodies, but data as well. As work moves out of the cubical, more workers have freedom to choose, not only where they work, but also, where they live. This choice is not something experienced by all people or allowed by all companies,[99] but the use of information and communication technologies have changed peoples' physical relationships to their office.

In a process of creating a new vocabulary to describe the various perceived ways that these time/space distortions (Harvey 1990) are experienced, Aneesh (2006) has gone beyond the concept of telecommuting to describe telecommuting over national boundaries as "virtual migration." Regarding virtual migration, Aneesh notes the way that the relationship between work and the body has been changed: "Rather than move the body across enormous distances, new mechanisms allow it to stay put while moving vast quantities of data at the speed of light"(2). Aneesh's experience of virtual migrants in India (working remotely in the US) is not completely analogous to my examples from Silicon Allee, but, perhaps like many forms of migration itself, can be understood as a variation. Although Aneesh depicts a more organized, systematic form of virtual migration that relies on workers in India writing code for companies in the US, his point, that virtual migrants are rendered invisible by the global capitalist systems in which they operate, remains salient. Part of this invisibility is achieved by the virtual nature of the work of these telecommuters. As people who can slip and slide between conventional

[99] Yahoo! famously canceled telecommuting opportunities for people after Melissa Mayer became CEO.

measures of work and migration, on-line work, as I show, does occupy a transnational, perhaps supranational, space that is nearly impossible to pin down.

Harry, a co-founder of NeuvoFilm, is both a migrant both "real" and virtual. The categories that try to define this tall, thin man in his mid-twenties fail to do justice to the ways that he and his coworkers work. As an individual, Harry is at home both in a digital and a mobile society. In one of my conversations with him, he mentions that he likes to couch surf, that he liked Paris' co-working scene better and that he actually just moved to Berlin from Hungary. Harry's interest in travel and his regular movements around various parts of Europe easily fit into his life, because the office that he works "in" every day is located in Britain. At the time of my fieldwork, the company that he works for and helped co-found was made up of four members, and he is the only one of the four who lives in Berlin. NeuvoFilm provides a case example of the way that digital natives and the mobility paradigm intersect and reveal the way that small companies, not just large corporations, are taking advantage of the way the virtual provides a space for people to transgress physical and political boundaries.

Both legally and financially, NeuvoFilm exists in the United Kingdom. The original funds for the company were provided by a grant by the British government and because of that the company was originally created as a platform to help distribute and publicize British indie media in the UK and beyond. In most traditional senses, NeuvoFilm is categorized as a British company. But even on this very basic level, the very *idea* NeuvoFilm was created *around* was set up to traverse boundaries by distributing information and media beyond the political boundaries of the UK while still

maintaining the Britishness of the product. In the distribution and sharing of indie film on their website, like visual media, NeuvoFilm also shares products that have long been studied by scholars and experienced by laymen as some of the earliest form of asynchronous communication that helped shape early modernity. Ginsburg, Abu-Lughod, and Larkin (2002) point out that the place of media in the world is not new, but instead, it is the ubiquity and the intensity of it that makes questions about the role of media in people's daily lives more pressing. As is seen in many start-ups or internet based companies, the products or services that they offer are not particularly new, instead the products or services are just provided more widely, more quickly, and often with more individualization. NeuvoFilm is revising the system for distributing indie film, which traditionally had a small audience, by making the materials more accessible to those with internet connections.

While NeuvoFilm started off as a company that was legally, physically, financially and historically a product of the United Kingdom, early on NeuvoFilm started to move beyond its UK focus, and also, began distributing continental European indie media as well. An examination of their website in 2014 indicated that from the time of my fieldwork, NeuvoFilm has also moved beyond the European borders and is now involved in distributing various forms of media from all over the world. Although contained originally within the borders of Britain, the company is no longer as easily pinpointed. Equally, in 2010, the four founders of NeuvoFilm were also not so easily located. Two of the founders worked in Britain at the time of my fieldwork. Harry, as I already indicated, works in Berlin, but has spent a lot of time traveling. His work can be

done anywhere there is an internet connection. Harry is an immigrant in the country where he works from and works remotely to the country of his citizenship; he is a reverse migrant home. The fourth founder did not live in Europe at all, but instead, worked from Argentina. And so, as a company that theoretically existed in just the UK, NeuvoFilm provides the perfect example of how new technologies allow companies as small as four people to become trans-national in ways that were previously only available to large corporations. In the end, NeuvoFilm (from 2010) was a four person British company with employees in three countries and users from all over the world.

NeuvoFilm is far from the only company that is engaging boundary testing in Silicon Allee. Another start-up in Silicon Allee, KosmoZu was officially in Berlin at the time of my fieldwork. Tim, a co-founder, specifically moved to Berlin to work on KosmoZu, and the company itself focuses on services related to Germany's financial markets. When we discussed his company, Tim noted that although he sees his company as technically a German company, he had been contemplating moving it somewhere in Eastern Europe. By moving the company to Eastern Europe, Tim mentioned that both taxes and servers would be much cheaper. In other words, Tim was considering moving his company to some place in Eastern Europe, to enjoy lower costs, and then perhaps, become a virtual migrant himself, working for a start-up that was technically based outside of Germany, but in in fact, existed in Berlin. Of course, these kind of behaviors are not new to the world of business. Large corporations often participate in what are called corporate inversions which allows them to shift the "location" of the company

abroad to take advantage of lower tax rates.[100] Tim's company shows the way that given the flexibility of the virtual, the location of even tiny two-person businesses can be transplanted, without requiring any bodies to move. In the space of the heterotopia, bodies, work and businesses are not always required to coexist in traditional parameters of space.

In both the front end and back end, the virtual is set up to traverse various financial, legal and political boundaries that are established for companies, workers and users. Aneesh suggests that in work that is more and more, "technologically indifferent to physical location," for companies, workers and users, "constraints are not physical but only logical and programmable" (2006, 68-69). In my fieldwork, most people viewed the de-coupling of body and work as a movement towards freedom and choice. In a conversation with Kevin, an American who works in Germany, Austria and Switzerland but lives in Berlin, the ability to travel both virtually and physically meant that he could *choose* to live anywhere he wanted in Germany. For many workers in and from Silicon sites in wealthy countries like Germany and the US, the de-coupling of work and body really provides more freedom in their lives, much in the same way that contingent labor, which I described in the previous chapter, can be seen as freeing people from the daily commitment to a specific office space. However, Aneesh reminds scholars that this experience of freedom is not universal. While it is unclear where a person works, laws and regulations that are meant to protect workers become diminished and often

[100] Obama addressed this particular issue in the US at a press conference on 4/5/2016 where he commented about corporations that do this, "As a practical matter, they keep most of their actual business here in the United States…But they effectively renounce their citizenship. They declare that they're based somewhere else, thereby getting all the rewards of being an American company without fulfilling the responsibilities to pay their taxes the way everybody else is supposed to pay them."

impossible to enforce. This behavior is not new, since companies have a long history of traversing national boundaries for their advantage, but once again, through the virtual these boundary crossings are intensified and accelerated. While this was previously only available to larger companies, small start-ups, like NeuvoFilm and KomoZu, are equally able to engage with boundary-play. Not only does the infrastructure and ideology in place allow it, but it actively encourages borders to be ignored and boundaries to be blurred through the uncoupling of work and body.

## IV. Reinforcing the Local through the Virtual

Writing about Gibson's *Neuromancer*, Heim suggests that, "as we suit up for the exciting future in cyberspace, we must not lose touch with the Zionites, the body people who remain rooted in the energies of the earth" ([1994] 2001, 86). Until now, I have spent a great deal of time emphasizing the way that the virtual is used to decouple the relationship between self and place particularly in relationship to work. Indeed, as Heim's quote suggests, the virtual (or cyberspace as Heim uses) is often understood as the opposite of a natural, earthen tangibility. This dualism is reflected by Virilio who fears that, "A duplication of sensible reality, into reality and virtually, is in the making. A stereo-reality. To exist, is to exist *in situ*, here and now, *hic et nunc*" (1995/2001, 24). From these two quotes, the technical futures of humans seem to either require one to choose between the earth and machine (nature or culture) or to be forced into

simultaneously living a double reality. These two sentimentalities are still present in Western cultures. On Facebook, for example, memes of people looking down at cell phones ask, "what's the point of being afraid of the zombie apocalypse, if you're already a zombie,"[101] suggesting that people today are so involved in using technology that they forget to interact with the world around them. Despite these concerns, my fieldwork shows that while much of the technology people tend to use on a regular basis in public spaces, like cell phones, tablets and laptops, are not used to disconnect but to reconnect with people locally and subsequently become a tool to augment life. Therefore, in Silicon Allee, many people used ICTs as tools for re-establishing peoples' notions of locality and formulating peoples' relationships to others within the local community. The virtual reveals the way that space gets flattened, and near and far are no longer separate things, but in the virtual, distance is no longer a defining factor in establishing communities and relationships. Local sociality is reworked through the virtual connections.

As technologies like cell phones and computers have become more portable, both in their size and the reduced necessity to be "plugged in", technologies that engender mobilities are more and more mobile themselves. When the internet was in its infancy and a dial up connection was required to go on-line, users had to be more discriminating with their time on the internet. Being on-line really did limit other peoples' ability to connect with an individual, if, for example, the person used a phone line to dial up. But now, with the cheap and easy access to the internet, people in areas with high technology saturation, like Silicon Allee, can find themselves not just occasionally connected to the

[101] Of course, the fact that this is meme that is shared on social media is perhaps an un-intentional commentary on the viewer and poster themselves.

internet but continuously connected. With the increased popularity of portable devices like smart phones, tablets and laptops and the ubiquity of Wi-Fi almost everyone, Silicon Allee has access to the web at all times. In fact, "being" on-line is a key part of *being in* Silicon Allee.

*Making Connections in an Augmented Life*

In Silicon sites, smart phones, tablets, and netbooks are ubiquitous in every situation ranging from casual parties to more formal conferences. Not only are people in silicon sites avid users of ICTs, but they are also early adopters and experimenters. Walking into any event, café, or even office for the first time, one notices right away that the majority of people have some form of connected gadget and are actively using it either by themselves or while interacting with other people. Web 2.0 demands engagement from people and celebrates interaction, in physical spaces, and also, through the web. Of course, as I mentioned above, there are concerns that technologically-mediated communications, like those via tweets or Facebook, are of lower quality thereby causing humans to become more and more disengaged from each other. Drawing on Charles Fisher's social history of the telephone, Wilson notes that these kind of concerns (as well as celebrations) were also seen during the first part of the twentieth century when the telephone came into regular use. Regarding these new technologically mediated communications, Wilson also observes that, "Replication is not ontologically the same as the actuality of face-to-face discourse…There is something that is *different* about meditated and extended communication" (2002, 56-57). Since social interaction *is* more

than just words, something is lost in the translation of communication in the virtual realm. However, this viewpoint depends on the idea that we should expect virtual communication to be the same; I would suggest, that a large part (not all) of the use of virtual communication in Silicon Allee is used not to replace traditional face-to-face interaction, but to augment it. While there is still the legitimate question of whether this augmented life means that people are not completely "there" when they are there. Much like Virilio ([1997] 2001) prophesied, this dissertation is not in the position to answer that kind of psychological/philosophical question. Instead, based on fieldwork observation and participant discussions, I will focus on the way that people use these new technologies to augment, mediate, and in the end, maintain the local community of Silicon Allee.

As I have previously described, Silicon Allee is amorphous. It does not occupy a specific place or a specific neighborhood. Instead, it is integrated across a city of 3.5 million people. Because of this, in addition to traditional daily face-to-face socializing of the office, cafe or coworking site, great webs of communication are created and maintained throughout, and beyond, the community. These communications are multiple, overlapping and varied are maintained (and discontinued) through tools like the microblogging site Twitter, the social networking site Facebook, and the career-oriented Xing[102]. In all three cases, these tools allowed people, followers and friends to keep up-to-date with people's activities, engage in conversations both synchronically and asynchronically and to "meet" and engage with new people with similar interests,

[102] Xing is the German equivalent to LinkedIn, which although available in Germany is far less popular than Xing.

contacts or just because. With exception to academics, most people I met with in Silicon Allee preferred to keep in contact with me and their friends and coworkers through Facebook or Twitter.

The first month I moved to Berlin, I met Tim, the co-founder of KomoZu, at a party. As with most fieldwork connections, this meeting, was serendipitous. Tim was a friend of a friend and ended up being one of my key informants. At the end of the party, I asked him for his phone number or email, and instead of giving me them, he asked if I was on Facebook. I responded, yes that I was on Facebook, and by the end of the night, I had a new "friend" request waiting. As someone who had used Facebook in a limited capacity before my fieldwork and strictly for personal use, accepting Tim as a "friend" seemed strange. While I was not completely cognizant of it at the time, I realize now, many years later, that Tim's request represented an overlapping private and public with which I was not yet comfortable. Likewise, at one user group meeting, Beth decided that it would be useful to hand out my contact information to everyone during the main presentation and discussion. Instead of sharing my email or phone number, which I offered, she felt it would be more useful to hand out my newly created Twitter handle in addition to tweeting it as well. Before the meeting was even over,[103] my name and project ripped through local networks of technophiles like wildfire. Watching my "name"[104] and project rapidly get tweeted and re-tweeted on Twitter around the Berlin communities is perhaps the closest event I will ever experience to having something of mine go "viral." It

[103] Unfortunately I did not have a smart phone during my fieldwork, so what most people used as synchronous communication for me, was almost always asynchronous, since I could only tweet or receive tweets from my home computer.

[104] My twitter handle, which I later learned was unfortunately difficult for people to spell

was exhilarating to see the path taken by my tweets and the way they were shared around Berlin and beyond.

This last paragraph is not meant merely to be self-reflexive but to also show the way tools are being adopted by tech-savvy young people in Silicon sites to create a sense of intimacy and excitement. During my time in Berlin, Smart phones were not yet ubiquitous in the larger population, but they had already saturated Silicon Allee. Everyone was seemingly always "on." People passed information to each other, shared rumors, chatted at all hours.[105] Synchronous communication was preferred over asynchronous. Email was outdated and phone numbers were ancient. Like my Twitter handle, which was traded from tweet to tweet, information skipped around the local community at all times of the day. While each person eventually decided what kind of information to share and when to share it, many of the established tweeters in the community shared everything from their lives. Public and private were purposefully confused. From the same Twitter account, one could learn equally about a person's latest work projects and where they would be partying that night. Both the speed and the topics covered in these technologically-mediated social networks created a form paradoxical intimacy.

*Paradoxical Intimacy: Tweeting and Talking*

In 2010 and 2011, Twitter was the most popular form of on-line communication in Silicon Allee. Twitter, which limits one's text to 140 characters, was one of the primary ways that people communicated within and without Silicon Allee. An active

[105] Ruth Page (2013) has likened many of these exchanges to storytelling.

account on Twitter allows one to have a name, a representational photo, to follow other people and to produce and reproduce tweets. There is no guarantee that one's tweet will be engaged, and likewise, just because a tweeter is followed, does not mean that the person will return the follow. Connections within the community were not made geographically. Instead, they were person-to-person. One person follows another; who follows another. Slowly a network of people is built up between and around people with overlapping contacts and converging connections. While many people, including those in Silicon Allee use Twitter to gain and exchange information with people in geographically distant places or with socially distant people (like a politician or celebrity), I find the local uses and connections most relevant to showing how people use global technologies to augment and maintain local communities.

Twitter engenders a kind of paradoxical intimacy. While someone *knows* that a single tweet could be seen by thousands of people, it *feels* like the tweet is personal. For those tweets used within the social matrices of a local community, this intimate feeling is further coupled with the fact that a person can feel like they know someone, even if they have not met them. In an interview with Beth, she observes about twitter:

> [It] is actually an interesting way to build a community… Where like, 'Oh, right, Jan's that guy who is an entrepreneur and sometimes he travels to San Francisco, and man, does he ever like coffee and he's vegetarian.' And so, like, when you meet him, you're like 'Oh, you're this person and I have this idea of you.' Right. Or 'Oh, you're that person and I have this idea of you' and until you actually meet them can have a very personal level because you know that like they just got divorced. You know. Or they just moved offices and so it is a way to keep personal connections with your, hopefully, professional peers.

Beth's quote reveals the experience of this kind of paradoxical intimacy, where one can end up knowing a lot about someone else without actually having met them. The traditional steps of a relationship can be turned around in the virtual. This kind of "pre-relationship" with people is very common in Silicon Allee. People noted that they often interacted with people in the local community before they actually met them, or they say to me that they knew so-and-so from Twitter (indicating they did not know them in person). The nature of social networks, especially in the case of Twitter, is that one's virtual networks can grow exponentially large at a much faster pace than it would take to establish the same network(s) face-to-face. This rapid growth alongside shared geographical location and similar social circles meant that individuals often socialized with people and would frequently meet them personally at a later date. This social interaction provides people with a close, even intimate, knowledge of people, who they have never actually met. Once the two meet, as Beth describes, the people find that they were neither strangers nor friends, but instead, a strange mix of both.

Beth's description of the Silicon Allee social networks notes the reworking and overlapping between public and private, which has been a theme throughout this dissertation. As such, Beth talks, slightly apprehensively about the way that, through this public broadcasting, the line between professional and personal becomes blurred. Again, this was also seen with my slight level of discomfort when Tim first asked if I was on Facebook. Reworking these kind of basic social categories can be uncomfortable, because, as Sheller (2004, 40) notes, they are deeply embedded in both the social structures and the infrastructures of people's lives. The categories get reworked but never

completely destroyed. Even though people are tweeting about their relationships and what they ate, there are still things that are off-limits in public. The boundaries of social space that are being reworked on Twitter and in Silicon Allee are, like Cowan's (1990) description of social change of the private and public spheres in Northern Greece, met with apprehension, enjoyment, discomfort and admiration.

Another way that Twitter is used is to re-establish and maintain relationships between people who already know each other. DiMaggio and his colleagues noticed in their review of the social implications of the internet that in many ways, people use it to "reinforce existing behavior patterns," most particularly keeping in closer contact with friends and family (2001, 361). While Twitter was not around during the time that DiMaggio and his colleagues wrote the article, their findings remain valid. People are not necessarily inventing new ways of socializing; instead, they are adopting technologically mediated communication to add-to and further maintain their own existing social behaviors. In particular, during my fieldwork, I noticed that people engaged in a kind of augmented sociality. Interacting, communicating and sharing information along with traditional face-to-face conversation. An example of this can be seen when Beth and I were discussing the location of an upcoming user group, and I asked her if she would send me an email with the location. She asked if I was on Twitter, which I was not at the time, and she said, "…'cause I was going to say, if you were on Twitter I would just tell you [right now]." Here Twitter is used as a form of a record to share information. While she could have just told me where it was located, my questioning if she could e-mail it indicated to her that I wanted something more permanent to go back to. Indeed, anytime I

went to new events in Berlin, I needed to look up bus and *U-bahn* routes so I always tried to get as specific an address as possible. Since the user group information was already on Twitter, this meant that Beth could have easily re-tweeted the information to me instead of having to cut, paste and email me with the information. The space of twitter is one that is both open and closed. Foucault describes this aspect of heterotopia as the contradictory way that the space is both isolated and penetrable ([1967]1986, 26). It seems accessible like a public space, but is in fact not. In the case of Twitter, tweets are visible to outsiders. Often journalists pick out particular tweets to highlight in articles, but these particular quotes are just points among the huge flow of information. In actuality, until one joins the network, the logic of these information flows remains almost incomprehensible.

In the local proximity, Twitter provides an "extra" layer to the way that people communicate. Being simultaneously with someone, both on and off-line, allows for different type of information to be shared and for a stricter control of information. Using direct messaging, particular people can be singled out at a shared local space, like a user group meeting, to discuss specific information. For example, after user group meetings, the location of the "after party" was often decided via direct messaging, and then, officially posting on twitter. As an anthropologist without a smart phone, these virtual conversations made me realize that when studying a silicon place without the required technologies one only gets a partial view of social behaviors. Luckily, Beth was always obliging me either by narrating what she was doing or responding when I asked.[106] Many

[106] Although this is typically considered rude behavior, Beth seemed to take me under her wing and educate me.

times, people used direct messaging to "chat" with people across the room. When one thinks of the way that the virtual warps and flattens experiences of space, many people discuss the way that it traverses huge global distances, but my research shows that this kind of space flattening is used even in very small distances of space like a couple meters. Of course, this kind of messaging is used in a different way than those on the larger scale. While connecting people at long distances is typically done because two people are not, and *cannot*, be in the same proximity for that particular moment, this kind of super-local communication is done *despite* being in the same place at the same time. Instead, this kind of conduct is used to control who and how one communicates to other people and is used as a way to keep people in or out of conversations. Beth often simultaneously sent messages to her boyfriend, who was also at the same event, while she was talking to other people. Outside silicon places, this behavior might be considered rude; but at most of the places I attended for my fieldwork, it was standard for people to pull out their phones on a regular basis without much (or any) warning. These kind of interactions are far from the anonymous global encounters that stereotypically characterize internet social networks. Instead, this kind of behavior meant that people could communicate in both public and private conversations with each other from across the room.

A third way that Twitter was used to reinforce the local ties of the Silicon Allee community was through long-distant communication of local members on the move. Twitter provided one way that people essentially "kept in touch" with others while they were away. At one point, stuck in the airport due to Eyjafjallajökull ash grounding

planes, Beth wrote that she was trapped in Canada  and so she was forking her boyfriend's code and listening to music hoping the ash would clear sooner rather than later.[107] This tweet is significant, because within it, Beth not only re-affirms her connection to Berlin by noting that she is at the airport trying to get back there, but she is also noting her interaction with Lynx, her boyfriend, who lives in Berlin by reworking his code. Even when people traveled outside of Berlin, their presence in Silicon Allee could still be felt through on-line interactions and tweets. One could say that once you were hooked into the community you could access it anywhere as long as you had access to the internet.

This miniature case study of Twitter in Silicon Allee is clearly wanting more, but unfortunately, due to field and time limitations, it is out of the scope of this dissertation. It is notable that most of these new forms of media reshape public and private spheres and reshape how people interact with people in both far and close proximity, and also, that they all exist as a specific type of product that links people only within a specific commercial framework. The role of these commercial frameworks in shaping communication and community is another area that demands further research, and unfortunately, is also beyond the scope of this dissertation. The virtual realm will continue to provide a rich source of data for scholars in the decades to come. While Twitter was in fashion during my fieldwork, I do not see it as a necessarily permanent fixture for silicon places. Instead, people working in technology rich fields and industries are constantly moving from product to product depending on the fads and communities at

[107] Tweets are usually public, but due to the privacy and confidentially I guaranteed my participants, I have chosen not to directly cite tweets in this dissertation, because they can then be used to track back to the individual.

the time. This is one of the things that makes academic work on digital media and technological-mediated communication so difficult. Given the long space between research and official publications, this kind of study often becomes outdated long before the researcher can write the results of her study (Gordon and de Souza e Silva 2011). Still, I believe that many of the behaviors adopted by people, like Beth, in Silicon places will remain consistent over various forms of software and electronic tools. Most particularly, I imagine that as these technological-mediated forms of communication become more instantaneous, mobile and available, they will become more integrated into typical face-to-face conversation. People use these technologically-mediated forms of communications in a variety of ways and for a variety of purposes but most particularly to control information (who gets what information when) and to maintain community cohesiveness through virtual interactions that feedback into face-to-face interactions (back and forth).

*Co-creation: Web 2.0 in Action*

Another way that the virtual is used to reinforce the local Silicon community is through the act of co-creation. In the previous chapter, I used Web 2.0 to discuss the way it influences social ideals of space and behavior in silicon places. In this section, I will be revisiting Web 2.0, but this time in its original context. If Web 2.0 gets mimicked and produced in the *physical* spaces of Silicon Allee, it is exists in its *real* form on the internet. Of course, the irony being that its real form is virtual. In Silicon Allee, much of the social activity, both on and off-line, is made through Web 2.0. Therefore, the process

of making Silicon Allee is not just through the activities of its workers who congregate together at camps, drink coffee cafes, and toss ideas around at user groups, but Silicon Allee is concurrently made through the communications, creations and products that are created by people and produced through and by virtual technologies. Most particularly, I focus on the way that Web 2.0 encourages the process of co-creation and the user-maker.

Most every "real" thing in Silicon Allee (and, I would suggest silicon sites in general) also has its connection to the virtual. The virtual may be fleeting like the hashtag used to link together the reports, observations, perceptions and conversations of a particular event and like the visit to a bar after a user group meeting or the virtual may be more permanent like the home page of a website for a company or an individual's blog. While this may seem to be the dual realities that Virilio ([1997] 2001) fears, I argue that these are not two realities as much as a single intertwined reality. These two spaces "virtual" and "real" are mutually constitutive. In fact, although both English and German vocabulary often forces people into this duality, the virtual is not so much an opposition to the "real" as much as it is a part of it. Once again the concept of the heterotopia provides a more useful way to examine the virtual. The heterotopia is not in opposition to other spaces; like a cemetery or a museum, the heterotopia exists as an alternative, yet, is still a real, space. Therefore, the use of Web 2.0 online is used not to create dueling realities, as Virilio might suggest, but instead, as a way to further involve people in the process of co-creating Silicon Allee.

In its seemingly unending list of things St. Oberholz *is* one can also add digital art project. St. Oberholz, which I described in more detail in the last chapter, turns itself into

an ongoing art project by posting occasional pictures of things left behind by visitors on its website. These posts, done in German and English, create a semi-permanent gallery of found art pieces like one post from 2012 which shows an infant's teething ring with the description, "Beissring eines digital natives/Teething Ring of a Digital Native." The art project, like the many other things in St. Oberholz, reveals the way space and time are twisted in the virtual. Andrejevic cautiously muses about the digital aesthetic: "the fact that the space of production and that of exhibition is shared by both creator and viewer ostensibly demystified the work and suggests the possibility of collaboration" (2006, 27). Not only are the spaces for viewer and viewed collapsed but so are those of the maker and made. The photos of lost objects, now found, are reinvented into a new purpose. As a witness to *Alltagsgeschichte* (history of the everyday) (Crew 1989; Lüdtke 1995), each item acts as a memory which "mingles private and public spheres" (Maier 1997, 165). Through the re-finding of things forgotten, the viewer is faced with the material impermanence of life. In many ways, it is apropos that this art project, never named as such, is presented in a digital format rather than in the physical realm. As a photo on a web page, this art exists in a state of both simultaneously fleeting existence and permanence. As the ultimate form of *prosumer* (producer/consumer), the consumer becomes an unwitting participant in the art project by forgetting things at St. Oberholz.

Web Montag provides another illustration of how the process of co-creation both on- and off-line. The example of Web Montag demonstrates the way that the virtual and the physical become intermingled and how the process of *making* is privileged on various levels (from webpage to startup). Web Montag is a monthly event that was created to

provide a place for people to share and discuss their current projects. Web Montag was originally a product of Germans working in Köln, and by the time I began my fieldwork, the event had spread to cities all over Germany and even had a place in Silicon Valley and in Second Life. These connections are filtered through the single Web Montag website, which serves to remind participants that they are part of something larger than themselves. While the Web Montag in Berlin was not broadcast simultaneously on the web, a live feed was common at other events. Furthermore, people were expected to "participate" by spreading the word and posting updates on various forms of social media like blogs or Twitter.

During my fieldwork, Berlin's Web Montag website was based on webmontag.de which was made using DocuWiki.[108] As a wiki, the website was open to anyone to edit, add information, or remove information. The agenda for each meeting was listed on the website which included a place for presenters to sign-up and a place for "Teilnehmer/Participants" (those attending but not presenting) to sign up. Like BarCamps and its ilk, Web Montag is a place where no one is merely an observer. The vocabulary of "*Teilnehmer*/Participants" indicates that even those not presenting are still considered to be *active* through their presumed participation. Typically both participants and presenters would include their name and also a link to their website and/or Twitter handle. Presenters would also note on the webpage what they were planning on talking about. In this way, the Web Montag website, much like the Web Montag event itself, was co-created by everyone. While the hosting location (first the newthinking store and then

[108] This format has since changed to reflect a more formal website, which is more of a blog and contributions are more regulated but still encouraged.

York25) took over some of the organizing, such as setting up the room, there were no defined leaders. Everyone attending was expected to participate in the making of both the website and the event.

In the sign-up area of the website, people would list their name and then also identify themselves virtually - through Twitter or their webpage. In the nineties, Turkle quotes herself as saying, "the self is no longer simply playing different roles in different settings at different times. The life practice of windows is that of a decentered self that exists in many worlds, that plays many roles at the same time" (1995/1996). Indeed, as Turkle suggests online identities are multiple constantly shifting being performed and changing at each new opened window, but more and more, especially in Silicon Allee, people sought (at least in terms of their professional "selves") to create a standard presentation of themselves across various platforms. The ephemeral and shifting nature of the virtual means that without conscious standardization and self-presentation, one could easily get lost in the deluge of information and people. In one conversation with Beth, we discussed the importance of profile pictures on Twitter. Beth particularly pointed out that it was best to use a photo with ones face, because the image would then provide a way to recognizably link the Twitter persona to a "real" person. Beth is very conscious of her self-presentation on the web, but also on the importance of being able to use the image of her online as a way to identify her outside of the virtual sphere. Before I met her, we had emailed each other back and forth and set up an appointment. When we made our plans to meet, she linked me her Twitter profile which includes a picture of her face, so I would be able to recognize her when I met her. The extreme focus on the individual (as I will

discuss in the next chapter) means that in the market economy, not only is a person the consumer but also the consumed. Through their "being" online, people in Silicon Allee hope, not only to share and contribute to the Web 2.0 ideal, but also to create a legacy for their "personal brand." In this way, the simple act of including ones website or Twitter handle on the Web Montag wiki was not just about building the website together, but also about linking ones virtual actions to "real" actions as a way to fashion themselves through their online participation. Much in the way Germann-Molz describes travelers as using the web as a form of interpersonal surveillance[109] which includes the "process of testifying (on the part of the traveler) and witnessing (on the part of the web audience)," (2005, 388), those including their name on the Web Montag meeting list were not just co-creating but also testifying to the larger community about their local participation. While there are spaces on the web/internet for anonymity, those associated with one's personal brand, like a Twitter account, Facebook page, or Github username, are purposely supposed to identify the individual and link back to the person in the flesh. In other words, on the Web Montag wiki, the listing of one's identity, not only through name, but through web presence re-establishes ones place within the local community.

At Web Montag, co-creation the web is more than just making the Web Montag website, it is also about making websites and software. The process of co-creating moves from virtual to the physical where at the meeting people discuss their ideas for various websites with others. Most people approached Web Montag as a feedback and discussion forum. Most often, presenters (almost always young, white males) would present either

[109] There has been a great deal written on the act and process of surveillance in the virtual, but this is really out of the scope of my analysis. For further information on this topic, including Foucault's Panopticon and the internet, see Germann-Molz (2005), Downey (2006) and Aronowitz (2001).

an idea or an actual website. Sometimes the websites were already well established and their creators were just there to get feedback and share (or advertise) their work to others. Other times, these young men would present just an idea that they had thought of and see if anyone thought it would be worth pursuing. Occasionally, people sought others to help them in things that they lacked (like graphic design or coding). Sometimes, people would blog or share information on Twitter during the event to further integrate others into the discussion or to merely affirm ones place *being* there. From co-creation of the Web Montag wiki to sharing feedback at the actual forum, Web Montag was an event that was both making and made by the virtual - from personal brands to the actual creation and feedback of websites, apps and software.

## V. Conclusion

The virtual is a difficult thing to study. While many of the behaviors that people engage in are similar to non-virtual behaviors, the virtual is much more difficult to grasp. Rather than thinking of the virtual as a space that is opposed to "real" space where "real" life and "real" behaviors occur, the heterotopia provides a way for scholars to move past this socially ingrained duality. The heterotopia is an alternative space. Brought to popularity by Foucault ([1967] 1984), but left unfinished and ultimately ignored, the heterotopia is a place for something, like the virtual, that "breaks down boundaries within and between places into spaces of 'otherness.' (Rymarczuk and Derksen 2014). As

something that draws on multiple places and the same time, brings people together from across a room or from across the globe, the virtual is something that folds and flattens experiences of space and time. Not only that, in a continual cycle of birth and death, the websites of the world are made and exist at various times for various people in various way. One can speak to another in real time or freeze communication. The virtual is not a solid place (where one can rest her feet) but a place where people project and present multiple forms of themselves. Furthermore, the virtual is a privileged place. In a series of "gates" that people in technological rich regions of the world often ignore and forget about, people are able to go online, make a Twitter persona, sign up for a Facebook account or read the news only if they have an internet connection. Ultimately, as technologically rich regions of the world, like Silicon Allee, become more connected, the virtual becomes a central site for human interactions. In other words, for anthropologists of these "connected" sites, the virtual is something that is becoming more and more important to study in order to understand the multilayered, rich nature of human sociality.

As part of the mobilities paradigm, Sheller and Urry have suggested that "software…writes mobility" (2004, 221). As part of large systems of mobility, silicon sites both make and are made by the software that helps produce and shape human mobilities. Silicon Allee is one of these sites. On one hand, I have shown that through the virtual the physical locations of one's life are not necessarily required to be the same as ones work. With teams made up of people across the globe, the actual *site* of work is fragmented and often difficult to pinpoint. One would expect this disconnection between work and body to mean that the local space of Silicon Allee would also diminish, but

instead, my fieldwork shows that the virtual is simultaneously used to establish and re-establish local social ties to local locations, peoples and events.

Therefore, as something that reaches around the globe, the virtual also provides workers and students in Silicon Allee a way to create and maintain their notions of the local community. Not only are internet based technologies used in conjunction to traditional forms of social interactions, but these technologies also provided a way for people to understand themselves in context of the local. Ultimately, the virtual not only makes Silicon Allee through tech products, but it also helps users experience a "small" community in a large city while simultaneously allowing connected-people to move beyond the Allee while never moving their bodies at all.

# Chapter 6: The Silicon Gold Rush and Starting-up in Berlin

**"Mir hilft der Geist! Auf einmal seh ich Rat**
**Und schreibe getrost: Im Anfang war die *Tat*!"**
**(Goethe [1808]2007)**

**"The Spirit aids me: now I see the light!**
**'In the Beginning was the *Act,*' I write."**
**(Goethe [1908]2005)**

**"The only thing worse than starting something and failing…is not starting something." (Godin 2009)**

## I. Introduction

Within Silicon Valley one finds venture capitalists, gigantic corporations, small companies, universities, incubators and a host of other entities that support the tech community, but despite this diversity, Silicon Valley remains synonymous with the startup. Startups are idealized as the sites for innovation, creativity and world changing work. Not only are startups imagined as being free from the bureaucratic constraints of larger companies which bog down creativity and restrict quick responses to a constantly shifting market, but startups are often also used as a primary marker of economic health within silicon sites and even the larger national economy (Decker *et. al.* 2014). Unlike the US, the economic culture and climate of Germany after the Second World War favored the long term slow growth of native companies, like SAP and Siemans, and foreign companies, like IBM and Microsoft. So until Silicon Allee, the allure of startups

was (largely) not seen in Germany. Because of this,[110] Silicon Allee is one of the few places in Germany that is not only ripe with startups, but almost made up completely companies that either are startups or recently were startups (but out grew the term.)

While most companies are created by more than one person, the entrepreneur(s) are largely idealized as being the creative, hardworking dreamers that not only found startups, but nurture them into being. Sørensen (2008) notes the entrepreneur figure reflects the modern embodiment of the Western individualism by focusing on the way the individual as the primary agent not only of his own destiny, but as also the savior of the world. Furthermore, as I have shown in other chapters, despite the amount of importance placed on cooperation, sharing, and working socially in silicon sites, the *individual* remains the primary agent for his actions and, as Weber observed, "…above all the idea of a duty of the individual toward the increase of his capital, which is assumed to be an end in itself" (1930, 17). Through this narrative of Western individualism, the actions of the individual are emphasized producing a discourse that is expressed through action verbs that push people to do, make, create, and ultimately *startup*.

As the representatives of the silicon, startups are positioned within the sites as far more than new companies; they act as barometers for economic health, evidence of individual genius, paths for alternative career trajectories and as the vehicles for human creativity. Based on these ideas, this chapter focuses primarily on the role of the startup (and entrepreneur) in shaping silicon places through the vocabulary of "doing." To explore the way that startup culture and this discourse of "doing" gets interpreted by Berlin's internet entrepreneurs, I unpack three specific, but intertwining, themes in

[110] and despite trying to create silicon sites in other areas of the country to varying degrees

regards to the practice of startup culture in Silicon Allee. First I uncover the way that narratives and the actual career trajectories of those who work with computers are negotiated. The career trajectories of engineers and ICT workers revels specifically in the German training context the various ways that work, education and skill can interpreted and enacted in schools and work sites. The second narrative examines the way that conceptions of success and risk get explained in regards to a type of adventure paradigm that privileges the individual (often white male) entrepreneur as an agent of change. In particular, Dyer (1997) and Frankenberg (1993) have observed that from a Western viewpoint, the entrepreneur becomes a modern embodiment of white male enterprise; a person responsible for daring creativity and natural leadership. Within this discourse of action the *individual* is understood as the key actor, despite circumstances, and creativity, while happily shared within a community, is still something that you have to do yourself (or DYI – do it yourself). In the last part of this chapter, I draw on the concept of *Bausteln* to explore the way that startup culture fetishizes and embraces the pleasure of making. Each of these topics touch on the way that specific discourses of action are privileges and how the folklore of Silicon Valley and technology privileges some forms of action over others, even if they are not truly representative.

To explore the concept of the startup in Berlin, I use Tim's startup KomoZu as a case study. Through KomoZu and Tim's position as an entrepreneur, this chapter reveals the way that individuals hold and maintain dueling ideas in regards to startups. Much of the discourse and discussion in Silicon Valley and Silicon Allee are based on an idealized version of the startup and the entrepreneur. However, these idealizations are not new and

often reference other older ideas like the creation mythologies and the adventure discourse. I use this chapter as an opportunity to examine the way that many of the ways that people talk and write about startups draws on these historically established discourses and how particular success narratives, while not reflective of the whole, are treated as representative of startups and entrepreneurs. Most particularly, the narrative of dropping out is key to highlighting individual genius over education and training. This narrative also uncovers how the concept of "doing" gets applied to some forms of action and not others.

The adoption of startup culture in Silicon Allee, exists not as a clone or copy of that found in Silicon Valley, but instead gets reinterpreted through the local and national experiences of education, work, and play. While entrepreneurs in Berlin are consciously aware of Silicon Valley as a model for success, the economic and educational tradition of Germany is quite different than that found in the US. Not only do different laws and cultural norms influence how start-up culture gets experienced, expressed, and enacted, but individual life histories and career trajectories get implicated in startup culture. One way that the DYI is remade in Berlin is through the concept of *Bausteln*. Things like *Bausteln* give people in Silicon Allee a way to reinvent and re-imagine things from Silicon Valley through the local culture. Uncovering the way that startups are imagined and made in Silicon Allee shows that while Silicon Allee gets made in relationship to Silicon Valley, it is neither a mere copy nor outright deviation from the dominate hegemony of Silicon Valley's startup culture. Finally, as a community that exists in relationship to global silicon ideologies (dominated by Silicon Valley) and startup

culture, various actors in Silicon Allee also struggle to create their own voice outside or along with the silicon hegemony.

In the previous chapter, I touched on the concept of user-maker briefly and this chapter gives me an opportunity to explore the concept in more depth. As people who often both make and use technology, people in silicon sites are positioned as both producers and consumers. The dualism of maker and made folds in on itself (Haraway 1983/2001) and the lines between consuming and consumed, producing and produced become blurred. This concept relates particularly well to the emergence of the concepts like produser (producer and user) to prosumer (producer and consumer). While much of the work on prosumers/produser has discussed the way companies take advantage of consumers (rightly so), scholars have failed to notice the way that engineers and software creators are often times reproducing the reality and pleasure of their own user-maker position.

*Starting-up*

In 2010, the homepage of KomoZu was full of action. In addition to the top of the page where KomoZu is written next to a cute mascot, the web page features a flash advertisement to join and a live feed from members using their software and apps. KomoZu was one of the many startups that found a home in Berlin and in aggregate helped give credence to the proclamation that Berlin is Europe's startup capital.[111]

[111] For news reports proclaiming Berlin's status see Eddy, Melissa. 2011. "Berlin: Germany's High-Tech Startup Capital." ABC News. June 3. (footnote continues on next page) http://abcnews.go.com/Technology/wireStory?id=13753267&sms_ss=twitter&at_xt=4debd42b6655ab55,1 (note link no longer active, June 29th 2016), Hommels, Klaus. 2011. Interviewed by Netzwirtschaft.

Startups and startup culture dominates the silicon place. More than anything, startups are what transforms a technology rich region into a silicon place. It is the focus on startups that also allow places without much history or infrastructure of technology to become nationally, even internationally recognized, as a place where things are "happening." In other words, startups make Silicon Allee.

In Silicon Allee startups are always a topic of conversation with people gossiping about who is getting funded, who is hot, and who is hiring. In addition to daily conversations and tweets, key tech websites like *Gründerszene*/www.gruenderszene.de (founder's scene), *deutsche startups*/www.deutsche-startups.de (German startups), and Silicon Allee/www.siliconallee.com which follow Berlin's startup scenes closely noting recent fundings, failures, successes and buyouts. Many of the discourses, narratives and cultural assumptions about startups that get transmitted from Silicon Valley to the Allee are based on standard capitalist values about how companies and economies are expected to work. In this way, startups within Berlin are shaped, even before their creation by an established standard that that cannot be easily changed, like the necessity of seed funds, growth potential, and the adherence to specific transnational legal frameworks. However, this framework still leaves a lot of room for German founders to interpret and reinterpret the startup imaginary.

One needs to keep in mind that while start-ups culturally dominate Silicon Allee (and Silicon Valley for that matter), they are not necessarily the largest employers nor the

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Frankfurter Allgemeine Zeitung. Sept. 6. http://faz-community.faz.net/blogs/netzwirtschaft-blog/archive/2011/09/06/berlin-kann-das-silicon-valley-europas-werden.aspx and Hawley, Charles. 2011. "Europe's Silicon Allee: Berlin on the Road to Becoming a Start-Up Mecca." Spiegel Online. April 22. http://www.spiegel.de/international/business/0,1518,758097,00.html

most profitable. Many startups, like KomoZu, only employ founders. Employment, particularly in the early stages, is risky and requires long hours for limited pay. More established start-ups, like Wooga, a profitable and expanding flash game company in Berlin, provide more traditional employment and pay. As companies that are imagined and extolled by both businesses and governments for their potentiality, the lifetime of a startup is limited. Either startups outgrow the term and become a standard company or they cease to exist either by being sold or failing. The makeup of the startup scene in 2010 will be different than that in 2015. Therefore, while startups are a key presence in silicon places, the demographics of the startups, just like silicon places themselves, are always changing.

As something that is so important to the economics and culture of silicon sites, the term startup remains under-theorized. The very basic definition of a "startup" is that it is a newly created company; a company that is just *starting up*. Still, beyond this basic definition there is no set standard in the US or Germany on what size or what industries a startup has to be. For communities that are so focused on start-ups, the concept of the start-up is overused and fickle. Even people in the field often complained about the fact that the term startup was often over used and under-defined. Hüsing reveals this communal frustration when he titled an article, "What is a damned startup anyway?" (Was verdammt noch mal ist eigentlich ein Start-up?)(2015). Rather than being a useful and descriptive definition, the startup often threatens to become merely a piece of jargon. Still, despite complaints of overuse, my work shows that when people like Tim use the

word *startup*, they are referring not only to a trendy term, but also, to a specific type of company and culture.

Various technophiles[112] have mused on the industry definition of a startup. For example, Paul Graham, the founder of Y Combinator, a startup accelerator in Mountain View, California, suggests that startups are differentiated from just new businesses by their potential for speed of growth and ability to scale. In an article discussing his theories on what differentiates startups from other new companies, Graham (2012) writes that even in their conception Startups are different than regular companies, because they are built to quickly scale. Likewise, Gründerszene describes a startup as more than just a great idea that excites people, and notes, "and what would the startup-industry be without the search for the 'next big thing'? Startups have, in the best case, an above average potential for growth" (Und was wäre die Startup-Branche ohne die Suche nach 'the next big thing'? Startups haben nämlich im besten Fall ein überdurchschnittlich großes Potential zu wachsen…).[113] Graham's and Gründerszene's approaches to startups reveals the reasons why most startups depend on the internet. Instead of other models of business, the product for most internet startups can be delivered to people almost instantaneously and increasing number of customers requires little additional work. While most people in Silicon Allee seem to let startups define themselves, Graham's and

[112] Some European scholars, like Bodenmann, Shahmarichatghieh, Tolonen, Haapasalo, Werker, and Heinrich have focused specifically on startups as a phase of the economic lifecycle and focused on it in terms of economic and policy discussions; but these discussions seem to be primarily focused on more economic academics and government research rather than used by actual people working in and around startups, so I am not going to be discussing them here.

[113] http://www.gruenderszene.de/lexikon/begriffe/startup

Gründerszene's touch on one of the most important, but often overlooked, aspect of the startup and that is potentiality.

Not only do venture capitalists and other funders judge startups by their potential, but founders themselves who embrace the possibilities of potentiality. Still, despite being an imaginary future, potentiality is understood through its action. Over and over again, founders in Silicon Allee talk about what their company *is becoming*. While figures like Zuckerberg, Page and Brin do provide examples of huge successes in terms of starting up, startups in Berlin often have much more practical expressions of potentiality. Like stepping stones on the path to success, Tim often discussed hiring one of his friends once KomoZu got enough funds. On the other hand, Wooga used a gigantic graph to show the huge growth (and the potential expected growth) of users. During a visit to their offices, the founder discussed their plans for expanding the offices to the whole floor of the building. With so much focus on the future and on growth, startups are often described and imagined not as where they are but instead of where they will be.

Another difficulty with the term "startup" is that it is unclear when and how a company ceases to be a startup. If startups are created on their potential for speedy growth as Graham (2012) suggests, one would expect a successful startup to quickly outgrow its name. Still, there is little consensus on what counts as a startup and at what point a company ceases to be a startup. Natalie Robehmed offers the advice in regards to American companies in Forbes magazine that, "If you are generating revenues below $20 million, have less than 80 employees, and remain resolutely in control of the company

you started, you're likely running a startup."[114] In the same article, Robehmed quotes an email exchange with Graham, who wrote, "A company five years old can still be a startup…ten would start to be a stretch."[115] Within the same article, various standards of measurement are used to define a startup - profits, value, number of employees, founder control, years in operation - revealing once again, how subjective the term "startup" really is.

The examples from Gründerszene, Graham and Robehmed demonstrate the widely differing views of the parameters with which to judge a startup. They represent the difficulty of defining something that is more than just a company, but also, entrenched in a cultural milieu. Just as the term "silicon" has developed into a metonymy and a symbol that describes more than just the silicon in chips, the term "startup" references something different than it once did. More than just a new fast-growing businesses with potential, the term startup also references a type of work culture. A Forbes slide show on founder's talking about their startups reveals more abstract concepts about the meaning of startups such as Blumenthal from Warby Parker who suggests that a startup outgrows the term when, a company, "starts to be reactive rather than proactive…that mind shift occurs when a company grows protective of what it is doing rather than attempting to do something that hasn't been done before".[116] In the same slide show, Forbes also quotes Roubichaud founder of PasswordBox, who says, "Being a startup is more of a mentality. You are always working to gain more market share and build a product that is perfect

[114] December 16 2013. http://www.forbes.com/sites/natalierobehmed/2013/12/16/what-is-a-startup/
[115] *ibid.*
[116] "14 Founders on What Makes A Startup." On Forbes. http://www.forbes.com/pictures/emjl45hjge/dave-gilboa-left-and-neil-blumenthal-right-cofounders-of-warby-parker/#276fa04b7e8a

(even though it never will be)".[117] Many of the references to startups in journalism and from founders mirror the way that Web 2.0 outgrows it technical definition and instead becomes a way of being. Additionally, like the creative city and Web 2.0, the term "startup" showcases the way that these terminologies are flexible and open to interpretation while still engendering a specific discourse about success. The definition is both specific and broad enough to allow for access, but also, to create confusion.

Because of both the ambiguity and the status of the word startup, some companies like Google and Facebook, while clearly no longer startups cling to their history as startups. As a multinational company with tens of thousands of employees, Google still suggests that, "we strive to maintain the open culture often associated with startups, in which everyone is a hands-on contributor and feels comfortable sharing ideas and opinions." [118] Not only do many of the "big" companies in Silicon Valley still attempt to be associated with startups, but they also serve as models for other startups. Since the age of Silicon Allee is much younger, there are fewer successful startups in Berlin that have "made it big," but the example of successful companies in Silicon Valley demonstrates that origin stories of startups are used to reinforce and encourage the continuation of starting up. Furthermore, as way to ensure the continuation of the startup cycles, many successful founders reinvest their money into startups through angel funds or incubators. As has been a theme in this dissertation, the commitment from both former and current founders to the startup model and mentality reinforces the buy-in by future founders and employees.

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[117] *ibid.*

[118] "Our Culture" on *Google*. https://www.google.com/about/company/facts/culture/

## II. Dropping Out and Starting-up

In 1975, a promising young man drops out of Harvard to create a company. The next year, another college drop-out and a college expellee joined together to create another company. The behavior that these young men engaged in - leaving college - would traditionally be viewed as negative behavior; instead these are the two stories that help ground the modern history of personal computing by describing the founding of Microsoft in 1975 and Apple in 1976 (Yost 2005, 169 -176). This origin story is further corroborated by stories about other founders dropping out, like Matt Mullenweg (WordPress), Arash Ferdowsi (DropBox) and of course, Mark Zuckerburg (Facebook.) This behavior is not standard. According the Silicon Valley Index, 46% of people living in Silicon Valley[119] have *at least* a bachelor's degree, which is higher than California in general (31%) and the US as a whole (29%) (Massaro and Najera 2014, 8). Also, the 46% includes everyone living in the region, even if they are not participating in the tech industry; so the percentage of degrees is likely much higher in the ICT industries. Furthermore, Sigelman's (2015) examination of job postings in Silicon Valley reveal that 75% of job postings listed a minimum educational requirement and of those postings 98% required a bachelors or higher. The analysis does show that the educational requirements do decrease in other tech hot spots like New York (Silicon Alley) but still remain above the national average in other industries. While similar data is not available

[119] Defined in their research as all of Santa Clara County, all of San Mateo County, parts of Alameda Country (Fremont, Newark and Union City), and part of Santa Cruz County (Scotts Valley).

for Berlin or Germany at large, Menez, Munder and Töpsch (2001) report that at the turn of the millennium many companies in the Stuttgart region of Germany felt an "ideal job candidate" would have a *Hochsculabschluss* (Technical College Degree). Still, they note that smaller companies (like startups) preferred *berufspraktischen Erfahrungen* (practical job experience) to a formal degree. Without citing any studies, Florian Nöll, Berliner, entrepreneur, blogger, and self-proclaimed startup expert, writes of Berlin: "80% of our startup founders are academics and for co-workers the qualification level is about the same." (80% unserer Startup-Gründerinnen und Gründer sind Akademiker und in der Mitarbeiterschaft ist das Qualifikationsniveau kaum schlechter)(2015). Therefore, despite the heavy evidence that a formal education is both desired and sometimes required to work in computing fields, the lore of the dropout remains enticing. Therefore, given the origin stories of forgoing education to startup, after graduating from *Gymnasium* (college preparatory high school), Tim left North Rhineland-Westphalia and moved to Berlin to start KomoZu.

KomoZu was founded by Tim, a German programmer, and his German business partner, Jonas. At the time of my fieldwork, Tim and Jonas were the only two employees of their startup based in Berlin. According to Tim, the turn of the century, even in Berlin before Silicon Allee, was a magical time with lots of VC funds and lofty ideas. Tim was the program and the software developer, while Jonas was responsible for the business side of the operation. While Tim lists a few other tech firms in his employment history, KomoZu is the passion project of his adult life. In the early 2000s, during the beginning of the end of the dotcom boom after his *Abitur* (university entrance diploma), Tim chose

the “untraditional” career trajectory for most Gymnasium graduates by forgoing college and any official job training programs. Tim was mostly self-taught with his college preparatory school in the nineties providing no schooling in computer science. But even during *Gymnasium*, Tim says he knew what he wanted to do, he wanted to start his own company. His dream was always to have a startup.

Working in the start-up industry - from being a founder to a programmer - provides an opportunity for an alternative trajectory in the fields of information technology, *Informatik* (informatics), computer science and software/computer engineering. While usually the exception and not the norm, the stories of famously successful dropouts helps create a counter-narrative to the traditional western notion of what it means to be educated. These early historical narratives about the personal computer also highlight the way that more than almost any other engineering discipline, software engineering and *Informatik* are influenced by a strong hobbyist culture. Gates, Wozinak and Jobs came into the computer industry as a hobby. Gates and Paul Allen’s first work was on a mail-order kit computer called the Altair, and Wozinak and Jobs famously participated in the Homebrew Computer Club (Yorst 2005, 170-175). These early “do-it-yourselfers” or DYIers helped pave the way for a field that celebrates learning outside of traditional educational venues, and even, at times, encourages technophiles to value self-taught skills over college taught skills. Many of the people I met in Berlin, like Tim, had either been self-taught programmers or had learned from a family member. To support the necessities of the discipline, the IEEE curriculum guidelines suggests that “software engineering is more than just coding - it includes quality, schedule and economics, and the knowledge

and application of principles and discipline" (2004). And yet, in Silicon Allee, one finds equal numbers of those who have followed the traditionally prescribed steps to become an engineer, while others, doing the same jobs as those engineers, yet not defining themselves as such, are self-taught or taught through untraditional means.

Many, although not all, of the jobs in Silicon Allee fall into the category of engineering where there are traditional paths through which computer engineers and software engineers can find themselves on a career path. From the mid-18th century onward, engineering in the states of Germany[120] have been deeply embedded in systems of education, vocational training, professional organizations and state examinations. By the end of the 19th century, all engineering fields in Germany became incorporated into academic training in post-secondary schools, which made engineers through degree programs rather than through just apprenticeships (Lundgreen 1990). In a comparison between Continental Europe and Anglo-America, Lundgreen notes that the bureaucratic nature of the German state along with professional memberships helped to position engineering into a specific educational regime that was not seen in the US until more recently. This focus on education and formal training, while not limited to engineering fields, is something that remains important in Germany. For that reason, during the past two centuries, the practice of "being" an engineer in Germany was one that was produced through a specific educational path.

However, as the foundation of many of the programmers educations in Silicon Valley and Silicon Allee, software engineering and its German sibling informatik are

[120] Although the German state, as we know it only came into existence in the late 19th century, I use the term "Germany" here to refer to the cultural-linguistic entity that we know today as Germany.

precariously positioned as disciplines. The 2004 curriculum guidelines from the IEEE notes that since the founding of software engineering as an international discipline in 1969, the term has become widely circulated and used, but, "there are still disagreements and differences of opinion about the meaning of the term"(2004, 5). Furthermore, in addition to indicating that the definition of "software engineering" is still difficult to define, in 2014, the IEEE software engineering guide laments that, "Unfortunately, as with the term 'engineer' itself, the term software engineer is not always used to mean 'a software engineering professional'"(2014,11). Just as Lundgreen observed in the 19th century, professional societies are still interested in maintaining the educational production of workers in engineering and science fields. The academic discipline of software engineering finds itself wedged between computer science and general engineering, but, academics contend the field is not well connected to its science base and also falls short in influencing the industry (Poore 2004; Freeza 2010; Kelly 2007). Furthermore, in Germany, many universities are populated with informatik departments. In many ways, software engineering and informatik are very similar disciplines although they do not cover the same things. Not unlike software engineering, one finds German academics also struggling with defining "Informatik." Rechenberg suggests that the answer to "What is Informatik?" is quite complicated. He suggests the field has gone in so many different directions that it is almost impossible to see it all as part of the same discipline (2010, 54). Here again, the more that people try to create pure categories, the more they defy categorization with crossovers, transitions and growth that refuses to fit within human-made borders. Still, software engineering, computer science, informatik,

and sometimes even, electrical engineering remain the standard educational routes for people to follow if they want to have a job in Silicon Allee.

As a representatives of the traditional path of those in software engineering jobs, Ansia and Beth are both women and immigrants with university degrees working in Silicon Allee. Although an immigrant, Ansia's vocational path is the closest to the traditional German route for an engineer. As an international student from Albania, Ansia completed her degree in informatik at a major university in south-western Germany. In addition to attending the university, Ansia also completed a practicum and was hired by an American software company in North Rhineland-Westphalia. Although Ansia was happy with the job, she was unhappy with the location and was able to find a job as a programmer at an *informatik* research foundation in Berlin. Ansia's story reinforces the idea that even in this age of liquid modernity with options of open travel and free information, the local still remains an important factor in people's lives. Indeed, the proponents of the creative city see the fashioning of the city, like Berlin, as a way to attract people like Ansia, who are educated and desired for tech jobs. Furthermore, Ansia's job in Berlin is based at a research firm, which like others run by the Fraunhofer Society and the Max Plank Institute, fit into Germany's system of education and research. These research firms reinforce the educational pathways for engineers and scientists in Germany.

Beth also represents a more traditional educational route into the field of software engineering, but unlike Ansia, she eventually forwent a standard, steady job in favor of freelance work. Beth completed a degree in electrical engineering in Canada and dabbled

in software engineering during her studies. Given the close academic proximity of electrical engineering and software engineering, Beth had no problem entering the employment field as a software engineer. In the model of itinerant employment that Barley and Kunda (2004) describe in their work, Beth chose to eventually become a freelancer and an independent consultant for the various companies in Berlin. While she did not always work directly for startups, Beth often worked in some of the many jobs that support startups. Although her education was not technically required for her work and most of the skills she learned on her own time, Beth does fit the expected standard of education with regards to highly skilled workers. On one hand, Beth's career trajectory shows how these paths are malleable even when seemingly standardized. However, as a woman and an immigrant, it is likely that her education helped provide a form of social and governmental validation of her skills.

While my dissertation focuses little on the nature of gender in regard to computing,[121] it is worth noting, that all of the women I extensively spoke with in Silicon Allee had formal educations in computer science, software engineering or informatik. Furthermore, while women are underrepresented in the ICT fields, they are especially underrepresented in the startup community. When discussing her decision to move to Berlin, Anisa noted that she was offered a job at Wooga and turned it down. Anisa was happy with her job at a very established research group and although startups seemed exciting, they were also risky. Ruiz Ben (2007) has theorized that women in German ICT tend to avoid small and medium size software development firms because of the lack of

[121] Not because this is not an issue, especially given the gender disparity, but instead, because this is out of my research focus

stability and support for life-family balance that is available for women working in larger firms. Ruiz Ben specifically reveals that organizations like the one that Anisa works for have purposely taken measures to recruit and employ larger percentages of women. Drawing on Ruiz Ben's work, I extrapolate that, like small and medium software development firms, startups are especially unstable and risky for both women and immigrants who may want more standard work hours, benefits, and job security. At the same time, Beth's case does not fit the "standard" expressed by Ruiz Ben, because working for herself means increased autonomy, but also, increased risk of unemployment. So, it is important to realize that both the cases of Anisa and Beth are individual narratives and not representative of the whole. Still, as Ruiz Ben and the cases of Anisa and Beth reveal, working with startups requites a level of privilege that is often out of reach for women and immigrants. For those who may depend on a stable income, the traditional vocational route in which skills-expertise is represented in the form of formal education and vocational training may be preferred to "side-stepping"[122] those requirements. Therefore, forgoing traditional educational and vocation routes in both the US and Germany requires a type of privilege and flexibility that is most often available in young, white males.

In contrast to Ansia and Beth, Lars, a native German, followed a less traditional path to employment. The educational and vocational training system in Germany (*Betriebspraktikum* and *Ausbuildung*) helps funnel all non-college-attending (and sometimes college attending) adults into jobs through specific and in-depth occupational

[122] Although Ruiz Ben also notes that this form of side-stepping in boom periods is one way that women are able to get into the system without training.

training. Because a structured educational experience is expected to be completed by most German youth, choosing to forgo both official vocational training and a college education and "side-stepping" into a tech job can be considered a minor, transgressive act. At the age of seventeen, Lars, a self-taught graphic designer and programmer, left school and managed to get a job working for a very successful music startup in London. In his interview with me, he recounted how he emailed the founders of the company about a job and to his surprise they told him to come on over to London. After working in London for a few years, Lars returned to Berlin, where he became a key leader in the development of Silicon Allee and spent time both working as a freelancer and coordinating events and user group meetings. Except for his travels to England, Lars's history matches many of the workers in Silicon Allee, where many of my informants were self-taught programmers of German heritage, who opted out of the traditional route to employment. Because of this, job qualification is related to skill instead of educational history where potential employers gage skills of workers either through previous knowledge of the person's work or, in some cases, requiring an in-house test of the workers skills. In the case of those who side-step traditional educational paths, expertise is measured by ability.

As I mention above, Tim first opted to forgo a formal education to begin work on KomoZu in Berlin. In early 2000s, before the bust, Tim built the software and website, and KomoZu gathered a community and practiced test runs of the software based on a fake currency. However, soon after creating KomoZu, Tim notes that he and Jonas realized that the market was in decline; in other words, the dotcom bubble burst. While

Tim's early career path was "untraditional," the failure of KomoZu pushed Tim back onto a more traditional engineering path. A *Wall Street Journal* article on the topic observes that, "Not long ago, dropping out of school to start a company was considered risky. For this generation, it is a badge of honor, evidence of ambition and focus. Very few dropouts become tycoons, but 'failure' today means going back to school or taking a six-figure job at a big tech company" (Wakabayashi 2015). Indeed, for young, white, upper middle-class men in both the US and Germany forgoing education is much less risky than it is for other types of people. While there are few established tech companies in Berlin that could hire a person at six-figures,[123] the cost of failure for people in Silicon Allee is relatively small given the low cost of living in Berlin. The failure of KomoZu in the beginning just meant that Tim had an opportunity to get his degree after all. Because he had attended a college preparatory school, Tim was able to enroll at the *Freie Universität (FU)* and get a degree in informatik. After graduating with a degree in informatik and gaining greater insight into what was required for startup success, Tim and Jonas felt that the time was right to re-launch KomoZu in 2010. This example shows the way that training trajectories are flexible, especially for young people who do not have much at stake. Additionally, as Ruiz Ben also observed in her research, economic times of booms and busts also affect how people understand and engage in educational and business risk-taking. When times are booming, like in the 2000s, and everyone is quickly hiring anyone they can find, the need for a formal education is sidelined. Ruiz Ben points out that it is indeed these boom periods, when demand for workers is so high and education expectations lowered, that many women are able to side step into the

[123] In 2010/2011, during my fieldwork

industry. Likewise, in times of financial trouble and economic stress, traditional methods of vocational training are used to provide an additional financial security for those in the field.

Based partially on the libertarian weariness of official educational structures and the democratic ideal that suggests everyone has an equal chance (although that chance tends to privilege some groups over others), the narrative of dropping out and starting up remains a fixture in Silicon Valley and Silicon Allee. Educational systems and professional agencies are slow to change and, as Menez, Munder and Töpsch (2001) note, often unable to keep current with the desired skills preferred by businesses. Also, despite having university degrees, both Tim and Beth spent time both personally and professionally to continue learning about technological innovations, fads, and skills.

In the rhetoric of the "lone" genius like Gates or Zuckerberg, it is the individual who is seen as the agent of his or her own destiny. This Silicon Valley narrative has become so predominate in startup cultures, that Peter Thiel, a Silicon Valley venture capitalist, has created a scholarship to get twenty promising students to drop out of college. Despite his own B.A. and J.D. from Stanford, Thiel's Fellowship Program suggests that some things cannot wait and tells potential applicants, "Rather than just studying, you are *doing*."[124] Although Thiel is not necessarily representative of Silicon Valley at large, the quote from his fellowship overtly uncovers some of the more unspoken themes in regards to work and education. The focus on doing reveals that some kind of doings are more valued in startups than others. Studying (at a university) is not as

[124] "About the Program." The Thiel Fellowship. http://www.thielfellowship.org/become-a-fellow/about-the-program/ (link no longer available as of 7/1/16)

valued as other forms of action like starting up, building, and working. The narrative of dropping out and starting up puts heavy emphasis on "doing it yourself" and places importance on the maker/user.

The startup culture in Silicon Valley, and mirrored in Silicon Allee, can be understood as a counter-hegemonic movement that disrupts traditional notions of what it means to be educated. In a similar language to the rhetoric found in regards to virtual and real, educational spaces are described as *outside* the real world, and for entrepreneurs and their ilk, *real* world experience is most valued. While this rhetoric seems open to anyone, social realities limit the type of people who are comfortable in dropping out, meaning that those with the most access to privilege, and for whom failure is the least risky, are typically the ones to engage in it. Because of this, the narrative of doing, while parading through a rhetoric of equality and democracy,[125] is really quite restricted. In an area where individual successes are praised as the work of genius, ambition, and hard work, those who are not deemed "successful" are to blame for their own undoing. This focus on an individual's drive for success can be one of the many ways to explain the remarkable inequalities between "haves" and "have nots" in Silicon Valley (Pellow and Sun-Hee Park 2002; Hayes 1989; Zlolniski 2003; Davidson 2011).

Over the past two centuries, bolstered by professional organizations, educational facilities and the government at large, professionalization in Germany is generally achieved through specific movements via educational and training programs. The

[125] Elsa Davidson relates that this kind of push for "personal and intellectual states of liberation" was showcased at an upper-middle class Palo Alto high school graduation ceremony, whereas the diverse working class high school graduation in San Jose focused more on meritocracy and assimilation. Davidson, Elsa. 2011. *The Burdens of Aspiration: Schools, Youth, and Success in Divided Social Worlds of Silicon Valley*. New York: NYU Press

narratives of startups and drop-outs play out differently within the educational context in Germany. As such, Silicon Allee is distinguished from other sites of German computing through its large startup community, which provides some, but not all, an opportunity to opt out of the German system of vocational and academic training. While many acknowledge the place of these traditional paths of education, most of those working in Silicon Allee still echo the excitement of "doing." Again and again, adopting the narrative of starting up, workers in Silicon Allee almost always talked about trying to get things started or, mirroring the Nike slogan, to "just do it." Through this discourse, the individual is seen as having almost complete agency over himself, which paints Silicon Allee, like Silicon Valley, as a place where a self-made man is only limited by his ideas and hard work.

**III. The Venture Capitalist Gold Rush**

In the late 1840s, gold was found in California, and the Gold Rush began. About the Gold Rush, Herbert writes, "Thousands of pre-dominantly young white men left for California by sea and land…These men went to California to get rich, but the pursuit of wealth could not be divorced from cultural ideas of race and gender, especially of white manliness" (2011, 339-368). Interestingly, Herbert's observations about young, white males can also be applied to a similar events in California 150 years later in Silicon Valley. Further unpacking the concept of whiteness, Dyer suggests that white masculinity is characterized by an expression of enterprise, which characterizes white men as having

"energy, will, ambition, the ability to think and see things through," but connects them directly to practices (and successes) of "discovery, science, business, wealth creation, the building of nations, the organization of labour" (1997, 31). This drive forward, associated with starting-up and doing at silicon sites, is also coupled with race (whiteness) and gender (maleness). Even as companies have tried integrating women and a wider variety of under-represented ethnicities into the work force, Silicon Valley and startups, in particular, remain sites (expectedly) of white masculinity. In Silicon Valley and also in Silicon Allee masculinity is expressed through negotiations and characteristics of work and risk.

As an imagined and real place, discourses about Silicon Valley and California shape discourses about success in Silicon Allee. First, the basic stereotypes and assumptions about California are often referenced in regards to Silicon Valley with discussions and descriptions of it as a warm, sunny, even golden, place. On one hand, the image of California draws up references to nice weather and laissez-faire attitudes. Second, along with the previous descriptions, California often gets described in a way that, often purposefully, mirrors narratives of the California Gold Rush in the mid-nineteenth century. The narrative of the California Gold Rush that I mentioned at the beginning of this section and the narrative of starting up invite parallels because they both employ what Nerlich (1987) has termed the adventure ideology. The adventure ideology, which was primarily enacted by European (white) males, provides an opportunity for people disturb traditional social expectations. In its historical context, Nerlich writes that the adventure ideology was drawn on by upper class people as a way to engage with

forms of risk, like financial transactions (trade) and travel.[126] The adventure ideology gives a socially sanctioned, and much celebrated, method for young men to undertake risk. On the whole, Nerlich suggests that the adventurer mindset includes the "acceptance of change and the unknown, the acceptance of risk and chance…, the recognition of 'the other' and the elaboration of systems to calculate risk" (xxi). In this quotation, the nature of the adventure ideology is understood through the ability of people to accept and maintain risk. Frankenberg ties ideas of adventure directly to white men by describing them as embracing, "the spirit of adventure in the entrepreneurial world" (1993, 83). Likewise, narratives about startups and entrepreneurship are frank about their association with risk. From losing financial footing to being too conservative or too liberal in regards to growth, Basu and Nair point out that, "risk exposure is a critical aspect of start-up operations" (2015, 597). The chance of startup failure is so high that startup culture has even created methods of understanding, explaining and celebrating failure. In fact, as Olaison and Sørensen point out "good" failure has been increasingly re-branded as a learning experience and as a standard procedure in the entrepreneurial process. Much to the joy of failed entrepreneurs, Ghosh, a Harvard Business School professor argues that, "in Silicon Valley, the fact that your enterprise has failed is actually a badge of honor" (Nobel 2011). In the language of "doing," even failing is supposedly rewarded in silicon sites. In fact, as a glorification of the adventure ideology, doing anything (and failing) is better than doing nothing at all.

[126]As much as travel and trade seem normal to today's world of mobilities, Sheller and Urry (2006, 20) urge scholars to remember that sedentarism is still treated as the standard for human behavior.

In this gold rush/adventure narrative, instead of being lined with gold, the streets of Silicon Valley are lined with venture capitalists. Sean Seton-Rogers (Jozefak 2011) a European-based VC speaking at NEXT11 in Berlin, described Silicon Valley as being so packed with venture capitalists that if a person were to take a five iron out and hit a golf ball into the air on Sand Hill Road in Menlo Park the ball would fly over at least forty VCs. For many internet, startup entrepreneurs, venture capitalists supply the funds necessary for startups to actually start up; they are the financiers of the startup revolution.[127] Like both the internet's democratic ideals and the gold rush narrative, the culture of startups suggests that anyone can strike it rich. In Herbert's description of valued virtues during the Gold Rush — "bravery, determination, dignity, and self-control — attributes manifested in the truism that dogged determination would be rewarded by economic independence" (2011, 345). This kind of ragged, can-do focus is also rewarded by VCs and entrepreneurs. In a book of interviews with VCs, Shah and Shah reveal that, "in discussing the characteristics of the successful founders, the words repeated most often are extraordinary passion, intelligence, authenticity, intellectual honesty, dogged persistence, risk-taking and integrity" (2001, 17). These characteristics note the way that entrepreneurial drive is connected with the concept of will and the ability to both control oneself and others (leadership) (Dyer 1997). Facing poor odds, and often little exterior control, financial success is framed as the reward for being honest, hardworking and intelligent.

[127] Not all startups require VC funds, some are able to start with Angel funds or self-funding, but generally VC's are seen as the gatekeepers of cash

In the ideal, the programmer, engineer or lay person, regardless of wealth or family, need only to find one idea to make it. Again and again in the startup culture, people refer to the idea as one of the key aspects of starting up. This narrative of people producing ideas relates back to the ideas of the creative city and the city of wissenschaft, where the future is not built in factories but from ideas. The birth of the startup is found in the idea; the proverbial light-bulb-over-the-head moment. Furthermore, an idea is not enough as Maples from the FLOODGATE Fund suggests, "Every startup has a bunch of near-death experiences and if you do not love your idea with all of your passion, you will give up" (2011, 16). This discourse draws directly on the Western ideal of individualism, which becomes exacerbated through the characteristics of the modern startup entrepreneur. Most particularly, as Buss suggests of the German tradition, "The qualitative individual of *Bildung* [education/formation/creation] did not simply seek to acquire uniqueness according to its own inner logic, but rather sought a unique way of making himself part of his world and of the social whole" (2000, 19). Not only is the entrepreneur expected to "disrupt" the status quo but he will be rewarded for it. Even while being spread, many in Silicon Allee acknowledge that this tale is flawed. Tim is an illustration of the way the ideal and reality of this democratic self-starting architype of starting-up gets played out in real startups. When discussing KomoZu with Tim, he often simultaneously embraced the idea that anyone could do it, while equally acknowledging the reality that so many factors beyond people's control could bring a startup down.

*Idealization of the Individual*

As someone who has experienced working at a startup in both the early 2000s and the early 2010s, Tim, while only in his early thirties, talks with the authority of an old-timer. When comparing his experiences with KomoZu, he notes that, during the first dotcom boom, everyone was so excited about new internet companies. Business plans were less strict and investors worried less about funding structures. Back then, he notes, you could get away with profits made merely on advertising something which, he observes, rarely happens these days. During the year and half that I was living in Berlin, KomoZu was alive but was run on a shoestring budget. Tim and his partner were in a continuous search for funds. He confided in me that the problem was Europe's lack of venture capitalists and angels; the ones that existed were too conservative with money.

As mentioned above, venture capitalists are thought of as the gatekeepers of riches in Silicon sites, and they are the ones who decide what startups are worthy. Although not all startups follow the same path or require VC funds, most startups require some kind of funding to get going. NeuvoFilm, for example, the media startup from the UK that I discussed in the previous chapter, was started with a government grant. Still, for those with entrepreneurial tendencies, like Tim and KomoZu, the volume of venture capitalists in Europe pales in comparison to those in northern California. Like others in Silicon Allee, Tim suggested that startups have an easier time in California, because Berliners are competing for a smaller pool of funds and European VCs are more cautious with their funds. This feeling is reiterated by Collin, founder of Front, who compared seeking funds in Europe as, "the corporate equivalent of begging for money in a crowded subway car;" (2014) Collin later left the European VC market and was funded by Y

Combinator in the US. However, venture capitalists, like those on the panel discussion at Next11, rebut that, while there are fewer VCs in Europe, there are fewer startups as well. Hebel (Jozefak 2011), a VC at Fidelity Ventures, suggests that being an entrepreneur is hard, very hard, but that if someone believes in their product, he will eventually find funds. Here again, the rhetoric of the startup is shifted back onto the entrepreneur – ergo, if he works for it hard enough, he will get funding.

One time, after coming back from Prague for a meeting with a VC, and almost acquiring an investor, Tim lamented that there were too many people running after too few funds. Ideally, he would like to go to Silicon Valley. Tim mused that there were plentiful investors there, and they were funding much less worthy companies than KomoZu. Every time Tim and I met, he would quiz me about Silicon Valley. The Valley, the capital of internet startups, was someplace that I had known firsthand and that I had experienced during the first dotcom boom. Silicon Valley would be an excellent place for his company, because, as Tim often reminded me, that was where all the action happened. For companies both making and shaping the internet, where being "there" seems to be less important, meeting investors in person and being in the right place is, ironically, vitally important. However, for Tim, traveling or even moving to California was cost prohibitive. This is a reminder that even in sites of high levels of mobility, particularly in regards to virtual flexibilities, physical movements, like transnational travel remains unevenly distributed and only available to some. Still, like many founders of startups in Berlin, he frequently discussed Silicon Valley, how things worked there, and his feelings about it, even though he had never been there.

The virtual (and sometimes physical) connections between Silicon Allee and Silicon Valley mean that those working in Berlin can see beyond Germany and "hear" gossip about who is getting funded for what and where. The idea that Californian, even American, startups have it easier is sometimes reinforced by local gossip/startup blogs which suggest that some unworthily funded companies would never have gotten money, if they were in Europe. In an article trying to dispel this "myth," Gründerszene, reinforces the idea that personal connections are key to Silicon Valley, which, "explains, why so many obviously obtuse ideas do not have any problem getting funding, while many promising and really innovate startups from first-time founders remain dry" (So erklärt sich auch, warum viele scheinbar abstruse Ideen ohne Problem Funding bekommen, während viele aussichtsreiche und wirklich innovative Startups von Erstgründern vertrocknen) (Fischer 2014). Still, rather than "myth busting," Gründerszene's article demonstrates that, because personal connections are important to the funding of startups, those in Germany are indeed at a disadvantage because of their physical location on the periphery. Victoria Ho (2013) reinforces this idea by pointing out that, while Silicon Valley has large number of Asian immigrants, the local venture capitalists rarely fund foreign startups. Ho quotes Levy, a partner at BootstrapLabs, which focuses on recruiting foreign investments, as saying that one of the biggest hurdles for foreign startups is building relationships with investors at the same time they are trying to raise funds. Once again, even in technology, rich spaces which make and are made by the virtual, local communities are important for maintaining and establishing business and personal connections and are not as easily created from afar. While it is unclear whether funding is

easier or harder in the Valley, Berlin's founders clearly *feel* at a disadvantage being so far from the mature ecosystem of Silicon Valley.

Nevertheless, under the idealized reality of the entrepreneur as a heroic adventurer who is embued with, "creative courage, imagination, vision and ethical discipline" (Hatch, Kostera and Kozminski 2005 vii), lives a counter narrative that begins to peek out. To be clear, the idealization of the individual as the agent for action with regards to entrepreneurship is readily dispelled both in Silicon Allee and Silicon Valley; and people like Tim engage both the idealized notion of entrepreneurship *and* the realities. At the same time that Tim encourages others to just "do it," he is witness to the reality that it does not always work out. While, on one hand, the idealized narrative of startup success suggests that it is based on hard work and an innovative idea, those in the Allee still point to the fact that even with a great idea working sixteen hour days, a company and its workers may not be in the right place, know the right people, seem trendy enough, come in the market at the right time, or make enough money. Even as people remind each other that, like Botha of Sequoia Capital, success is often a "question of timing rather than an idea's merit" (2011, 4). It is the idealized narrative that inspires people to try. Like the real Gold Rush, the chances of becoming rich as an entrepreneur in silicon sites remains small. A smart, educated software engineer or other technically inclined person could probably easily find a well-paying job at well-established companies both in Germany and abroad. Still, although the narrative of failure exists, it is far less predominate than the narratives of success. People are much more likely to know of the Gates and the Zuckerbergs that make billions and end up on Forbes Lists of wealthy individuals than

the people who founded and failed, founded and failed, and perhaps, even founded and sold or broke even.

While success is measured in various ways, for example, some might consider getting VC funds a success or selling their company for a tidy sum a success, the risk of failure almost always outweighs the chances of making it let alone making it big. The reality of the risk is perhaps part of the lure of the process itself. As Michael Arrington (2010) writes on Tech Crunch: "They [Entrepreneurs] don't need to be rewarded for risk, because they get utility out of risk itself. In other words, they like adventures…I left the law [field] after just three years to join a startup. And the reason I did it was *adventure*. I wanted to be *in the game*, not just watching it" (2010, italics in original). Again, through the adventure narrative and the discourse of doing, being part of the action is a reward in itself. But, like I discussed in the previous section, at the same time that young, white men are celebrating being "pirates" and "ninjas," through their acquisition of risk, other groups like women or people of color are left out of the entrepreneurial niche.[128] As Tim described to me, he knew he always wanted to have a startup; being one's own boss is experienced as a level of freedom and a badge of honor itself, even if larger market success is out of reach. Still, the startup culture, fed and reinforced by its successes, encourages young technophiles to continue to the process by not only doing and making but by starting their own business.

[128] There has been some exploration of why tech fields, and most specifically tech startups, tend to favor specific groups of people over other; and while there has been some good work on this topic, and I have my own theories to it as well, unfortunately, this remains outside of my scope.

## IV. The Pleasure of Making, Starting, and *Bausteln*

On a sunny spring day, Lars and I were discussing his experiences in Silicon Allee over lattes. Lars, a thin, young German, who had worked in London and Berlin was discussing his original frustration with Berlin. Everyone had ideas, he noted, but no one did anything. Now, finally, people were starting to *do* something, he observed. Six months earlier, eating *Döners* with Tim and David, a friend of mine, David was telling Tim about an idea he had for a startup. Tim looked at David with conviction and told David, you have to do it, you *just have to do it*. In each of these examples, like Thiel who tells young people to stop studying and start doing, Tim and Lars engage the Silicon Valley discourse of "doing" along with that of creative entrepreneurship. This kind of discourse focuses on the individual's potential for action; and as such, it is the individual who is (mostly) responsible for their success and their pleasure. Sørensen writing about the entrepreneur suggests, "We have the myth of the Western individual, who specifically, comes into existence by way of the deed" (2008, 88). Sørensen, while not specifically referencing Silicon Valley, notes that western narratives surrounding entrepreneurship in late capitalism frame the entrepreneur through the role of the savior, who more than just creating things is responsible for the pseudo-religious act of creation. While the action of starting-up is not always framed by such religious language, it is noticeable that the start-up culture engenders a committed and devoted following for those who practice it. In addition to "doing," various action verbs get tied to the culture of startups, which also privilege ideas of making, creating, starting and, in Silicon Allee, *bausteln*. Finally, if starting up is indeed risky and the chances of success are quite slim,

why are there so many people eager to startup? If risk is experienced as a form of adventure and excitement, I also argue in this section, that entrepreneurs (and other people as well) experience pleasure from the processes of making, doing and creating. The pleasure of making is one of the foundational links between Silicon Valley and Silicon Allee, which indeed privileges the *deed*.

*The Pleasure of Engineering*

The field of engineering, particularly that of software engineering, provides enjoyment through the process of creation. While often overlooked as a source of pleasure, Wiesner writes, "Technical and scientific work is fun. In fact, creative technical work provides much the same satisfaction that is obtained from painting, writing, and composing or preforming music" (1965, 327). While academic disciplines separate the creative humanities from engineering, as Zuse mused art and engineering have more in common than one might expect; at their root they are both pleasurable acts of creation. Of course, this is in line with the creative city concept, which opens up expressions of creativity to include both the technical and the artistic. The experience of engineering[129], as a form of pleasure, has often been overlooked. Yet, as Florman suggests: "My proposition is that the nature of engineering has been misconceived. Analysis, rationality, materialism, and practical creativity do not preclude emotional fulfillment; they are pathways to such fulfillment…At the heart of engineering lies existential joy" (1976, 101). Read through this lens, the rhetoric of doing, making and creating is not the joyful result of tinkering, but instead, the expression of the pleasure, even joy, of *being*.

[129] Not as a formal discipline, but as an action.

Given the level of risk and the uncertainty of success, it is enthusiasm that is required to move startups forward. Instead of merely the future lure of reward, entrepreneurs are able to find joy in their process and pleasure in their production; often expressed through the language of passion. However, while passion is often described as an impetus for drive; the double-sided nature of passion also references the danger of being all consuming. The fields of professional engineering and technological hobbyist produces obsessive builders and programmers, who describe their experiences as both pleasurable, fun, but also, addicting (Klief and Faulkner 2003; Massey 1995). Like addiction in which the quest for pleasure becomes all consuming; the entrepreneur is devotedly passionate about his project experiences, both the pleasure and pain of creating. Tim's involvement of KomoZu, a company that had already failed once and never found funding was a project of passion to which he had devoted most of his adult life. Tim was continuously devoted to his project, not because it seemed to be poised to make it big, but because it was his company and his software which he *made*. It was the product of his passion. In the same way that contingent labor shows how flexibility can be equally understood as freedom and uncertainty, the entrepreneur also faces this dual experience of flexibility. While not discussing entrepreneurs or startups per-say, Klief and Faulkner suggest that the joy of engineering is a byproduct of one's ability to manage life and technology's uncertainties. For an entrepreneur whose company may face daily trials that are out of his hands, the product of one's own work becomes meaningful as an expression of personal mastery. Furthermore, the pleasure of engineering is used as a motivator for software entrepreneurs, which paints the startup not as a job, but as an act

of devoted ardor. This passion for creating - both a product and a business - requires total commitment by the entrepreneur who toils long hours without guarantee of success. In the same way that scholars from Weber (1930) to Herbert (2011) suggest that Western understandings of individualism reward hard work and individual perseverance, it is the passion of the entrepreneur that ensures success.

Beyond the startup, silicon sites are places where people are constantly tinkering and playing with technologies. In Silicon Allee, the products of these creative impulses are consistently shared through daily conversations, community meetings and parties, Twitter and more official events where people are encouraged to share their creations, and also, participate in creating new ones. This creates a type of feedback loop where people are rewarded for their creativity, by the pleasures of creating and the social rewards of sharing. During my time in Berlin, I was constantly struck by how much work was being done by people just for fun. Of course, this reinforces the way that play and work become intermingled and often interchangeable. After a hackathon sponsored by a successful local startup SoundCloud, Lynx, a software engineer by trade and boyfriend to Beth, spent time creating his own little program to make music. During the creation process, Lynx updated followers on his project on Twitter, and afterwards, Beth took her turn forking the code during which she also updated followers on Twitter. Despite the amount of work (outside of worktime), the creation of the software was for the pleasure of creating and sharing. Grier and Dumbacher demonstrate this same ethos when they quote a software programmer saying, “I created this just for fun. It is in the store [app store], but I don’t expect many to buy it" (2012, 116). This quotation indicates that, while

the process of making the app was fun, part of the pleasure comes from sharing it. Sharing projects in the larger communities provides additional reinforcement by helping to establish their abilities in a larger context, and ultimately, build on their "personal brand" (Klief and Faulkner 2003; English-Leuck 2011). While there is always a slim chance for profit, many programmers emphasize the pleasure of producing things in their free time over the potential for profit.

Beyond his work on KomoZu, Tim found time to play with code and to tinker. In fact, he was the person who introduced me to the concept of *bausteln* - a concept that is akin to crafting and building. The passion for making and the pleasure of creating are interpreted into the Silicon Allee culture through the local concept and creation of *Baustel*. Baustel is a portmanteau of the German words for to build (*bauen*) and to do handicrafts (*basteln*). Unlike much of Silicon Valley and startup cultures there, which get incorporated into Silicon Allee with few changes, the concept of baustel, while derived from the culture of creating, is a term which has no translation into English or Silicon Valley tech speak. In Berlin, bausteln was enacted through *baustel montags*, which were on alternate Mondays from Web Montag and based out of betahaus. On their Twitter feed, they define bausteln as, "the democratization of production knowledge" (Demokratisierung des Produktionswissens).[130] Baustel montag's facebook page furthers this definition suggesting that bausteln is, "Creating stuff, do it yourself, new ways of manufacture, creative work beyond industrial production, hacking, modification and re-

[130] https://twitter.com/bausteln

interpretation of existing artifacts, inventor spirit, making, crafting" [131] Embedded within concepts of making and playing, various proponents of bausteln encourage people to "do something creative" or "do it yourself" (kreativ selbst etwas erschaffen), which is an emphasis on the individual (self/*selbst*). Here the various ideals of startup culture, based on doing, based on individual agency and based on creativity meet within the concept of baustel. The concept of baustel, popular among software engineers and startup entrepreneurs, is done with material objects. Furthermore, as the antithesis to the corporatization of pleasure, like in the case of Google's twenty percent time (which I discuss below), bausteln is imagined and often implemented as a transgressive and democratization of the pleasure of making things.

The pleasure of creating is so entrenched in Silicon Valley, and other silicon sites, that some companies have attempted to capitalize on engineers' tendencies to create during their free time by offering paid "free time." In this way, the boundary between leisure and work once again becomes even more eroded. Google is an example of the implementation of this free time technique, which they officially call "Innovative Time Office," and informally, call "20 percent time." However, the corporate implementation of this kind of space to create is not actually a "free" place to create, but is both constrained through management overview and a way to re-indebt employees to the company or a "gift" with strings attached (Walker 2011). Not only does the corporatization of tech workers' desire for creating mean that one's ideas will no longer be one's own (but instead the company's), but the increased freedom for workers

[131] https://www.facebook.com/bausteln/ (although the quote material, as with much of the facebook page, is no longer available)

becomes a neo-normative method of control for managers (Fleming and Sturdy 2009). Like other perks seen in established companies like Facebook and Google, getting workers to engage in pleasurable activities also means that the workers are more prone to exploitation. While companies like Google, Yahoo! and Facebook are no longer startups, not only do these companies serve as examples of successful paths of starting up, but the companies themselves often present themselves as still practicing startup culture. For that reason, the praise and push for creating is celebrated through startups and individual projects and within corporate structures as well. In effect, this means that more and more individuals are both producing and reproducing the fetishization of creation in their own lives, and also, in the lives of their employees and coworkers.

*Reproducing the Pleasure of Creating*

While Web 2.0 is based on the idealization of interaction and sociality, technologies do not magically become interactive nor are they born as social entities. Instead, programmers, and those who create Web 2.0, have drawn on the human pleasure of creating to make people *want* to interact on the web and *desire* to be social on the web. In other words, without the pleasure associated with the interactive sociality of Web 2.0, it would not exist in its current form. Although pleasure in the virtual is not limited to Web 2.0, it is the advent of Web 2.0 ideals, along with technologies, that allowed people to monetize the web in ways that were previously unavailable.

As mentioned in other chapters, Web 2.0 exits well within the market economy. Users must pay for access to Web 2.0 applications either with data/information, work or

money. When things are “free” on the web, they are not actually “free.” Instead, the exchange is typically hidden in either the work of the user or the data the user is providing. In both of these cases, Gehl suggests that “Web 2.0 site owners treat users as productive labor, producing exchangeable, objectified (that is, digitized) pleasures, affect, and desires” (2010, 54). What Gehl describes has been popularly termed prosumption (production/consumption) with the user becoming the prosumer (producer/consumer) and prouser (producer/user). The term prosumer is not new to Web 2.0, but instead exasperated through Web 2.0. (Ritzer, Dean, Jugenson 2012; Comor 2010; Beaudouin 2011). Ritzer, Dean and Jugenson note that, “There are now many industries…that are primarily about the production of ideas…it becomes increasingly possible…for consumers to draw on this general fund of knowledge and information. As they draw upon - or consume - this knowledge, they produce and further contribute to it” (383). Not only do consumers/users feel more connected to the product they are consuming, but they also relive pleasure through the labor of producing it. This process, while often enjoyable, can encourage exploitation of prosumers both as workers and consumers.

KomoZu is an example of the model driven by the prosumer. Although their revenue was provided by membership, in the end the product that KomoZu sold was the advice and data that members would provide to other members. KomoZu provided software to connect a community around European financial markets, and through advice and information, depended on consumers to produce the products for them. While KomoZu was developed during the first dotcom boom, their software demonstrates that many of the characteristics were popularized with the advent of Web 2.0. While focused

on financial systems, the software provides a platform for community interaction. While the software is technically their product, it is the action and interaction of the community that provides the real product for those using KomoZu. This means that KomoZu depends on "prosumers" to create data for the community, and it is this data that in turn encourages more people to join the community, thereby producing more data for the community to use. Like the creative class, which attracts more of its own, the virtual community also relies on growth through attraction of similar types.

As prosumers themselves (or as I prefer to call them user-makers), workers in silicon sites are often the first consumers of their own products. Technophiles are some of the first adopters of new technologies, and like Lynx, often many of the mini-projects they create are fashioned primarily for themselves and other tech workers. Based on their research, Klief and Faulkner observe, "We suspect that experiences of pleasure and play, and perhaps even pain, explain in part both why new technologies continue to be developed and why particular technologies get developed" (298). Not only do engineers and entrepreneurs reproduce their own desires and interests through their making, but more and more internet and web creations are based on these desires and interests. As such, programmers, engineers and entrepreneurs are reproducing their own interests and their disciplines' culture of making on the virtual. In this way, engineers implement the pleasure of producing into a system that both monetizes their pleasures through the pleasure of creating and sharing on the web. From portmanteaus like produser (produce and user) to prosumer (produce and consumer), Web 2.0 is one that encourages and idealizes, while also monetizing, community creativity where the product being produced

is additionally the product being sold to those producing it. Interestingly enough, one could argue that the act of making is being prepared by those who make Silicon Allee. Once again, one wonders -- who is making what? And what is making whom? (Haraway ([1983]/2001)

## V. Fashioning Silicon Allee outside of Silicon Valley

Startup discourses value some actions over others; people are encouraged to do, create, make, and startup over other behaviors like going to school and watching. Of the passive behaviors that are not encouraged, copying is one of the most despised. On one level, the concept of the copy implies a level of fraud; that someone is purposely stealing from someone else. On another level it implies a type of laziness; that someone just does not have enough passion or intelligence to make something on their own. Informal discussions remind people that "one person's copy is another person's innovation" and that many times similar products are produced at the same time, because the same environment and technological opportunities produce similar ideas. Furthermore, in general conversations with people, I have had people mention to me that some companies like Twitter and Facebook were produced at a time with other similar products were on the market, and yet, those two products survived not because of usability or even quality but because of business management. Be that as it may, as a place that is newly participating in the silicon ecosystem, the threat of copies falls heavily on the shoulders of Berlin's entrepreneurs and workers.

The shadow of Silicon Valley is always present in Berlin's computing community and that suggests that it is always appreciated. As a place that is characterized by its history of an avant-garde and punk aesthetic, Berliners, and those attracted to Berlin, often resist conforming to what is imagined as a globalized norm. This resistance is also seen in Silicon Allee where, some people resist attempts to align Berlin with other silicon sites, specifically Silicon Valley. The argument is that Berlin needs to emerge as its own place, rather than copy another place. Ciarán O'Leary (2013), a Berlin-based VC, writes of Berlin, "Everywhere in the world where a few startups gather politician's and press are quick to call out 'the next Silicon Valley.' Same happened in Berlin. Berlin is not going to be the next Silicon Valley. Neither is London, Stockholm or Tel Aviv. Silicon Valley is going to be the next Silicon Valley, with its unique set of ingredients difficult to (exactly) replicate elsewhere." While O'Leary does not seem to be arguing against the idea that Silicon Allee shares many of the same cultural traditions and goals that Silicon Valley does, his comment takes notice of the way that other places (like Berlin, London, New York) often get labeled as a Silicon Valley clone, and then, they fail to live up to the lofty expectations. Moreover, there is a tension in the process of making Silicon Allee in which Silicon Valley is positioned as both a model to strive towards and against. In an interview with Danny Holtschke (2012), from the Start Up Genome Project, he states, "We should stop trying to emulate the Valley. And this counts for other ecosystems as well. We need to find our Berlin startup DNA by making the best of our ecosystem's resources and capabilities, including cheaper living costs, plenty of talent, open doors to Eastern markets, rich culture and history. Simply keep on doing great work." Berliners

know that they will not become the "next" Silicon Valley by trying to copy it; but at the same time, Silicon Valley is understood to be the standard by which all things computing are measured. Here is the paradox for startup communities outside Silicon Valley: any startup community outside of the Valley needs to be independent of the Valley while still being dependent on it. Places like Berlin are challenged to find their own voice and their own "innovation ecosystem" while always remaining in the shadow of the Valley. As I have shown time and time again in this dissertation, this is further complicated by the fact that startup ecosystems are not isolated phenomena; instead, the increased mobility and easy virtual connections mean that even without being in Northern California, Silicon Allee is influenced by it.

Even so , before the name "Silicon Allee" was first muttered, there were people in Berlin programming software and founding startups. As the example of KomoZu demonstrates, links between Berlin and Silicon Valley existed long before people began giving the computing community(ies) in Berlin a silicon name, with the financial implications of the dotcom bust having an equally devastating effect for startups on both side of the Atlantic. In part, the naming movement is most likely linked to the city of Berlin's push to make Berlin a place to "be" and to the increased importance of location identity and identity management in both physical and virtual spheres. The very name of "Silicon Allee" positions Berlin's computing communities within the global networks of silicon sites, and links these communities culturally with Silicon Valley. During my fieldwork, Silicon Allee was most often used as a term used to identify the community from the outside, rather than the inside. Instead, the idea and the labeling of Silicon Allee

was most often used to situate Berlin within the wider global networks of silicon sites and technology flows. The term "silicon" in the name "Silicon Allee" aligns Berlin with Silicon Valley and also mimics the name of Silicon Valley.

As a silicon site that is just beginning to be noticed outside of Germany, Berliner technophiles are continually trying to justify the creation of Silicon Allee and justify it as something more than one of the many silicon "clones." In public forums, various debates and talks pair Berlin's Silicon Allee with London's Silicon Roundabout and ask which is better for a center of European computing. Although the answers vary greatly (and tend to lean on the side of Berlin when the meeting/conference is held in Berlin), startup communities are continuously being compared to each other as if it is a zero sum game. Discussions about these two locals reveal the way that people imagine the European market and the role that a specific physical location plays in the creation of a silicon city. VC's from O'Leary (2013) to the NEXT11 Panel (Jozefak 2011) remind people that Berlin is a young ecosystem. When comparing Berlin and Northern California, people seem to forget that Berlin only really began to be identified as a startup community around 2010. Berlin is not Menlo Park nor Palo Alto, and it is unrealistic to expect it to instantly mature forty years. Even with forty years of maturity, Berlin will never look like Silicon Valley. More than anything in this dissertation, I have attempted to show the way the silicon ideology is and can be spread globally but is interpreted and situated locally within each place.

*Of Copies and Clones*

In 2011, *The Economist* ran an article titled, "Attack of the Clones"[132] with a still from the *Star Wars* film of the same name. However, the article was not about the film or science fiction, instead, it discussed the clone startups that appeared in China and Germany. The article cites the (in)famous Samwer brothers, who, "have a knack for spotting good business models in Silicon Valley and then quickly starting something similar in Europe. They later sell these 'clones,' sometimes to the firms on which they were modelled." What the article does not mention is that there is often a significant lag between the time companies are founded in the US and then begin operations in Europe. Clones allow Europeans to engage in the same behaviors, services, and technologies that they hear about in the US without having to wait for a company to decide (sometimes years or decades later) to move into the European market. Yet, because of this phenomena, sometimes purposeful, sometimes not, many European startups have the reputation for not making anything new, but instead, merely copying successful products from the United States and Silicon Valley.

Examples of clones can be seen in all kinds of companies in Germany and Berlin. LinkedIn and Xing were developed during the same time and both provide a social networking platform for business associates. LinkedIn was created in California, while Xing is from Hamburg. While LinkedIn is now available in Germany, it remains remarkably less popular than Xing. Just like Xing, there are other American "clones," like StudiVZ/SchülerVZ, which is similar to Facebook and Wooga, which is similar to Zynga. In an editorial on their blog, the startup Wunderlist (2011) writes of Berlin, "Berlin founders, this is your time. Did you know the very first computer was invented in

[132] August 6, 2011. http://www.economist.com/node/21525394

this city? We should be proud of that! So, why the hell was Berlin known as the copycat capital of Europe? Think for a second. How many great technology startups have we invented in the last 40 years? Not many."[133] Of course much of the definition of copying is left up to interpretation. In the comments to Wunderlist's article, people even suggest that Wunderlist itself is a clone (of Evernote). Even KomoZu was accused as being a copy. In an article discussing KomoZu on Deutsche-Startups.de, a commenter wrote, "of the article, it occurs to me: again another copy."[134] Some people pointed out to me the double standard for startups in Berlin. *The Economist* (2011) article quotes Fred Destin of Atlas Venture as pointing out, "When something works in America…eight companies immediately go after the same opportunities and venture capitalists fund them. But nobody calls them clones." Furthermore, because they are always measured against Silicon Valley, American companies are always assumed to be the original, while those in Germany (or elsewhere) the copies. In general, copying is viewed as a negative action and one that remains present in Silicon Allee discourse.

While some people and companies, like Wunderlist, see copycats as a scourge that breaks the rules of the entrepreneurial spirit, others like Christian Weiss, from Project A Ventures in Berlin, argues that this kind of dichotomy is not good for the startup ecosystem. Hathaway, reporting for Silicon Allee.com, noted that Weiss's a keynote address for Startup Camp Berlin suggested, "The real focus should not be on the assumption that original = good and copy = bad, but rather on what is sustainable,

[133] Founders STAND UP! The anti-copycat revolution starts now." August 9 2011. https://www.wunderlist.com/blog/founders-stand-up-the-anti-copycat-revolution-starts-now/

[134] This quote was originally in German but I translated it into English. Due to confidentiality requirements I have left the German out, because a quick Google search quickly links back to the original company name and Tim's identity.

scalable, fast, and brings true value to its customers" (2012). These two viewpoints - of Wunderlist and Weiss - point to the way that various people are trying to negotiate Berlin's position in response to the cultures of Silicon Valley. In one way, the focus on "new" innovations is imagined as the path Berlin must take to stand out from other places like London, New York, Austin and Northern California. Still, while engaging in the very narratives of valued (and not so valued) startups, Berliners are conforming to Silicon Valley-based ideas of what is worthwhile and what is not. German "copies" and "clones" go against the silicon fetish of innovation and creation, where one is supposed to create but not "recreate."

## VI. Conclusion

Although only a small part of the computing community and economy, startups maintain an important role in shaping the values of silicon places. The reason that Berlin is called Silicon Allee, and not another German city, like Frankfurt, Munich or Hamburg, is because of startups. For Berlin, the lack of a history of technology and the lack of an established technology industry does not matter, since it has an ecosystem where startups can seed and bloom. Startup culture prizes the language of action. This action is future facing, a potential where one will go not where one has been. Even the words "start" and "up" both suggest the potentiality of action that is found (and defined) by a startup. Still, not all actions are treated equally. In this chapter, I focused on the way that some forms

of action are valued more than others and what that means for a place like Berlin's Silicon Allee.

The entrepreneur is as equally mythologized as the startup, and I begin this chapter by examining the vocational and educational paths that workers and entrepreneur's take in the computing industry. Most particularly, I point out the way that starting-up is treated in opposition to traditional education. As a system that wants to disrupt traditional methods, the startup model suggests that the best way to learn is not from bureaucratic educational facilities, but instead, through doing. Although evidence I present suggests that college degrees are still expected and required in Silicon Valley and in global technology fields, the narrative of dropping out and starting up remains a standard legend in startup communities. Because leaving the traditional vocational pathways can be considered a minor transgression (more so in Germany than in the US), one sees that this option is highly gendered. For young, white, males, the risk of failure is both thrilling and less damaging than it would be to other groups of people.

Since startups are by their nature risky, risk remains one of the constant themes in this chapter. While statistics vary drastically, the likelihood of success, even a profitable buyout, are often quite slim. Western understandings of individual agency and desire for adventure are a way of both explaining and understanding the reasons why young men are often eager to start their own company, despite huge and potentially devastating risks. This focus on adventure links the entrepreneur to the notion of white masculinity, which has historically been shaped through the spirit of enterprise (Dyer 1997). In this chapter, I explore that another reason young men take on risk is that the work itself is a form of

reward. As an activity (not a discipline), engineering is experienced as a very rewarding and pleasurable activity, which most particularly allows people to control certain things in uncertain times. Together this risk/reward duo of pleasure and pain encourages and celebrates entrepreneurship despite potently difficulties.

Finally, if starting up, doing, and making are the pentacle of the action discourse, other forms of doing are considered less worthy, most particularly copying. By needing both to emulate and distance themselves from it, Silicon Allee finds the burden of copying close to home, and as a result, the community finds itself in a paradoxical relationship with Silicon Valley. As a form of doing, copying is treated as a lazy, uninspired form of action. Yet, despite its reputation as being the clone capital, Berliners often argue that all startup sites, even Silicon Valley, have thrived on the competition of clones. As a relatively new startup ecosystem, Silicon Allee is still finding its footing. By embracing the discourse of action, the process of starting up makes Silicon Allee a startup itself.

# Chapter 7: The Nation-State and Digital Natives in an Age of Mobilities

## I. Introduction

The movement of people and information are key to the alchemy of silicon places. In Silicon Valley, these movements not only feed the Valley's needs and desires for a diverse, flexible workforce, but also, serves as a method to link Silicon Valley to other silicon sites and establish and maintain connections between companies, people, information and ultimately (techno)cultures (Darrah 2001; English-Lueck 2011). From Zuse's computer that wandered south to multinational work done to create the World Wide Web at CERN, the field of computer technologies has long held a close relationship with human movements. Today, these human mobilities are played out virtually and physically with people moving between various technopoles and starting new ones. Incidentally, this substantial history of work migration has also created a work culture that privileges diversity (although a very specific type of diversity) and human movement as a key to innovation and success.

The silicon place provides a unique site to study and unpack the concept of migration and human movements. Without people moving at all, many international connections are easily made across various boundaries. As I showed in Chapter 5, the location of workers is no longer a limiting factor for a lot of tech work. With people able to work in companies across the globe, where one lives seems less important than it would have been a hundred years ago. And yet, for communities that can (and do)

connect virtually, the actual movement of human bodies across national boundaries remains very important. Studying a silicon place without examining immigration only provides a partial picture. Immigration has been so key to the development of Silicon Valley that the lore of the Valley points to the diversity of individuals, particularly from abroad, as one of the key ingredients for the area's success. Although Silicon Valley stakeholders and workers do seem to embrace immigration and diversity, it is a very specific type of immigration and diversity. This reveals that while quite diverse, Silicon Valley is still quite homogeneous.

As with many issues, the multiple discourses of immigration are experienced differently in Silicon Allee. Germany's history of immigration, and its current immigration policies and politics, help shape Silicon Allee's immigrant make-up in a way that, while distinctly German, nonetheless draws on the larger global trends of silicon places. Like Silicon Valley, one finds communities in Silicon Allee to be both international and immigrant rich while equally limited in terms of its scope of diversity. While still embracing immigration to a degree, Silicon Allee has a completely different immigrant make-up than one would find in Silicon Valley. Much of the immigration (but not all) in Silicon Valley and Silicon Allee represents a specific type of immigration that tends to be overlooked by scholars - that of privileged migration. This privilege allows for the flexibility, movement, and choice that is not only popular but imagined as key for silicon places. By unpacking the concept of privileged mobility in Silicon Allee and relative to Berlin, I discover the way that racism and xenophobia get hidden in discourses about the failure of *Multikulti* and the success of integration. This prejudice helps

maintain power structures under the guise of class and individual drive and reveals the way that critiques of integration get unevenly applied to the immigrant populations.

My goal for this chapter is complex, because I am attempting not only to show the role of physical human mobilities in silicon places, but through the case study of Berlin, but I also reveal how attitudes and policies towards these mobilities exist in Germany and get implicated in discourses around privilege, native-ism, and nationality. To begin this exploration, it is necessary for me to discuss the connection between immigration and technology more generally, and then, focus more particularly on Germany. The case for immigration in Germany is often framed in terms of labor shortages and the future of the country's economy. These discourses look back to the concepts of the creative city and the capital of wissenschaft through governmental actions to shape and attract the "right" people, and also, through the visions and imaginings of the future. While the nation-state is certainly a key structure in the way that privilege is practiced and experienced among highly qualified immigrants, both my fieldwork and work on Silicon Valley (Darrah 2001; Engish-Lueck 2011) indicates that the nation-state is not the primary conceptual framework for identity among foreign tech workers. Instead of primary social identities being based around ideas of ethnicity and nationality, as in many immigrant groups, the shared culture of work and mobility tie people in Silicon Allee together. In silicon places, there is a push and pull between an emphasis and de-emphasis on place. The focus on immigration gives me an opportunity to explore the nature of place, specifically a national or even supranational place, in a world of increasing, and often privileged, mobilities.

*Immigration & Computing: A Rational Pair?*

The computing and ICT industries all over the world have, and continue to be, places defined by human movements. These mobilities come in the form of immigrants, emigrants, guest-workers, off-shoring/outsourcing, virtual teams and virtual migration (Xiang 2007; Aneesh 2006; Tambe and Hitt 2012; Persson 2013) and are most often done in the name of cost-saving strategies and/or talent shortages. Of Silicon Valley, Darrah suggests, "Faith in the importance of work…is constantly renewed by the flow of immigrants and sojourners to the region" (2001, 6). In few other industries is work so closely associated with human movement. Not only are human movements to and from silicon places common, but many countries, including Germany and the United States, have actively implemented policies that are positioned to encourage people to migrate to technology-rich areas. One wonders what is it about computing jobs that makes them seem so compatible with migration?

One of the key reasons for this continual pairing of ICT and migrants is that, in many ways, ICT is a field that is imagined to have easily tradable skills that require little cultural knowledge and rely on little personal interaction (Tambe and Hitt 2012). Much like the sciences, computing often exists in an imagined culture of culture-lessness and rationality (Traweek [1998]1992; Massey 2005). Although scholars (Persson 2013; Dube, Bourhis and Jacob 2006) have examined the way that cultural differences impede things like offshore work, virtual teams, and virtual migrations, little work has been done on the

way culture affects products and goals of software and computer engineering.[135] In popular culture, machines often reflect an act of rationality, which once created can be stripped of the follies of its human makers. While ICT, software engineering, and computer engineering are not "pure" sciences, they rely on a set of logics, languages, and algorithms that, although human made and shaped, render the maker invisible. Much in the same way that the sculpture *Rechenender Raum*, discussed in Chapter 3, illustrates the way that though the bowels of the computer may be visible, its actions and meanings are often concealed, because most computers function with their operations (both hard and soft) invisible to the user. Much like a good film,[136] which absorbs the viewer into a narrative and hides the way the film is constructed and produced, good software also hides its creation process. Although often forgotten, every part of a computer is an expression of human engineering, from the code that constructs the software to the basic parametric equations that allow for scalable letters to appear on the screen.

Since it does not require a specific understanding of culture the way more human-centric fields such as social work or teaching might, the field of computing becomes cast as easily transferable between and across cultural and national boundaries. In this sense, while often highly skilled and educated, workers in many ICT subfields are often treated as replaceable by Western industries because their work is not seen as culturally bound. I make this point not to imply that immigrants are incapable of culturally working in the field, but instead, I am pointing out that information technology and computer

[135] The closest that I have found is John Brown, Maria Diogo and Gary Downey's and work on normatives in engineering. See Technology and Culture, 2009.
[136] Some film work purposefully breaks the fourth wall, but in general (especially popular culture), the filmed nature of the film is purposefully hidden.

engineering get framed differently than other fields, like nursing or teaching, which also have high rates of immigrants. In a newsletter article that tried to explain the failure of the Green Card Program in Germany, the *IT Sonderteam der ZAV* [137]concluded that like Max Frisch's statement, "We called for guest workers and instead *people* came" (Wir riefen Gastarbeiter und es kamen Menschen) [138] that, "…the mobile work nomads of the new economy, the powerful overseers of source code and virtual cyberspace are real people with families, children, future plans and real human reactions" (…die mobilen Arbeitsnomaden der New Economy, die mächtigen Herrscher über Quellcodes und den virtuellen CyberSpace sind ganz reale Menschen mit Familie, Kinder, Zukunftsplän und ganz and gar menschnlichen Reacktionen) (Bunk, Umber and Groffenbert 2003). Workers in computing fields, are often associated with the imagined rational quality of their work on computers, defined by their work (and their skills), and less by their humanity. Still, as I will discuss later in the chapter, highly skilled workers, unlike the guest workers of Germany's past, sometime seem to occupy a kind of paradoxical position between the desired and despised; the privileged and disadvantaged.

Another reason, that computing jobs and mobility are culturally associated is that, as the actual physical tools of the field, computers seem to be a product whose interactions and uses are not limited by national borders. Along with other information and communication technologies, computers have become a symbol for the "new" interconnectedness of the world and the dissolution of physical boundaries by virtual

[137] Special IT force of the ZAV - Zentrale Auslands- und Fachvermittlung (International Placement Service, a department of Germany's Federal Employment Agency)
[138] The ZAV newsletter uses the term Gastarbeiter, but other versions have used the term Arbeitskraft instead of Gastarbeiter.

ones. The study of mobilities often points to the way that increased movements of people and information is facilitated by information and communication technologies (see Sheller 2004; Sheller and Urry 2006; Germann Molz 2006). Not only do these new technologies help facilitate movement, but they become a cultural commonality for immigrant rich sites. Technologically augmented forms of work and play are ways that both immigrants, in-migrants and locals find common ground and create a post-national identity through which people understand themselves as digital natives or digital nomads. So, computers and other similar technologies serve as a symbol for these new mobilities, and they also, become a cultural keystone for people who, in many ways but not all, occupy a post-national space.

## II. Being Different: The Privilege of Highly Qualified Immigration

In October of 2010, Chancellor Merkel made waves both locally and abroad by announcing that *Multikulti* (Multiculturalism) in Germany, "failed, absolutely failed" (gescheitert, absolut gescheitert").[139] Discussions of Merkel's statement buzzed around Berlin after her speech with people and the media asking, once again, what role would foreigners play in Germany's future and how should Germany deal with them? Merkel's statement which was made at the *Deutschlandtag der Jungen Union*,[140] and was also,

[139] "Kanzlerin Merkel erklärt Multikulti für gescheitert." *Die Welt Online*. October 16 2010. http://www.welt.de/politik/deutschland/article10337575/Kanzlerin-Merkel-erklaert-Multikulti-fuer-gescheitert.html

[140] This is the CDU/CSU yearly event for the youth contingent (the *Jungen Union*, the Young Union).

echoed by CSU[141] leader Horst Seehofer's speech at the event. He declared , "As a union [CDU/CSU], we advocate for the German *Leitkultur*[142] and against the *Multikulti* - *Multikulti* is dead" (Wir als Union treten für die deutsche Leitkultur und gegen Multikulti ein. Multikulti is tot).[143] The concept of Multikulti, the German slang term of Multicultural, has been a target of critique from all sides of the political spectrum in Germany. While conservative politicians have critiqued it suggesting that it encourages ethnic "ghettos" and dilutes German Leitkultur, liberal scholars have critiqued the way Multikulti policies are an essentializing and exoticizing mechanism (Göktürk 2004; Fetzer and Soper 2005; Goldberg 1994; Stehle). Merkel's and Seehofer's statements mark the continually changing policies about immigrants, which more and more emphasizes a desire for integration and homogeneity of Leitkultur over a multilingual, multiethnic, and Multikulti society. With the recent topic of the Multikulti and the failure of immigrants to integrate properly on my mind, I brought it up as a discussion topic during a conversation with Tim, the owner of KomoZu. I asked him how he felt Merkel's statements related to highly-skilled immigrants, particularly those that he knew personally within Silicon Allee. Tim confidently responded that those were not the type of immigrants to whom Merkel was referring - highly qualified workers were different.

Not unlike Silicon Valley, Silicon Allee is made up of a diverse array of immigrants and in-migrants; most of whom can be classified as (highly) skilled or educated workers. Particularly in science and engineering fields, when highly-qualified

[141] The CSU is the Bavarian version of the CDU. Although not the same party, they are almost always aligned politically with the CDU.
[142] *Leitkultur* (translated "Leading Culture") is a controversial term used (most often) to refer to dominant "German" culture. It is also always used in relationship to immigration and integration.
[143] *ibid.*

and highly-educated workers migrate, they are considered privileged immigrants. The basic term "immigrants" describes people moving across borders and between boundaries, but Croucher (2012) points out that the term "immigrant" carries with it other connotations beyond its legal and dictionary definitions. Most often immigration or *Zuwanderung* is associated with poor, non-white, non-Christian people seeking economic or political refuge. This stereotype is not necessarily unrealistic, because most immigrants to Germany do not belong to the category of highly-skilled. Because of this, privilege and power get enacted through the use of the word "immigrant" with some who get to choose to name themselves differently. It is noteworthy that even scholars still label migration through the term "skilled" or "educated" as a way to indicate ones abilities, and also, as a way to label and differentiate from regular "immigrants." Additionally, beyond their education and skill, the concept of the mobile professional brings into question the role of whiteness, class and power inequalities that has only recently become a focus for scholars (Ong 1999; Xiang 2007; Croucher 2012; Farrer 2010).

In Silicon Allee, the most common term employed by immigrants, particularly those from the US, Australia and Canada, to describe themselves is "expatriate" or simply "expat." One of the popular English newspapers in Berlin, *Exberliner*, creates its name from both expat and Berliner. While they were often clearly immigrants through looks, language or both, they occupied a space in society different than "traditional" immigrants; and thus, as Tim pointed out *different*. Croucher notes that, "Ultimately, what appears to exempt these individuals from the category of 'immigrant,' and warrant

for them an alternative label, is their privilege" (2012, 4). Indeed, in the realm of privileged mobility, Croucher's work demonstrates that the term immigrant is often dropped off in favor of alternative terminologies like "expatriate" or "new residences." The term "expat," however, refers to a larger population than just that found working in Silicon Allee. Instead, it references a fairly large, English-speaking, primarily white, foreign population in Berlin. Within the computing communities, the term "digital nomad" and "digital native" has become popular within the past decade referring both to the technological component of people's work and the unbounded potential of their work. By identifying as an expatriate or a digital nomad, the immigrants of Silicon Allee, draw on a discourse of migration that positions the professional migrant as something that is indeed - in a good way- "different."

Unlike many immigrants who come to Germany, highly qualified immigrants often have the choice of migration. Many people I spoke to were like Beth, who immigrated to Berlin for a job and an adventure. Highly-qualified immigrants often have the choice not only, if they *want* to migrate, but also, *where* they want to migrate to. In the many immigration stories I heard from migrants in Silicon Allee, most of them demonstrated the role that their personal choice for a particular place acted in their moving to Berlin. A highly-skilled immigrant's education and abilities, particularly in such a high-demand field, gives them more options when applying to various jobs, and in turn, an easier time gaining visas and residency.

*Desired Immigrants: MINT, ICT & Germany's Technical Future*

At the networking event Lunch 2.0 at Wooga, the founder, Jens Begemann, stood up, welcomed us all, and talked to the packed room. He noted that he was going to keep his speech short, but for people to please apply for jobs at Wooga, because there were plenty of openings. This sentiment was often repeated to me during my time in Silicon Allee. Over and over again, people told me about the job opportunities available to them and even to me in Berlin.[144] Beth, a Canadian with a penitent for colorful tights, kept me informed with the transitions in her work. The first time I met her, she was being wooed away by another company. She had an interview, and her current employer, sensing that she was preparing to leave, asked her what they could do to keep her. Likewise, Kevin, an American systems administrator for Penguin Products noted that his company had been recruiting for his particular position for over a year, saying, "Germany has this huge IT shortage, like insane." Each of these cases illustrates the fact that jobs were plentiful in Silicon Allee, and that there was such a shortage of workers, that they were begging people to work. This lopsided work environment meant that workers were prized and that companies were reaching to places outside of Germany, and even Europe, to try to encourage people to move to Berlin. In this way, these educated immigrants were different than other immigrants, because they were wanted, desired, and needed.

Elsewhere in Berlin, like Wedding, my home during my fieldwork, the recession was taking a toll on the lives of businesses and families. The subway station near my apartment, which normally would have had full color advertisements, was filled with advertisements for advertisements. Fading adverts were peeling in places revealing an

[144] I believe a lot of people assumed I also knew how to program and I had at least a couple people tell me that they looked forward to seeing me when I moved back to Berlin to work.

advertising stratigraphy, and these signs of better times were never refreshed. Along Müllerstraße, there were empty shops with old signs indicating that at one time the empty spaces had been filled with a Polish deli or a pizza parlor. But the bubble of the computing community shielded people from the dismal economy outside its range. At times, it felt, as if there were two Berlins - that with a poor economy and high unemployment and another with booming businesses that had so many jobs openings that workers were consistently being wooed from one position to another.

All current immigration policies, including the privileged immigrants who came to Berlin for computer work, are overshadowed by Germany's history of the guest-worker program. The post-war *Wirtschaftswunder* (Economic Wonder), a period of economic growth in the fifties and sixties, prompted the introduction of bilateral recruitment agreements for guest workers between the FRG and various southern European countries, including Turkey. Despite many decades worth of denial from the government, West Germany's response to work force labor needs was and continues[145] to be one that encourages work immigration. As the CSU politician and Bavarian Finance Minister[146] pragmatically suggested, "Of course Germany needs immigrants - but those that Germany can use." (Natürlich braucht Deutschland Zuwanderer - aber die, die Deutschland nützen") (quoted in Weiland, 2010). Like the guest workers, highly qualified workers are understood according to their use to Germany. Politicians' desires to keep Germany's economy globally competitive overrides the governments historical, and even continued, fears of immigration.

[145] as a unified Germany
[146] Bayerisches Staatsministerium der Finanzen (StMF)

Together with this history of guest working and the model of the creative city, success is framed in terms of attracting the right workers. Of the types of workers sought in the creative city, tech workers are some of the most desired. Beyond the city scale and on the national scale, this discourse becomes the large MINT/STEM push that is being simultaneously discussed in Germany and the United States. Framed in the language of innovation, progress and global competition, the US Department of Commerce suggests, "science, technology, engineering and mathematics workers play a key role in the sustained growth and stability of the US economy, and are a critical component to helping the US *win* the future" (italics mine; Landgon et. al. 2011). Here the Department of Commerce positions the ability to not only do well in the future, but to "win" it on the shoulders of the worker. Like the United States, politicians and business leaders suggest that Germany lacks the required workforce for a variety of science and engineering jobs, including those within ICT and computer science. A publication from the Bundesministeriums für Wirtschaft und Technologie [147](BMWi - Federal Ministry for Economic Affairs and Technology) also echoes the idea of winning the future, suggesting that foreign recruitment and immigration are key for "securing the future"(Deutschlands Zukunft sichern) (2010, 1). One of the ways the future will be ensured, according to the BMWi's document, is by developing *klug* (smart) immigration policies to win specialists (*Fachkräfte gewinnen*). Not only does the future of Germany depends on the *minds* of engineers and scientists, but it also depends on policy makers developing *smart* laws. This quotation also shows the way that the language of winning is used once again in

[147] Note: This ministry changed names in 2013 and is now called *the Bundesministeriums für Wirtschaft und Energie* (The Federal Ministry for Economic Affairs and Energy).

conjunction with the future. Furthermore, a 2009 report from the *IT-Gipfel* (IT Summit) suggests that, "The future of Germany as a place for ICT critically depends on minds/brains. We need more graduates in the so called MINT-disciplines…" (Die Zukunft des IKT-Standortes Deutschland hängt entscheidend von Köpfen ab. Wir brauchen mehr Absolventinnen und Absolventen in der so gennten MINT-Fächern…") (2009, 14). This quote is reminiscent of the way workers are described in terms of their abilities (or minds) and indicates that the future is not one of physical labor but mental labor. Furthermore, all three of these quotes about STEM/MINT workers reinforces the idea that the future of the country is at stake. The future is something that can be won or lost not just for individuals but for the whole nation.

In both the past and the present, the labor immigrants are specifically viewed and discussed by government and business stakeholders in terms of their economic usefulness as living capital. An article in the 1968 *Industriekurier* suggested that, "A vigorous beefing-up of our stock in guest workers…will be very useful for our internal economic accounts" (quoted in Herbert 1990). Even as they were providing economic helpfulness, this citation shows how historic guest workers were regarded in terms of being "stock," and often, according to their physical body. In the current discussions of labor workers, this type of language describes people as objects who are once more considered according to their body except this time with regards to their *Köpfe* (brains/minds/heads). Examples of this are seen all over, including the very common phrase: "fight for the best minds" (*Kampf um die besten Köpfe*) (Netz 2012, 8; *Manager Magazin* 2001). Once again drawing on Chapters 2 and 3, *Köpfe* are seen as the raw materials (*Stoff*) of future

industry. The German word *Kopf* (plural *Köpfe*) has several overlapping meanings including the physical head and the more abstract mind. These discourses on workers, particularly immigrants, as body parts is not limited to Germany, as can be seen by the common English terminologies of brain gain and brain drain. However, as the first generation of guest workers indicates, all labor migrants, even highly skilled ones are only desired as long as they are economically useful. German stakeholders imagine a digital future which requires an increase in MINT workers, but if for some reason that future falls short, these skilled immigrants will no longer be so welcomed.

Not only are immigrants described in physical and economic terms, but the importing of labor was in 1954 and since 2001 described as essential for the modern development of Germany. While Germany had periods of industrialization prior to the Second World War, the 1950's marked a key shift from agricultural production to service and industrial industries (Broadberry 2004).[148] During the *Wirtschaftswunder*, the renewed effort of industrialization and modernization was fueled by and connected to the arrival of guest workers. Although the guest workers from the sixties and seventies were low skilled, they often worked in factories and manufacturing plants where new technologies and ideas of rationalization reduced the need for skilled workers. Once again, the same narrative of progress is drawn upon by the government and businesses during the 2000s by referring to the economy and the jobs of the *Zukunft* (future). But now, instead of the agricultural economy becoming an industrially-based one, Germany

[148] As much as a quarter of FRG workers were in agriculture during the fifties and reduced down to a mere 2% prior to the *Wende*.

is expecting a shift from an industrially-based structure to an information/digital/knowledge-based economy.

In this way, the historic guest worker and the more recent highly skilled immigrant, get drawn into official government and business discourses about Germany becoming internationally competitive both economically and technologically. The German government is substantially invested in keeping Germany technologically relevant and has invested enormously in resources establishing a so-called *Informationsgesellschaft* (information society). The process of moving Germany into the digital age includes efforts such as the *Internet Erfahren Initiative* (Experiencing the Internet Initiative), which aimed to integrate seniors and other marginalized groups into the information society, and the *Digital Strategie 2025*, which includes the goal of providing fiber-optic internet to "every corner of Germany " (*jeden Winkel Deutschland*) by 2025 (de.digital. 2016). The tendrils of MINT reach beyond the immediate needs of Silicon Allee, beyond the cubicles, cafes and coworking sites, where programmers, engineers and other ICT workers toil, and into the very fabric of German society, where these workers and the work they do is imagined as the key to Germany's future.

As in the US, the actual data regarding future employment needs MINT/STEM fields in Germany is both plentiful and inconsistent. As Charette (2013) has noted about the currently projected STEM employment needs, there are various problems in the United States which may vary depending on how STEM jobs and education are defined. Charette's observations highlight the difficulty in making projections about future job prospects in the technology and science fields; this observation is also applicable to the

discourses around German MINT worker shortages. Unlike the United States, Germany faces additional difficulties in terms of future industry prospects – Germany's population is aging, and without immigration the population will dwindle. In Germany, worker shortages and projections about the declining workforce, are generally accepted as a given. The focus of many government MINT campaigns (like *MINT Zukunft schaffen*)[149] has been to encourage women and youth to enter MINT fields. But, as one attendee at the *Internet Erfahren* conference pointed out to me, those two sectors will not meet Germany's growing need. Instead, ever more German politicians and business leaders are looking outside of Germany's boarders for an educated workforce.

### Fachkräftmangel *and Demographic Change in Germany*

The German term for a lack of workers in specific fields, like the growing concern over MINT workers, is *Fachkräftmangel*[150] which can be translated roughly as "specialist shortage." The term *Mangel* has several various meanings that include the more neutral idea of "lack" to the more negative ideas of "deficit" or "flaw." The term, which got plenty of play in the media during my fieldwork was even dubbed by a writer as "das F-Wort" (the F-word) (Lobenstein 2012). As such, while often used, both the topic and the word occupy a somewhat taboo place in the media and government. During a meeting at the IHK Berlin,[151] the two specialists I met shifted uncomfortably when I used the word

[149] Roughly translated "MINT achieve the future" https://www.mintzukunftschaffen.de/
[150] Another more specific, but less used term is also the "MINT-Lücke"(MINT Hole), once again referencing a lack. This word is used on the *MINT Zukunft Schaffen*, which even has a page devoted to tracking the MINT workforce hole.
[151] *Industrie- und Handelskammer zu Berlin* (IHK Berlin), the Chamber of Commerce and Industry of Berlin

*"Fachkräftmangel"* and gently mentioned that they preferred to use the terminology, "*der demographische Wandel*" (demographic change). Instead of *Fachkräftmangel*, "demographic change" redirects the emphasis from an apparent lack, which might be interpreted as a negative characteristic, to a mere population transition. Furthermore, the statement demographic change also de-emphasizes the role that work, specifically skilled work, performs regarding the population change. Consequently, in order to understand the current nature of German population change, one needs to understand the relationship between the *Fachkräftmangel* and the *demographische Wandel*.

While data regarding the *Fachkräftmangel* are unreliable, the data with regards to the German population is clear; the makeup of German society is in flux. Germany's population changes include an aging population, a reduced fertility rate, and an increase in immigration, which together are changing the appearance of German society. Even the faces of MINT workers are slowly changing with workforce becoming, "older, more female, and more international" ("älter, weiblicher und internationaler") (Anger, Koppel and Plünnecke 2013, 4). A 2008 study by the Berlin Institute for Population and Development noted that, "Nowhere else in Europe have fertility rates fallen so massively as they have in Germany" (Hoßmann *et. al.* 2008). Fertility became intimately tied to the immigration of ICT workers in the 2000 election, where politician Jürgen Rüttgers suggested that Germany needed *Kinder statt Inder* (children instead of Indians). A *Spiegel* article from my fieldwork starts its discussion about German demographic change with the title "Demographie: Tod auf Raten" (Demography: Death in Increments) and notes, "Germany shrinks - over 770,000 in the last eight years alone. Serious studies

prophesize that in fifty years there will be 17 million fewer Germans than today. In 2060, every seventh person will be eighty or older. Immigrants, who have until now made up for the Germans lack of reproduction, stay away. Since 2008, more leave the country than come to it."[152] (Bartsch et. al. 2011). The population change threatens Germany both economically, and also, by challenging the basic idea of who is German. As the *Spiegel* citation suggests, immigrants are being sought to fill in where German reproduction fails. But immigrants do not accomplish this goal, because Germany's population is still dwindling, and the very existence of the German nation is threatened. For that reason, not only is the actual death of aging citizens compromising Germany's future, but also, exacerbating the symbolic death of *the German*. Still, on the street, Silicon Allee companies and workers are more concerned about the immediate employment needs of the companies instead of the philosophical implications of the demographic changes. As suggested above, workers talk about the plethora of jobs available, and the ability to pick and choose where one wants to work and with whom. This population decline combined with the skilled worker shortage means that people who immigrate to Silicon Allee for work are not merely wanted but are desperately needed.

## III. Global Movements and Crossing Borders

[152] Original text: Deutschland schrumpft - allein in den vergangenen acht Jahren um 777.000 Menschen. Seriöse Studien prophezeien, dass es in 50 Jaren bis zu 17 Millionen Deutschen weniger genben wird als heute. 2060 wird jeder Siebte zudem 80 oder älter sein. Zuwanderer, die den mangelnden Fortpflanzungswillen der Deutschen bisher ausgeglichen haben, bleiben aus. Seit 2008 verlassen mehr Menschen das Land als neu dazukommen

While immigrants to Silicon Allee often occupy a privileged position in Germany because their skills are seen as an asset to the workforce, this does not mean that their presence is without detractors. Even for highly skilled immigrants coming to a new community means that they will be an outsider, that they may not speak the language, and that they will have to navigate a complex social and political structures both when they first get there and on a daily basis. One of the most salient and conspicuous difficulties that all immigrants face is the nature of border crossing and the legal requirements of being a foreigner. Even in an era when borders seem to dissolve, the nation-state makes itself known. In this section, I discuss the legal nature of being a privileged immigrant and how laws effect skilled immigrants in different ways depending from whence they come. Even though skilled immigrants are needed, and generally embraced by the German political system, their presence still incites strife, frustration, and malcontentedness among some in Germany.

The history of modern immigration in Germany is contentious and rocky. With the racist ideologies of the Third Reich lingering in the background, much of the country seems to struggle with xenophobia, if not outright cultural racism. More recently, there are government initiatives in place in an effort to convince foreigners that Germany is a pleasant place to live and work. They have created things like the *Willkommensportal*[153] (Welcome Portal) "Make it in Germany," but Germany's history of troubled foreigner relations remains a specter. During the economic miracle of the mid-twentieth century, high levels of work immigration in the FRG (and a little bit in the GDR) resulted in communities with large numbers of foreigners, particularly those from Turkey and other

[153] http://www.make-it-in-germany.com/

southern European countries. Immigration and citizenship policies remained restrictive until the late nineties when the path to citizenship was made more accessible. This period of thaw at the turn of the millennium established the first immigration policy aimed at targeting highly skilled immigrants for ICT jobs. This program nicknamed the "Green Card Program" marked the beginning of highly skilled immigration policies focused on addressing the supposed MINT shortages in Germany.

*The Green Card Program & 2005 Immigration Act*

At the turn of the millennium, Germany was swept up in the dot-com mania. In the late nineties, the American media characterized Europe as suffering from a "technology gap" (Kirkpatrick 1997). Subsequently, the German government committed itself to updating infrastructure and embracing the dot-com boom. During this time, the massive growth in ICT pushed business leaders to call out for more labor – although most of the hype was projected based on ideal economic growth scenarios, newspapers reported German business needing to fill between 50,000 and 75,000 ICT jobs.[154] In response to this immediate push for immigrant labor in 2000, Chancellor Schröder developed and introduced the *Verordnung über Aufenthaltserlaubnisse für hoch qualifizierte ausländische Fachkräfte der Informations- und Kommunikationstechnologie* (IT-AV; Edict about residency permits for highly qualified foreign specialists in

[154] These numbers were reported in numerous newspaper articles, including: Hangen, Zheng. "German 'Green Card' is One Year Old." *Xinhua* July 31, 2001.; Scally, Derek. "Germany Requires a Change of Image to Attract Workers." *Irish Times*. July 20, 2001. ; Willamson, Hugh. "German Parties Agree about Immigration Legislation." *Financial Times*. August 4, 2001.

information and communication technology)(Bundesanzeiger Verlag GmbH. 2000[155]) and the *Verordnung über die Arbeitsgenehmigung für hoch qualifizierte ausländische Fachkäfte der Informations-und Kommunikationstechnologie* (IT-ArGV; Edict about the labor permits for highly qualified foreign specialists in Information and Communication Technology)(Bundesanzeiger Verlag GmbH. 2000) – together colloquially dubbed the Green Card Program. However, after the dot-com bust, a lackluster response to the Green Card by potential immigrants, and renewed xenophobic reactions to September 11th,[156] German attitudes towards the Green Card program and its immigrants soured.

The Green Card Program was never meant to be a permanent solution to Germany's worker woes, and so, became a short term solution to a long term problem. Since the program was temporary, the workers were also temporary, and, in the end, the program did not encourage the flood of immigrants that supporters hoped for and the opponents feared. During Schröder's term as Chancellor, the SPD coalition began a complete overhaul of German immigration policies,[157] rewriting all of the immigration laws with the goal of both simplifying residency and work permits and allowing for more flexibility for future labor immigrants that meet a specific, but unanticipated, growing need. The *Gesetz zur Steuerung und Begrenzung der Zuwanderung und zur Regelung des Aufenthalts und der Integration von Unionbürgern und Ausländern* (Act on the controls

[155] Citations from the *Bundesgesetzblatt* (Federal Law Papers) which publishes laws and government documents for the public.
[156] These views were enhanced because several of the hijackers had lived and gone to school in Hamburg prior to the Sept 11 attacks. As such, the discovery that these hijackers had been granted German visas seemed to legitimize anti-Islamic sentiments and xenophobic reactions in the press and politics.
[157] The immigration law from the FDR had never been revised since Germany reunified and the immigration law from after the Second World War was pieced together bit by bit which meant that there were a huge variety of different laws for residency, work permits and visas thereby making the immigration laws more and more cumbersome.

and restrictions of immigration and on the regulation of residency and integration of Union citizens and foreigners) is colloquially termed the *Zuwanderungsgesetz* (Immigration Act) (Bundesanzeiger Verlag GmbH. 2004). The creation of the Immigration Act began in 1998 and was finally ratified in 2005. The new Immigration Act addressed all areas of immigration from asylum seekers to EU citizens to highly skilled workers. The Act simplified the applications for work/residency permits by combining them and specifically outlining the requirements for *Niederlassungserlaubnis* (permanent residency permit). For a country that had been characterized by its official non-immigration stance during the second half of the century, Wank notes that the Immigration Act became an, "answer to the fact that in Germany a certain amount of immigration takes place and should take place in the future" (2003, 455). Still, during the revision and implementation process, Schröder and the SPD lost power, and the 2005 Immigration Act was passed under the more conservative CDU/CSU coalition lead by Chancellor Merkel. The revised version of the Immigration Act that finally came into being was a weak and watered down version of what had initially been imagined by the SPD (Minkenburg 2003). The delay of enacting the bill and the vigorous attempts to postpone or end it indicate that the German government, particularly those areas of the government controlled by the conservative CDU and CSU, remains distrustful of immigrants and immigration. For that reason, despite both the clear need for revision of immigration policies during the beginning of the 2000s and the corporate push for immigrants to fill specialized MINT jobs, immigration remains a sticky topic for German politicians.

Any ICT, engineering, or computer worker coming into Germany after the end of the Green Card Program, including those during my fieldwork, would, the same as all other immigrants, come under the residency and work allowances in the Immigration Act. The key section in the Act regarding highly skilled workers is §19, which is titled "Niederlaussungserlaubnis für Hochqualifizierte" (Establishment Permits for Highly Qualified Workers). This segment on highly qualified workers can be understood as both an extension and a restriction of the previous Green Card law. Originally, the Act was supposed have a segment devoted to IT workers, but this portion was removed (Wank 2003, 459). The final component is not directly focused on information technology and is more restrictive as to what it considers "highly-qualified." Still, despite the increased restrictions of who could come, a key boon for the Immigration Act is that with specific skills and education, highly-qualified persons can gain permanent residency fairly quickly and easily. A reason for this leeway in allowing for immediate residency is suggested by Wank as, "Ruled by the idea that these qualified persons generally can be integrated and that therefore a limitation in time is not necessary" (2003, 458). While Wank does not say this, his statement indicates that politicians find it unlikely that highly-qualified workers will create cultural enclaves – or what some Germans have termed ghettos (Eksner 2013; Drever 2004) – where immigrants "resist" integration into the larger German society. As such, Wank's statement is a clear reference to the CDU and CSU's fears of immigrants' *Selbstethnifizierung* (self-ethicizing) and *Überfremdung* (extensive foreignization) (Çağlar 2001). In the xenophobic thinking of many politicians, the individual trickle of highly-skilled immigrants does not pose as much of a threat,

because they are considered to be easier to integrate.[158] While these laws seem invisible and rarely discussed on a daily level, their implementation shapes the legal framework through which immigrants were forced to pass during their movements across borders, and also, has an effect on who is more likely to be working in Silicon Allee and influences a social environment where some immigrants are considered better than others.

*From where? Immigrants, Law and the Nation-State*

Until now, I have been discussing immigrants in a very abstract sense without addressing the very present questions of: who are these highly skilled immigrants in Silicon Allee? And where do they come from? One of the key assumptions that people, scholars and lay folk alike, make about my research is that the majority of the immigrants in Silicon Allee are from India. As a whole, India has been incredibly successful in educating workers in ICT fields who then move abroad to work. Additionally, scholarship for highly-skilled immigrants has often focused on this particular population of mobile and educated workers (often young men) in various ethnographies and research studies (Xiang 2007; Biradavolu 2008; Alarcón 1999; Rekhi 2009). This stereotype also appears in political discourses in Germany, such as Jürgen Rüttgers' infamous slogan *Kinder statt Inder* (Children instead of Indians) in response to the Green Card Program. However, there are very few Indians employed in Silicon Allee.[159] This is one of the very

[158] I will discuss more about the privileged immigrant later in this chapter and what this means for ICT and other workers in computing.

[159] Given that the EU Blue Card first began in 2012 after my work and has gained popularity as a way to for Germany to address MINT shortages, this may have changed. Data from the Blue Card suggests that 20%

clear ways that Silicon Allee is unlike Silicon Valley. While they both seem to embrace immigration and diversity, the two communities end up with very different populations. This difference is created by a multitude of factors including Berlin's location in Europe and the history of German racism and work immigration. Depending on one's home country and one's path to German employment, under the Immigration Act even the relatively privileged immigrants of Silicon Allee experienced different levels of difficulty in gaining permission to come into Germany to work.

Data for all of Germany from the BAMF (Bundesamt für Migration und Flüchtlinge/Federal Office for Migration and Refugees) indicate that between 2007 and 2011[160] the most settlement permits for highly qualified workers (although not specifically in ICT or engineering) were issued to Americans, then followed by Russians and only then Indians. I was unable to find statistical data available on the specific makeup of immigrants in Silicon Allee, but my field experience reveals the majority of workers as either from EU member states or Annex II States[161] (those traditionally categorized as "First World"). Additionally, educational and research facilities tend to be a little more nationally diverse than in startups and computer companies and include more people from Annex I (particularly those from Central and Southern Asia) countries. Even so, over all, no one country represents a majority within the various groups of immigrant workers and students in Silicon Allee. If data suggest that Berlin's Silicon

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of new immigrants in 2015 were from India, followed by China, Russia, Ukraine and the US, but I am not sure given the risk and instability of Silicon Allee that there will be many Indians working there (yet?).

[160] Note: this data is ONLY for settlement permits ONLY for those who came in categorized as highly qualified immigrants from non-EU countries. This gives an idea of the various populations immigrating to Germany for highly qualified jobs, but is not limited to ICT and does not include those who came in through other means (like schooling).

[161] Although not a complete list, Annex II countries include the US, Australia, New Zealand, Australia, South Korea, Japan, Canada, Brazil, and Mexico

Allee is quite diverse, it is, but on the other hand, this diversity is also quite limited. Then again, as expected by the MINT projections and the fetishization of diversity in silicon places (and creative cities), there are countless people from all over the world who work and play in Silicon Allee. However, the majority of these immigrants are white. Moreover, every Silicon Allee event is dominated by young, white men. In fact, Dyer (1997) suggests historical assumptions of whiteness create a culture where white men are at home in communities like Silicon Allee. One might at first assume that everyone who is white is a German native; however, after speaking to people, the internationality of the community becomes more apparent. With people shifting back and forth between English and German, various English (and German) accents become apparent, differentiating people and revealing people's linguistic, and possibly, national heritage.

Because of the open work boarders, EU citizens make up a significant portion of immigrant workers in Berlin. Most immigrants come to Silicon Allee under continued provisions in the Immigration Act that apply to students and migrants from European Union (EU) nations, European Economic Area (EEA)[162] nations, and Switzerland.[163] A 2007 study of highly qualified workers (not limited to ICT or engineering), noted that 39% of immigrants to Germany came from another EU country (Heß and Sauer, 2). With few legal barriers, European Union work agreements and immigration policies allow most European workers to travel between EU countries. Also, these privileges applied to workers from European Economic Area immigrants (like those from Iceland and Norway) and the Swiss. Silicon Allee's European competitor Silicon Roundabout in

[162] This includes countries like Norway and Iceland which are part of various trade agreements and treaties but not part of the EU

[163] For brevity's sake, I will be using EU as shorthand for discussing all of these.

London[164] accounts for a significant movement of people, ideas and money into (and out of) Berlin. A primary example of this can be seen in the example of Harry and his startup NeuvoFilm. Although a British national as previously noted, Harry was based in Berlin and NeuvoFilm was funded by a grant from the UK. Alternatively, several very active German members in Berlin had at one time worked in the Silicon Roundabout. Lars, who was instrumental in coordinating various user groups and Silicon Allee events, had dropped out of high school, and on a whim, moved from Berlin to work for a successful London start-up. After working there for several years, he moved back to Berlin and dedicated himself to building a startup community in Berlin. Other EU citizens were also represented in start-ups, research institutes, and universities. In visits to labs or during discussions with programmers, people would consistently mention France, Italy, and Spain in their list of immigrants. As with the history of whiteness in the United States, southern Europeans from Italy, Greece, and Spain are often considered "less white" than northern Europeans, and with some southern Europeans, there are some generally negative associations.[165] In spite of this, in terms of migration, they are afforded the same rights as a person from France or Denmark. In all of these cases, immigrants from European countries are usually classified as white, Christian and culturally European, and thus, they are considered more acceptable, and supposedly, more easily integrated into German society. What's more, with the open borders between EU countries for trade and

[164] It is unclear how the so called 'brexit" will effect Berlin, but VCs have suggested unless an equally open policy is in place between the EU and the UK, Berlin will become the de-facto place for startups in Europe.
[165] These associations are usually talked about in relationship to work and the EU economy, where workers from southern European countries are often pointed to as being lazy or similar and resentment with the feeling that Germany has to bail them out.

a shared currency, having immigrants from other EU countries seems less economically threatening to the general populous.

Besides Europeans, many of the immigrants in Silicon Allee were from traditionally English-speaking countries like the United States, Canada, and Australia. These three countries are Annex II countries. In addition to these three English speaking countries, a few people in Silicon Allee were from South American and Central American Annex II countries including Brazil and Mexico. Because of the agreements between the various countries that were classified as Annex II and the German government, people from these specific countries had an easier time traveling to and from Germany, and even, remaining in Germany. Citizens from Annex II countries are able to enter and stay for up to three months in Germany without a visa. Because of this, many of the Annex II immigrants (or self-classified "expats") I talked with in Berlin had the opportunity to visit Germany prior to accepting a job. While this would be possible for Annex I immigrants, the legal requirements made it much more difficult and much less common. As a citizen from an Annex II country, Beth (a Canadian citizen) actually ended up moving to Berlin, because of a vacation she took to visit a Canadian friend living in Berlin, who is also in the tech industry. Although her friend suggested she stay and work, Beth brushed it off saying, "No, people don't move to Germany. That's insane. Nobody does that." After returning to Canada, reassessing her living situation, and talking to her friend again, Beth realized that working in Berlin could provide both a good job opportunity and an adventure. So, she moved to Berlin in 2007. I discovered through many of my discussions with Annex II nationals that their move to Berlin began with a

trip, often for leisure, to Berlin prior to actually moving there. Because being a citizen of an Annex II country affords migrants flexibility and choice when deciding to move to Berlin, the transition is often simpler. An additional privilege, which I will discuss in the next chapter, of being a citizen of an Annex II country is that the these transplants can take integration classes and tests after they move to Germany rather than before. For many Annex I country citizens, the requirements to take and pass the integration classes and examinations are both a financial burden and a bureaucratic blockade that limits the movements of even skilled workers. Because Annex II émigrés tend to belong to countries with relatively stable economies and good German diplomatic relationships, they are afforded considerably more legal privilege.

Unlike EU members who, for work, were able to move relatively freely across EU boarders, Beth ran into difficulties with the immigration process. After working in Berlin for a year as a freelancer, Beth realized that her visa did not allow her to work as a freelancer. She revealed, “Which is to say [I worked] illegally. Not intentionally.” In order to stay and work in Berlin, she needed to be hired full-time by the company for which she was working; a company that normally contracts through freelancers. She noted that her boss, who did not like having actual employees instead of freelancers, hired her full-time so she could stay in Berlin. In the long run, Beth’s goal was to once again gain freelance status. For her, this form of employment provided more freedom to pick her jobs and gave her the ability to make more money. But because of the German law, she had to work three years in Germany before she could apply for a freelancer work permit. Her year of working illegally meant that her goal was be postponed by a year, but

by the end of my field work, Beth had succeeded in applying and receiving her freelance work permit. While being a foreigner working illegally in Germany might have had more dire consequences for other immigrants, Beth's story demonstrates that for a white, highly-skilled immigrant from Canada, working under the incorrect visa was more of an inconvenience than anything else.

Unsurprisingly, those with the most difficult immigration process are also those least represented in Silicon Allee — workers and students from Annex I countries.[166] Ironically these were the immigrants that the German government was most trying to reach through the Green Card program and other programs directed at recruiting the best *Köpfe*; particularly since most Annex II countries, like the US and Japan, are eager to keep their own MINT/STEM workers. Whereas EU immigration is one of almost frictionless movement and Annex II citizens are treated quite liberally with visa free entry into Germany, émigrés from Annex I countries had more requirements prior to entry; these constraints were more burdensome with regards to time and money. As in most cases of fieldwork, one meets people not necessarily based on the actual demographics of the field site, but instead based on who is willing to work with the field researcher. In my case, I was able to get to know several people from China, Turkey, and Albania. Of these various people, the majority of them worked either for educational or research institutions. While Chinese citizens are underrepresented in the business and for-profit side of Silicon Allee, both my fieldwork and BAMF data suggests that the most

[166] As I will discuss more in the conclusion of this dissertation (Chapter 9), changes to the immigration system with the advent of the Blue Card may have changed the demographics of Silicon Allee, but since the Blue Card was started after my fieldwork I am unable to verify this change, because statistics are for nation-wide immigration and are not location specific.

visas for educational purposes are given to Chinese citizens (BAMF 2016a, 29). It is perhaps the reality of the legal system in Germany and the many rules and regulations about who can come in for what reason, that make education an ideal path immigration for many Annex I citizens arriving in Germany.

For those who come to Berlin to work or study in a university setting, immigration processes are streamlined by visa services that are offered through the university. These offices allow any registered student to apply for visas through the university bypassing a trip to the traditionally (very) bureaucratic and time consuming *Ausländerbehörde* (Foreigners Office).[167] In addition to actually applying for residency visas, these offices provide help and offer advice to students, which would not be normally available for immigrants. They review the forms, make sure the photos match the government standards and help the student smooth over any bumps in the application process. Because the educational structure provides a lot of support for immigrants coming into the country and almost automatic visas, it is unsurprising that Annex I countries are more largely represented in these constituencies than in other parts of Silicon Allee. Also, those who finish a degree are given eighteen months after graduation to find a job in Germany. Of the Annex I immigrants I met in Berlin, they all took this path - one of first completing an education, and then, finding a job. Since most post-secondary education is free in Germany, educated students are treated as an economic asset into which Germany has already payed.

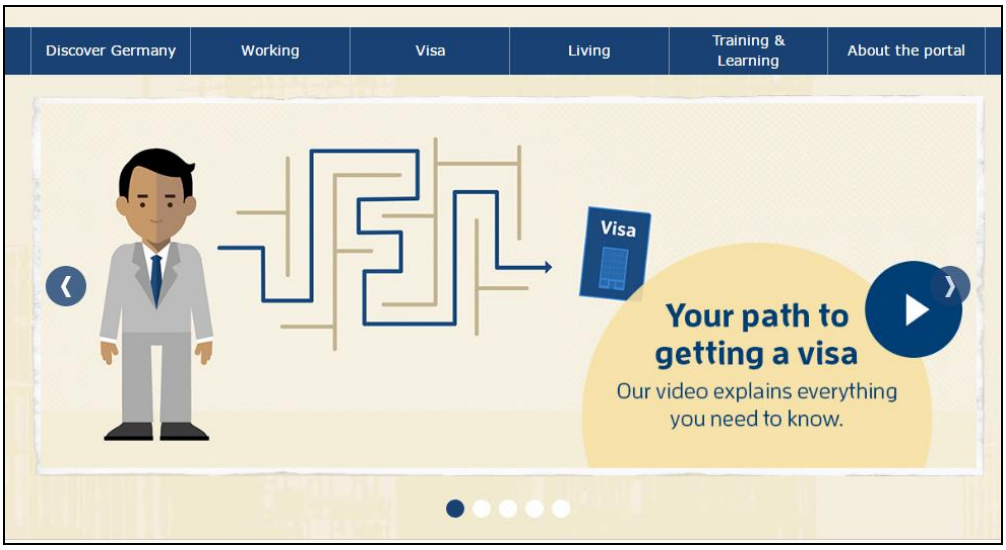
[167] This is the office that deals with immigration affairs for the public. Also, students are not required to take the integration tests or courses, because they are not considered long term residents, although some Universities may have internal language requirements.

While educational and research institutions were filled with workers and students from a variety of Third Countries,[168] startups and software companies tended to have people from Annex II countries, but almost no Annex I countries. Although based in Munich, Schreyer's and Gebhardt's(2003, 7) research on the Green Card Immigrants (who mostly came from Annex I countries) indicates that the huge majority worked, not for small companies like startups, but for well-established firms with over 500 employees. I suspect that this trend is still true. The "diverse" workforces seen in Silicon Allee tend to be very white with a large majority of the immigrants coming from traditionally English-speaking countries like Canada, Australia, and the US. Not only are startups culturally and "spiritually" sites for white masculinity, adventure and risk, as I suggested in the last chapter, but since Berlin's tech scene is fairly new and young much of the employment outside of universities and research facilities is still risky; startups go under or get sold all the time. Part of the reason for the larger representation of Annex I citizens at research institutions and universities might be because they provide more traditionally stable employment for immigrants in addition to easy visa, work and residency processing. Not only do small startups not often have the infrastructure to recruit from abroad, but the risk of starting up probably also dissuades immigrants from choosing to work at them.

For Annex II citizens, loss of a job in Berlin does not necessarily create problems. At worst, Annex II citizens will go home and get a job in the same field with a standard salary. Even when Beth worked "illegally" for a year, she treated it as a frustrating snafu, but she did not consider it threatening to her livelihood. On the other hand, when

[168] Third Countries are countries outside the EU, not to be confused with "Third World Countries"

discussing the mostly Annex I Green Card Immigrants in Munich, Schreyer and Gebhardt (2003) note that being laid off often means more than just losing a job. When talking about her job prospects in Berlin, Anisa, an Albanian infomatiker, mentioned that she was offered a job at Wooga, but turned it down and eventually found a position at a well-respected, long-established private research lab. As we were talking about the computing landscape in Germany, she observed, as many others have, that most of the established software and hardware companies are in South and Western areas of Germany, noting that she did not really consider the startups in Berlin to be a potential source of employment for her. Unlike Beth, Anisa felt more secure in a stable, established government-funded research organization than in a risky startup or as a freelancer. As those who face the most discrimination and the most legal requirements and paperwork, even the privileged immigrants of Annex I countries face more difficulties than similarly educated and qualified workers from Annex II and EU countries. The bureaucratic maze of immigration limits those who can come into Germany, and once there, also affects the choices that people make in regards to where they choose to be employed.




From www.make-it-in-germany.com (9/26/16) which is supposed to encourage qualified workers to move to Germany. Interestingly, they use the image of a maze to illustrate the path of the suited immigrant to get to his visa.

The legal structures imposed by the nation-state are important for shaping people's experiences with immigration. Even before nation-states, people were interested in controlling other people's movements and only allowing the "right" people to live in their community (Manning 2005). In the case of privileged migrants, who are ostensibly wanted by the receiving government, legal codes create varying experiences of privilege by creating barriers as to who can come into a particular country and for how long. Even as more and more technologies, both virtual and real, are created that encourage and enable human movements, the national boundary remains an example of the way national frameworks are designed to control human mobilities. Berlin serves as a reminder of the realities of borders (the wall, for example), but it is also the place responsible for enacting the national laws of immigration in Germany.

## IV. Immigration and Discrimination

Legal frameworks are not the only thing that affect different, highly-qualified workers in distinctive ways based on their home country. Although Berlin's highly-qualified workers are often privileged according to their education, age, and field of expertise, many still experience, to varying degrees, forms of discrimination based on ethnicity/race, citizenship, and language. Merkel's comments in 2010 about the failed nature of *Multikulti*, and Tim's suggestion that highly-skilled workers in tech jobs are different, reveal the way that privilege and immigration are intertwined beyond the law books. Merkel's comments were directed primarily towards immigrants who are understood by politicians as being adverse to integration and, ultimately, seen as unable to adapt to a western, Christian-based culture. In Germany, this form of prejudice is most often applied to Turks and Arabs,[169] both as immigrants and even as citizens with *Migrationshintergrund* (migration background).[170] In the "Europe verses Islam" discourse popularized by Huntington (1993), Islam is portrayed as one of the key obstacles to Turkish integration (Ehrkamp 2006). Despite being a liberal, diverse city, Islamic hate graffiti is common in Berlin. While the illegal swastika is quickly cleaned off of walls, anti-Islam stickers that depict a traditional mosque with minarets crossed out by a large red X seemed to linger for weeks. Through the "failure" of *Multikulti*, Merkel

[169] Although Arabs are also included along with Turks, the number of immigrants from Non-Turkish Middle Eastern Countries is quite small.
[170] This is a term applied to people who are citizens of Germany but not ethnically German.

is referencing immigrants who came as guest workers and their resulting families and who supposedly fail to integrate into society.[171]

Unlike the original guest-workers, who have been traditionally characterized as resistant to integration efforts, there is a more mixed reaction to these newer labor immigrants, who, even if they are not white, are better educated, higher class, and thus, imagined as less dangerous to German culture than the original guest-workers. However, the highly-qualified workers from Annex I countries often face more discrimination than other highly-qualified workers because, except for some from Russian Commonwealth (CIS)[172] countries, they often do not visibly appear "German" and may practice a non-Christian religion. Even though highly qualified workers are often well-educated and their skills are in demand, looking, dressing or behaving like the "other" leaves them vulnerable to social prejudice even in government systems (Schreyer and Gebhartdt 2003, 16). While current policies and discourses position integration as a defining factor in deciding who is considered a good immigrant and who is a bad immigrant or why highly skilled immigrants are considered "different," this has not always been the case. Because highly-skilled workers come from many different countries, including Turkey, the variety of experiences of what it means to be a foreigner in Germany differ from person to person and from place to place.

*Working while Turkish*

[171] In the German language, assimilation has a much more harsh tone which is reminiscent of forced Germanization and generally avoided over the much more common integration.
[172] Commonwealth of Independent States includes: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Uzbekistan and has two associate members - Turkmenistan and Ukraine.

In many ways, the guest worker program is treated as the antithesis of the recruiting of highly-skilled workers. Some of the same politicians who cite the guest worker program as a huge mistake are open to inviting highly-qualified workers to Germany. Clearly, as I have shown thus far, these two populations are not the same, but in many respects, both the guest workers and the new highly-qualified workers share many collective commonalities. The historic guest worker program in the mid-twentieth century was the first major source of non-white immigrants in Germany since its formation as a nation-state in 1871. While some immigrants came from other European countries, the largest group of guest workers came from Turkey. Not only are Turks considered non-white, but their religion, mostly Islam, was (and is) characterized as "other." Since September 11th, which brought Middle Eastern unrest closer to home, Islam's reputation has changed from non-western and strange to something physically and culturally dangerous to Germans and Christianity. The Turkish population continues to be the largest immigrant group in Germany. In 2015, their population stood at approximately 1.5 million or 18.7% of the foreign population[173] (Willand 2015, 40) and so, the Turkish population remains the largest non-white (in the German sense) population in Germany. Of course, "whiteness" is not merely relegated to the color of one's skin; particularly, because many Turkish actually have comparatively fair skin. Instead the Turkish population, regardless of their skin color, is targeted through cultural racism or the idea that they could never "fit in" with European society. In this sense, the Turks are often seen as un-changeable and un-integratable. However, this critique often

[173] Please note that this number only refers to the Turkish people living in Germany without German citizenship.

ignores the fact that the original guest worker program, which brought many Turks over, purposefully had a policy discouraging integration, because the guest workers were expected to return to Turkey after they were done being useful to Germany; after all, it was only in the nineties that the government started to accept the fact Germany was an immigration country.

Turkish Germans represent the realized and racialized fears of many politicians and Germans, who see them as non-European, non-Christian, non-white and in the end, despite Germany's best efforts, un-integratable. This kind of cultural racism is demonstrated by Seehofer, the same CSU politician who declared (alongside Merkel) that "*Multikulti* is dead."[174] When he was quoted in *Spiegel*, Seehofer expanded these views by saying, "It is obviously clear that immigrants from different cultural groups, like from the Turkey and Arabic countries, all in all, find it harder [to integrate]. Therefore, I draw the conclusion that no additional immigration from other cultural groups is needed." (Es ist doch klar, dass sich Zuwanderer aus anderen Kulturkreisen wie aus der Türkei und arabischen Länder insgesamt schwerer tun. Daraus ziehe ich auf jeden Fall den Schluss, dass wird keine zusätzliche Zuwanderung aus anderen Kulturkreisen brauchen) (Weiland 2010). In the same article, *Spiegel* also quotes fellow CSU politician Dobrindt as saying, "There should be no additional immigration from cultural groups that reject our German *Leitkultur* … Germany is a land with a culture embossed with Christianity, and it should remain so" (Es darf in Deutschland künftig keine zusätzliche Zuwanderung aus Kulturkreisen geben, die unsere deutsche Leitkultur ablehnen…Deutschland ist ein Land

[174] "Kanzlerin Merkel erklärt Multikulti für gescheitert." *Die Welt Online*. October 16 2010. http://www.welt.de/politik/deutschland/article10337575/Kanzlerin-Merkel-erklaert-Multikulti-fuer-gescheitert.html

mit einer christlichen geprägten Kultur, und das soll auch so bleiben.) (*ibid.*). Both of these quotes are from politicians who are members of the German party (the CDU/CSU), which has had control of national politics for most of the last few decades,[175] and both politicians have held various high-ranking positions as ministers and major party leaders over the last decade. In each quotation, these speakers stress that the key problem with the Turks (and Arabs) is framed that they do not fit in German culture because they are Muslim, and furthermore, are unable or unwilling to integrate according to social standards. It is this placing of people into fixed and indelible categories of difference that Weitz (2003) links to the development of genocidal actions, which, as history shows, was perpetrated in Germany before. While I am not suggesting that Germany will again perpetrate such widespread (government sanctioned) violence, I do want to point out that the way politicians talk about people and how citizens think about people can and does shape a culture of de-humanization which is dangerous and the precipice for violence against the "other." While these two politicians do not represent the only viewpoints regarding immigration, and there are ample counter narratives even within the CDU/CSU (apparently including Merkel) (Thomas 2015). These voices *are* representative of the way that the Turkish and Turkish Germans are viewed by many German people.

The Turks that came to Germany for guest work in the mid-twentieth century were mostly low-skilled laborers, and the nature of their employment resonates even today. During my fieldwork, Thilo Sarrazin an SPD politician, became a bestselling author by publishing the xenophobic *Deutschland Schafft Sich Ab* (Germany Does Itself In).

[175]Both Kohl and Merkel are from the CDU; Schröder's government was one of the few movements when the SPD party had control of the government.

Despite his association with the SPD, which is traditionally more immigrant-friendly than the CDU/CSU, Sarrazin is highly critical of the Turkish population in Germany. In a 2009 article in *Lettre*, Sarrazin suggests that the Berlin economy suffers to a degree because, "a large portion of Arabs and Turks in this city [Berlin] have no productive function outside of selling fruit and vegetables" (Eine großes Zahl an Arabern und Türken in dieser Stadt,. . .hat keine produktive Funktion, außer für den Obst-und Gemüsehandel). In the same article, Sarrazin again visits this topic describing the Turks and Arabs as, "those who depend on the state [for welfare], reject the state, do not care for their children's education and continually produce new head-scarf girls" (der vom Staat lebt, diesen Staat ablehnt, für die Ausbildung seiner Kinder nicht vernünftig sorgt und ständig neue kleine Kopftuchmädchen produziert) (2009). Sarrazin is a divisive figure in Germany, but he has considerable support. Interestingly, despite his frequent opinions about the inferiority of Arabs and Turks, it was not until he suggested that Jews shared a specific gene that he was forced from his position at the *Deutsche Bundesbank* (*Spiegel* 2010). This vitriol follows a continued pattern where, given the historical sensitivities to the Holocaust, Jews are no longer an acceptable group to vilify, but similar behaviors of stereotyping and discrimination towards Turks and other Muslims are culturally tolerated. Sarrazin's views are shared by many in Germany, specifically with the idea that Turks are both lazy and unwilling to be educated. While Sarrazin indicates in his *Lettre* interview that he feels the only appropriate immigration for Germany is for highly-qualified workers, his views ignore the fact that there is crossover between these two populations - highly qualified and Turks/Arabs. Seehofer, Dobrindt, Sarrazin and

likeminded thinkers demonstrate the way that two of my informants, Cemil and Ruhat, two highly-educated Turks, are anomalies.

Highly-skilled immigrants are most often compared, both explicitly and implicitly, to the Turks who came over as guest workers. Because being Turkish and being highly-skilled is often implied to be mutually exclusive, Turkish highly-skilled immigrants often experienced the most difficulties among the highly-qualified workers in Silicon Allee. Cemil and Ruhat, two software engineers and friends with advanced degrees from an Ivy League university, were lucky enough to find jobs at the same research institution in Berlin. Ruhat revealed that he chose to live in Germany, because there are more job opportunities for him in Berlin than in Turkey. Also, Berlin is closer to Turkey than the United States. Once Ruhat had gotten a job, he was able to get a job for Cemil. The two men struggle with the experience of being highly-educated people who are expected, by many, to be uneducated, live in Berlin with their families. Cemil felt like living in Berlin was both a blessing and a curse. On one hand, both he and Ruhat appreciate the fact that so many people spoke Turkish and that so many Turkish goods were available to them. However, they both often experienced regular discrimination. Ruhat explained that Germans, and sometimes even other Turks, expected him to be one way, when he was not. Germans repeatedly, but correctly, assumed he did not speak German but were shocked when he preferred speaking to them in English. As the language of the educated and the international, Ruhat's fluent English indicated that he was not a "typical" Turk. Cemil and Ruhat's experiences showcase the way that the focus on origins shows the way, "migrants moved from a world in which identity was not a central concern to one in

which they were pressed with increasing force to adopt a particular concept of personhood… often at odds with their own understanding of their situation and their needs" (Skeggs 2004, 51). Although they were trained in the US, the positing of being Turkish in a country where being a Turk means something specific, Cemil and Ruhat are labeled as one thing even when they do not necessarily feel that way. Ruhat often felt frustrated that Germans treated him like he was uneducated and unskilled despite his high level of education and his well-respected job in Germany. As software engineers with PhDs, Cemil and Ruhat confound the discourses that characterize Turks and Arabs in one way and as highly skilled workers in another. But the evidence suggests that Cemil and Ruhat are not the only outliers. In fact, Heß and Sauer's (2006) study on highly-skilled workers indicates that from 2000 until 2005 (i.e. prior to the Immigration Act) Turkey was the most common point of origin for all qualified and highly-qualified workers, especially those in technical or engineering fields (ISCO 3[176]). Even today, the Turks are still a significant portion of the highly-qualified community and continue to immigrate to Germany for highly-skilled jobs (BAMF 2016b, 19). Both the Heß and Sauer's study and the BAMF report show that, while a much smaller number of people come from Iran and Iraq, they are still often in the top ten countries that supply qualified and highly-qualified workers to Germany. In all these cases, studies provide only a limited view of the Turkish and Arab population in Germany, because they only measure immigrants who come under the specific visa regulations for skilled workers. That means that, while often considered foreign (to people like Sarrazin), Turks who have German citizenship are not

[176] International Standard Classification of Occupations. See http://www.ilo.org/public/english/bureau/stat/isco/ For more information.

included in this statistic. Also, these statics exclude people who may have come to Germany under a different visa such as a family reunification or political asylum, which also introduces skilled workers to Germany as well. Unfortunately, for those from Turkey and other Muslim countries, even highly-qualified workers with PhDs are not shielded from German discrimination and stereotypes which are based on broad assumptions about Islamic ways of life and a fear of the "other."

As I shown in the last section, much of the Turk and Arab critiques contend that they resist integration. If integration is what makes one immigrant group more successful than another, then one would expect to find the highly-skilled immigrants in Silicon Allee fully integrated both in language and culture. Instead, the presence of these "digital nomads" demonstrates the way that political rhetoric is flawed and based on stereotypical assumptions of race and class. Although I will discuss it in much more depth in the next chapter, it is worth noting here that the majority of highly-skilled immigrants I encountered in Berlin used English as their primary mode of communication both at work and in their free time. Additionally, those people who were more susceptible to discrimination based on their appearance were (in my relatively small sample) more likely to speak German both fluently and with regularity. Both a Chinese computer engineer, Zhang, and an Albanian software engineer, Ansia, spoke German at work and in their free time. Zhang and Ansia had a similar path to employment in Germany, and they both attended German universities before finding a job with respected research institutions. While Zhang, to her knowledge, did not recount any outward discrimination, a discussion I had with a professor at one of Berlin's universities revealed some of the

ways that discrimination, particularly with regards to Chinese students and scholars, is practiced. Prof. Dr. Schmidt, who was Tim's educational mentor, said that, at his particular university, Chinese students and researchers were often not assigned to particular projects because of intellectual theft. The concern of Chinese people stealing code and intellectual property was also present in the larger Silicon Allee community and in the United States (Nastase 2008-2009; Shakarian, Shakarian and Ruef 2013[177]). While Berlin had the reputation for copying business ideas from Silicon Valley, and at the time of my fieldwork the Pirate Party (*Piratenpartei*), whose platform maintained that information (particularly digital) should be free to all, was popular in Berlin as a political party, the threat of Chinese pirating was considered much more sinister. On the other hand, Anisa described experiencing a considerable discrimination after graduating with her degree in software engineering from a Southwestern German university. Originally, Anisa found employment with an international US-based software company near her university in Southwestern Germany, but she found that living outside the diverse university town bubble to be too stressful. In particular, Ansia, who has light brown skin, felt uncomfortable and unsafe just walking around the city. This discrimination prompted her move to Berlin, where Ansia says she has had fewer problems. These two case studies show that discrimination and stereotyping go beyond just the Turks in Germany. A 2013 *Speigel* article reinforces the reality of discrimination against some highly-qualified workers by reporting about a case of a young man from Venezuela who described his experiences of harassment from immigration authorities as demoralizing

[177] Note these citations are for American observations and discussions of Chinese Intellectual property theft, but German concerns are similar to those shared by the US.

(Popp and Tietz). Even for educated, German-speaking foreigners both seen and unseen prejudice affects what projects they may undertake to where they feel safe walking. While most of the German rhetoric against the *Multikulti* implies that it is the immigrants themselves who purposefully resist integration, many German citizens ignore the role which they play in discouraging integration, and the way they even regard, through their xenophobic lens, the desired immigrants.

**V. Post-national Mobility Identity(?)**

Although Turkish in a city with a large Turkish population, Cemil and Ruhat said that they did not really fit in well with other Turks. Left out of the larger German and Turkish communities, both Cemil and Ruhat embraced the intellectual community of their research institute, which included a handful of other immigrants. Most scholarship focuses on nation-state boundaries as the defining feature for immigrants. Academic studies are dominated by the shadow of the nation-state focusing almost exclusively on immigrants grouped according to their country of origin (like Silverstein's *Algeria in France*). Except for some key cases of "state-less" peoples like the Hmong or Roma, which are still categorized according to their ethnicity, immigrants are almost always defined by where they come from, and to a lesser degree, where they are going. Part of the reason for this focus has been that people sharing the same citizenship often share the same language and cultural values; they reach out to each other once they leave their home country. But in the case of my fieldwork, people socialized, not according to their

home state, but instead, by their work. The focus on work as the unifying factor in Silicon Allee leads to the fact that many young people in Silicon Allee call themselves "digital natives;" or people who are united by a shared culture beyond the nation-state and are nurtured by global technologies like the internet.

While I indicated through most of this chapter that the hegemony of the nation-state still affects people through laws, prejudice and easily traceable lines of "us and them," In this section I will explore the way that the nation-state is de-emphasized in Silicon Allee and how this is also a form of privilege. This is not to suggest that identities are single-faceted, but instead, illustrates that the unifying factors among the working immigrants in Silicon Allee are ones that deemphasize the role of the nation-state. This same behavior occurs in Silicon Valley, where the narrative of meritocracy that pervades Silicon Valley causes people to privilege work identities over other types of identities such as race and nationality (English-Lueck 2011). Indeed, those working in Silicon Allee focus on establishing their "personal brand" through their skills and abilities in computing, which provides a place of commonality between engineers, programmers, entrepreneurs and the like far more than national citizenship or ethnic heritage. The skills themselves and the display of those skills were much more important than where someone came from. English-Lueck suggests that the experience of ethnicity and race get processed through the same, "ethos of experimentation and productivity" (103) that is applied to work itself in Silicon Valley. This approach to identity in diverse tech communities gives researchers a way to explore the way national, racial and ethnic identities are merged into work identities.

By embracing movement, both physically and virtual, highly-skilled immigrants in Silicon Allee align themselves to a narrative different than "traditional" immigrants, and their movements fit into the larger narrative of the silicon place, which privileges mobility. The account of the digital nomad, unlike the immigrant, is one that deemphasizes where a person is or was, and instead, emphasizes movement as a process. As couch surfer, Harry spent much of his work life traveling from place to place. From Paris to Budapest to Berlin, Harry traveled with his computer and worked wherever he was at. Still, unlike Ong's (1999) descriptions of elite workers who travel regularly between the United States and Asia, those in Silicon Allee are much younger, less wealthy, and because of circumstances, less transnationally mobile. The digital nomads of Silicon Allee, while engaging people virtually across various political boundaries, move around on a more limited basis, including visits to their home country. Yet, workers in ICT and computing, who are often quite young, share the experience of being digital nomads and are digital natives at heart. For people who have the opportunity of ignoring immigration boundaries and for whom border crossing is simply a step in a path, the idea of the digital native references a shared experience of technology instead of being an inhabitant of a particular location. The digital resident is the group of "'native speakers' of the digital language of computers, video games, and the internet," (Prensky 2001, 1) and of course, this connection as a digital native is dependent on a technological milieu that is embedded within specific localities of privilege. In Silicon Allee, computers were an important part of people's upbringing. Almost everyone, even those with degrees, were either self-taught in childhood or taught by a parent or sibling. For Tim,

programming was something that he and his father tackled together. On the other hand, Beth taught herself for fun. Having a computer readily available, and even a parent who knows enough to teach someone means that, to a large extent, being a digital native is not only an aspect of class, but one of youth [178] as well.

Both Silicon Allee and its workers are young. With the exception of faculty members at educational institutions, the majority of workers in Berlin's computing fields, both immigrants and Germans, are young. Even the VCs that filled panels at conferences are young. As a site that seems brimming with history, Berlin also seems to constantly be starting over, and in the case of Silicon Allee, this was one of its new reiterations. At most events, the age of attendees, particularly in startups, was skewed towards the mid-twenties. Young people outfitted in dress shirts, jeans and leather dress shoes with long pointed toes filled the labs, offices and co-working sites. The youth of the workers meant that, unlike Ong's (1999) elite workers who had families and homes to care for in each country, they were not pinned to a specific location by property or family permitting them, despite their limited finances, a certain level of mobility. Despite the romantic ideal of mobility, it is in the end "a resource to which not everyone has an equal relationship" (Skeggs 2004, 49). To some, their youth and class allowed them to have extra mobility. When talking about her decision to leave Canada, Beth noted that she had no reason to stay in Canada - she had no permanent relationship, she did not have her own home, and she was not excited by her job. With added flair, she enumerated the only details keeping her there were her cats and her car - "I was like…if I'm staying because of cats and car,

[178] Given that at this point having a home computer is something that really only started to happen in the 1990s.

that's not a real reason." Other immigrants like Harry used the flexibility in their job to move between different cities on a less regular basis. Harry, who worked remotely with his start-up, had lived in Hungry prior to moving to Berlin; just as Toto, a Brazilian programmer, lived in China prior to moving to Berlin. In all three cases, their mobility was engendered by youth. There were no constraints that tied them to their home country and moving required little effort. Nevertheless, the financial resources required to straddle two cities or two continents at the same time and to live in a non-virtual, transnational space is just not available to most students, researchers, freelancers and start-up employees who have limited funds or are just starting out. Rather than separating into a shared "ethnic" enclave based on national or cultural origin, these workers lived, worked and played among those in a silicon enclave based on their shared work interests and shared mobilities.

*Silicon Valley Imaginary*

Moving away from the concept of place as a container and that migrations are merely the practice of people moving from one container to another (Rouse 1991) forces scholars to shift frames in understanding human movement. One way to rethink the notion of migration in computing fields is to imagine the global networks of silicon places, not as isolated dots across the globe, but in its place, an interconnected workspace that people never really leave. The Silicon Valley imaginary both depends on and encourages the flow of people in and out of the Valley, taking with them a specific ideology of work. Just like the immigrants and in-migrants to Berlin, Darrah points out

that people in Silicon Valley see themselves as creating a new cultural place from scratch. To illustrate this point, he quotes one immigrant as noting, "The difference is that we are all immigrants and I think that makes a total, fundamentally different environment, Essentially, we are doing this stuff not on the top of a previous culture but we are making up as we go along" (2001, 6). Indeed, instead of drawing on the discourse of nationality, workers in Berlin (both immigrants and not) draw on a shared identity of mobility along with work. During a conversation with Tim, this idea was underscored when he mentioned that everyone in Berlin was either a migrant or an in-migrant. In Berlin's Silicon Allee all peoples are understood to be migrants of one type or another.

In addition to the privileging, and even romaticization of mobility, Silicon Allee is also part of the larger Silicon network of work that gets brought in, dissipated, interpreted and re-imagined through in and out migrants. However, even while mobility is valued, the technopole in California was largely out of reach. Rather than personally experiencing Silicon Valley first hand, most experienced it through school, friends, gossip, the web and their imagination. In this way, for most people, the experience of Silicon Valley in Berlin was almost completely decoupled from the physical place, and instead, dependent on the transmitted norms and values shared by the globe-trotting "techno-missionaries" (Darrah 2001) and by the cultural imagination of those living in Berlin. This Silicon Valley fantasy shapes not only how people understand their own place in Berlin and Silicon Allee, but how they fit into the larger global flows of computing.

Some direct influences of Silicon Valley can be felt from German sojourners, who are interested in sharing a start-up culture and the silicon ideology back home. Key events in Berlin, like Web Montag, were created specifically by German "techo-missionaries" from Silicon Valley. Many of the examples of cross-overs from the Valley to the Allee (and other parts of Germany) adopt the language of spreading or sharing the culture or spirit of the Northern California tech capital. The information page for Web Montag suggests that in 2005, "inspired by the culture of Silicon Valley," the creators of the event hoped to, "spread those sunny California vibes"[179] to Germany. Another prominent example of an actual Valley/Allee connection is the German Accelerator, whose mission it is to "establish a permanent bridge between Germany and the U.S." for startups by helping provide German entrepreneurs an "understanding of U.S. startup culture." While the German Accelerator is actually based in Munich and not Berlin, it holds regular events in Berlin where it helps, "bring together Silicon Valley's spirit and Germany's most innovative entrepreneurs!" With a focus on "culture" and the "spirit" of the Valley, these two examples illustrate the way that the Valley is understood as something more than a mere place. The "spirit" of the digital "revolution" draws on the language of religion and rebellion (Darrah 2001; Puccia et. al. 2001; Sørensen 2008) to create a unifying, post-national identity for those working in silicon places. Silicon Valley is understood by technophiles as something that can be taught, learned, shared and proselytized. Because of this, while important, the actual physical links between Silicon Allee and Silicon Valley created through immigrants and companies are less important

[179] Webmontag.de accessed 5/20/12

than the shared ideological and cultural networks that connect the idea of Silicon Valley to Silicon Allee.

## VI. Conclusion

If place were completely unimportant at its very basic level, then sites like Silicon Allee would not exist. Again and again, I have shown in this dissertation that even in a time when human connections can be made at a distance, being "there" is equally as important. Part of the way that place is shaped is through the nation-state; in fact, it is through the nation-state that immigrants are so named. The act of crossing a nation-state border reinforces legal, political and social categories related to human movement. In the future, Silicon Allee, like the rest of Germany, will depend on immigration more, and especially, in technological and engineering fields that the state deems essential for economic growth. Because of this, Germans are forced to come to terms with the fact that Germany is not only an immigration state, but it depends on immigration to remain globally competitive. The history of immigration in Germany, particularly in terms of work immigration, still colors debates, prejudices, and concerns about foreigners and brings to the front more pressing questions of what it means to be German. Since the turn of the millennium, debates about the place of immigrants in German society has raged on. Concerns and frustrations with immigrants and a diverse society get twisted into hateful rhetoric and inflammatory statements about foreigners who can never fit in. And yet, highly-qualified workers are (usually) spared much of this fervor, because they are

economically necessary, and supposedly, more easily integrated. Unlike many immigrant and migrant groups, highly-skilled workers are often sought out by governments, recruited by businesses, and treated as "different" by much of the local population.

Being a highly-skilled and highly-educated worker who crosses national boundaries for work is in all ways a form of privileged migration. Not only do these groups often describe themselves with different terminologies (like expats), but their qualifications help create an easier process for migration. However, even while this type of migration is privileged, some experience more, or less, difficulties than others; in other words, while they are all privileged, they are not all equally privileged. In some cases, depending on their citizenship, actual laws limit or impose restrictions on a migrants' movement. While EU citizens get the most privileges, according to the law, Annex II countries also get priority treatment. Furthermore, the laws themselves, which *seem* unmovable or unchanging, also depend on the people who interpret and implement them, meaning different people get different experiences depending on the prejudices of the bureaucrats they encounter. Those immigrants who do not appear "European" or carry signs of a non-Christian faith encounter much more discrimination than those who do not. Assumptions about home countries and stereotypes about particular people and particular countries plays into the way highly-skilled workers get jobs, get put on projects, and even get unemployment benefits (Schreyer and Gebhardt 2003). Yet, even for highly-qualified immigrants, prejudice can be an actual problem. Clearly, the nation-state remains a key aspect of understanding all forms of immigration; from the role of national politics in

shaping xenophobic rhetoric to the pragmatic realities of crafting laws, immigration is made through the nation-state.

On the other hand, highly qualified immigration also gives scholars a way to explore the nature of human mobilities outside the nation-state dynamic. While one can never truly "leave" the shadow of the nation-state on immigration, exploring personal and occupational identities prove to be one way scholars can explore human mobilities outside of the nation. Unlike some groups whose key identities are based on their country or region of origin, the diversity (although perhaps limited) of Silicon Valley and Silicon Allee becomes a type of identity in itself. In Silicon Allee, most people are either immigrants or in-migrants so no one is truly native; everyone is on the move. At the same time, most people working in Silicon Allee share a common history with computers, a generational experience of being a "digital native" which cuts past national categories. The combined action of being mobile, but also sharing a de-localized work and techno-culture, means that they can simultaneously be on the go and also at home. In the end, experiences of migrations and mobiles in Silicon Allee occur alongside a kind of dance of identity, with shifting, changing and reemerging in different situations at different times with different people; this dance is one that equally ignores and addresses the realities of power relations, privilege, and discrimination.

# Chapter 8: “Live the Life, Speak the Language”

## I. Introduction

Just as the sun was setting on a chilly spring evening, the newthinking store had opened its doors for a Web Montag event. Visible through large seven foot glass windows, the presentation room was already filling up with people. In this room, a group of mostly men and a few women chatted at one of the benches that lined the wall. While some people greeted one another as they came into the presentation room, the vast majority of people’s minds seemed to be occupied elsewhere with their eyes down at their smart phones, fingers swiping and tapping. I found a seat in the front row and had just settled down when Tim, who had urged me to come to the event, showed up with a friend. Everyone was introduced, and we chatted in German about my work, his work, and current happenings. Soon, the presentations were set to begin, and after a quick introduction in German, a young, tall, lanky white man, Harry, introduced himself to the small audience. Harry’s introduction was a surprise to me. I had been anticipating German at a German event, particularly one whose name was one of the few event names that even had a single German word in it (“Montag”). However, instead of speaking German, Harry began his presentation about his startup NeuvoFilm in English. After a few seconds he paused, and then, as if remembering that he forgot something, mentioned, “ich kann deutsch sprechen, wenn ihr wollt” (I can speak German, if you want). After a

few affirmations from the audience that English was fine, he resumed his presentation in English.

As a follow-up to my last chapter, I use this chapter to argue that Silicon Allee is not only a multilingual space where privileged immigrants are able forgo (German) integration, but I also want to use this chapter to bring the very idea of integration into question. In fact, although highly-qualified immigrants do seem less likely to integrate into the larger German society, I contend that people in Silicon Allee are integrated just not according to the expectations put in place by the German government. Instead, Silicon Allee demonstrates a multilingual space that is more in line with EU language strategies and within the global silicon networks anchored by Silicon Valley. In a daily context, the practice of using both English and German demonstrates the flexibility of language use in foreigner-rich communities. Still, the German government is invested in making sure that all immigrants to Germany acknowledge and adopt some of the norms of the national "German" culture, especially the language. Because of their privileged positions, the requirements and expectations of integration fall on the shoulders of highly-qualified immigrants in Silicon Allee quite differently than other immigrants. As opposed to the larger Germanic project of the government, which hopes to encourage (and require) immigrants to learn German, many of those in Silicon Allee do not learn German, and thus, do not actually integrate into what is imagined as German society. I begin this chapter showing how, as privileged immigrants, workers in Silicon Allee are often excused from integration courses and language learning. However, also at the onset, I attempt to question the goals of integration, asking (and answering) who is integrating

for whom and for what purpose. After showing that English has a dominate presence not just in Berlin, but also, in computing and exploring what this language domination means for the field, I will finish up the chapter by showing how language is used daily by people and in the end, how multilingualism is embraced, critiqued, and negotiated in Silicon Allee.

National ideologies, critiques, and policies play into the way that language is used in Silicon Allee. Germany has a long history of establishing nationalism through the use of language. Prior to the creation of the German nation-state in 1871, language was often considered to be the glue that held the German people together. After the brutal policies in the name of race and nation during the Third Reich, many Germans were left with feelings of ambivalence towards ideas of nationalism. By re-focusing on the importance of language instead of nationalism as the bind that holds the nation-state together, in policies of integration over the last twenty years, the German government has increasingly placed learning the German language as one of the key markers of successful integration. One of the assumptions of these policies is that highly-skilled and educated workers, like those in tech fields, require less support to learn German. However, given the large number of foreigners working in Berlin who speak English on a daily basis and make little or no attempt to learn German, my fieldwork data does not seem to support this assumption.

At its core, Silicon Allee is a multilingual community. Although German is the primary language, English is ubiquitous. English seeps into conversations through technical words and terminologies that never found a German translation. It also comes

through in the daily work of programmers and other ICT workers, who code and create in programming languages which lean heavily on an English-based syntax. Even at other times, English is adopted as the primary language of communication in specific offices, events, and communities where foreigners and Germans mix. Even the name "Silicon Allee" shows the way that English is embedded into the very core of Berlin's tech communities with a name that is half English and half German. Through the adoption of English, Berlin's tech communities are linked to other global tech communities, which adopt English as a *lingua franca*. Organizations and events that either purposefully or casually are attempting to brand themselves as "international" are more likely to adopt English as the standard bearer of the operation instead of German. Many times a manager, director, or event planner will adopt English, or at least partially adopt English, to highlight that an event or startup as something that is not merely local, but also, global. Other times, like the case with Harry at Web Montag, English is adopted to facilitate understanding between people at events that have both German and non-German speakers.

While the presence of English in Germany is not a new phenomenon nor is it limited to technological work, there is an established history between computing, computing communities, and the use of English. English seeps into the very bones of the work that people do through their technical terminologies and code syntax used in daily work. Although English is the prevailing language of work in America, where Silicon Valley is based, English is also positioned as the de facto global language, which has the power to erase national and linguistic boundaries and encourage a multicultural

workforce. Because of these features, English, as a unifying feature of an international workforce, has become more predominate in Silicon Allee but this is not without detractors. Though rarely overt, the conflicts caused by language use demonstrate that there is a level of tension vis-à-vis language use in public forums and worksites. This tension highlights the way that fears of an invasive language are closely linked to the fears of losing one's native space to something foreign. Implemented in Berlin, English, while in some ways a unifying force in an international multilingual workforce, is a foreign language that also supplants the local language of German. This dynamic means that German natives may find themselves using a foreign language in their home country. In spite of this, the adoption of English does not mean that German is abandoned as a language. In a field that is dominated by the Anglophone world, workers in Silicon Allee continually face situations which require them to negotiate language use in their workplace and in their free time.

**II. Disrupting Integration Assumptions**

Language has been central to the German national project since the end of the Holy Roman Empire and, as such, German was, and is, the official language of Germany. For a country, unlike England, France, or even the United States, that had no official nation-state until the late 19th century, language, even when political boundaries were lacking, and its use through literature was the unifying factor that held the *Kulturnation*[180]

[180] The German concept of *Kulturnation* describes a nation who is unified through its culture - most specifically language, traditions, and religion.

together. When Jacob Grimm, one of the famous "brother Grimm," began his work on the *Deutsches Wörterbuch* (German dictionary) in 1854, he asked a question that still resonates among many Germans today, "What do we have in common but our language and literature?" (quoted in Seeba 2003, 184). Seeba notes that this impulse continues, citing Günter Grass's opinion that in the pre-*Wende* era, "Only literature is shown as still representing something Germans shared in both states" (*ibid*.). From the romantic period to the present, the state of the German nation, with continually changing boundaries and state ideologies, has been in flux. Despite these physical and ideological changes, the tradition of the German language maintains the hegemonic interconnecting links between *Volk* and nation.[181] This connection depends on what Gogolin describes as the monolingual *habitus* which she defines as, "the basic and deep-seated conviction that monolingualism in a society…is the one and only normality, forever and always valid: the characteristic of a nation" (2013, 41). The ideological unity of *Volk*, *Nation* and *Sprache* (language) is replicated in current debates around *Multikulti* and integration. In fact, gradually over the last twenty years, government policies have situated language as one of the key markers of social citizenship. Although at times it seems these two impulses contradict each other, the same drive for national unity that shapes language use, also influences the drive to ensure that Germany remains economically and technologically relevant on the global scale.

Unlike the policies of the 1970s, which encouraged foreigner workers to maintain their language and cultural connections in the hope that they would return to their home

[181] This narrative also tends to ignore the question of how German is defined and ignores the role of German language variations in favor for a more "pure" image of the nation and language

country, the turn of the millennium marked a specific change in the way the German government began to approach the concept of integration. By 2001, as part of their *Zuwanderung* (immigration) commission, the German government declared that Germany was not only an *Einwanderungsland* (immigration country) but that, "a timely and sustainable master plan for regulated immigration and integration is essential for the modernization of our country." (ein zeitgemäßes und zukunftsfähiges Gesamtkonzept für geregelte Zuwanderung und Integration ist für die Modernisierung unseres Landes notwendig)(Kommission Zuwanderung 2001). With the assertion that both immigration and, most specifically, integration are a key to Germany's development as a *modern* nation, the report marks a shift in the German government's focus regarding immigration from one of denial to one of management through integration. During my fieldwork, alongside the renewed commentary from politicians like Merkel and Seehofer, the question of integration remained salient. The primary trepidation of the government concerning immigrants was that they are not trying integrate into society. The question of integration popped up in unexpected places during my fieldwork, including the celebration of Munich's birthday (as a city), where, at the beginning of the priest's prayer to the city, he thanked God for all the foreigners who were integrating. The focus on integration (or the failure to do so) marks a shift in the way Germany has discussed immigration since the turn of the millennium, and as I showed in the previous chapter, it has become a new tool for sorting "good" immigrants from the "bad." Theoretically, because integration is supposed to be two-sided (Ehrkamp 2006), the failure of immigrants to integrate is usually framed in terms of how (some) immigrants are failing

to do their part. As I briefly noted in the last chapter, while the frame of who is a "good" and "bad" immigrant is often shaped against the backdrop of integration, the presence of highly-qualified workers, who often do not integrate, reveals the way privilege shapes both the image of and the experiences of highly-qualified workers.

As the German government has slowly shifted its immigration and integration policies in recent years, the term "integration" has become more and more a code for "learning German." As a kind of expression of "language loyalty" (Stevenson 2008, 493), the majority of integration programs implemented by the German government are aimed at teaching and encouraging the use of the German language. While the government maintains that required integration courses include a larger picture than just language, the requirements for integration are primarily focused on learning German. This concept itself is emphasized on the government webpages. For example, the information page about the integration course from the Federal Office for Migration and Refugees introduces the courses with the statement, "If you would like to live in Germany, you should learn German" (BAMF *n.d.b.*) Another key example of the importance of language in integration debates is seen in an advertisement that came out during my fieldwork from the Deutschlandstiftung Integration (German Foundation for Integration). This advertisement features pictures of "successful" (famous) immigrants sticking their tongues out. In each of the advertisements, the immigrant's tongues are colored in the stripes of the German flag - black, red and gold. Under the immigrant with the German flag tongue, the text says "Speak the language, live the life" (*raus mit der Sprache, rein ins Leben*). This advertisement for integration brings the importance of language directly

to the center. Marking the body with the flag of Germany, “points us towards an understanding of the body as site of where human beings become canvas for the inscription of political power” (Schieldkrout 2004, 323). The advertisement also draws on the history of the body markings, including in Germany, as a marker of social and cultural inclusion and exclusion. By painting the tongue of immigrants in the colors of the German flag, the advertisement inscribes the German nation directly onto the body of the immigrant, and not just any body part, but the body part that is required for speech. Again and again through the government and the various supporting foundations, one’s ability to have a life, and to live in Germany, is tied directly to the language one speaks.


Integration and language campaign advertisement from Deutschlandstiftung Integration (2010) showing the tongue of the immigrant with the black, red and yellow of the German flag.

*Enacting Privilege and Unpacking Integration*

While the government stance and the cultural ideal is that every new immigrant to Germany should either already know German or be prepared to learn German, in practice, the concept of integration and language learning is unevenly applied to the immigrant populations. Because of this, many of those who move to Germany for work in Silicon Allee are able to find ways to forgo integration courses. While supposedly written for everyone, this reality reveals the way that these integration policies are less concerned with some immigrant populations than others. The uneven application of

integration policies reflects the basic belief that highly-skilled immigrants are immune to many of the problems of immigration. Like immigrants in many other countries, German migrants are often associated with poverty, violence, and "backward" attitudes towards things such as women's rights (Croucher 2012). As I discussed in Chapter 5, the majority of immigrants in Silicon Allee defy stereotypes of the term immigrant/*Einwanderer* by most often being white, from wealthy countries of origin, and educated. Yet, my research shows that foreigners working in Silicon Allee are not particularly better adapted at "integrating" given that the German government's basic plan for integration is to induce people to learn German so they can fit better into German society. Unlike the *raus mit der Sprache* campaign, which suggests success in Germany is dependent on language, most ex-pats in Berlin are able to function quite successfully both professionally and socially in the English friendly atmosphere of Silicon Allee. The privilege of being a highly-skilled immigrant and being (mostly) excused from the national pressures of integration reveals some of the disconnects within the German concept of integration and also shows the way privilege shapes governmental and social policies of language use.

The concept of integration depends on the naturalization of bounded concepts of language and nation (Anderson 2006; Gal 2006; Stevenson 2008; Bruner 2002) which assumes an (imaginary) homogeneous culture in which immigrants can be incorporated. In Germany, this homogeneous culture is named *Leitkultur*, or leading culture, and is most often placed in contrast to *Multikulti*, which threatens Germany through diversity, but most particularly Muslim diversity (Manz 2004).While anti-Semitic sentiments are quick to be corrected and criticized in Germany, anti-Islamic sentiments are tolerated,

especially after the terrorist attacks in the US on September 11th, 2001. Considering that much of the foreign population in Germany hails from traditionally Muslim countries, the rhetoric of integration begins to seem less like a message of inclusion and more like one of assimilation where those with non-western world views are considered especially problematic to German society. So, most of the immigrants in Silicon Allee, are considered easier to integrate, not because of their skills or education but because they come from cultures with European ties, have Christian/secular backgrounds, and generally "look" European. Moreover, this disconnect between the policy and the practice of German integration suggests that the German government's concerns over language learning and social integration are less important than the economic benefit that immigrants provide.

Generally, unless they are able to test out of it, the law for integration courses applies to all foreigners from Non-EU (or "Third Countries") with resident permits for over a year. For these immigrants, the government supplies a hefty subsidy to cover the cost of the 660 hour classes. With the subsidy, the cost of the classes comes to a little over a euro per hour. Still, the cost, while quite reasonable for language courses, is nevertheless quite high when one considers that over 700 EURO are required to pay for the whole course. Because the standard courses require full-time instruction, people who have full time jobs, like those working in Silicon Allee, are unable to take the course. The government also offers part-time courses, but depending on circumstances and work schedule, employees might be able to get their obligation to integration courses excused. Moreover, EU citizens, who make up a sizable number of foreigners in Berlin's tech

communities, are automatically excused from the integration courses and are not even eligible for subsidies. Between work schedules and EU citizenships, many highly-qualified immigrants are able to forgo the requirement of "integrating."

The integration courses often provide a barrier for immigrants in Germany seeking family reunification. In other words, those seeking to have their spouse and children to join them in Germany. Family reunification policies require that all adult family members interested in immigrating to Germany know German in order to get a resident permit. Like the integration courses, the exceptions to this requirement are applied unevenly among family members who wish to join their spouses. For highly-skilled immigrants from Australia, Israel, Japan, Canada, South Korea, New Zealand or the US, there is no requirement for spousal German knowledge before immigrating. BAMF notes that if, "it is obvious that there is need for little integration assistance (for instance as a rule if your partner is a graduate)" (*n.d.*a) then the requirement is once again waved. This statement from the BAMF indicates that educated immigrants are better at integrating themselves without help from the government than other less educated or gainfully employed immigrants. As in most cases, the legal requirements for integration tend to fall unequally as a burden on low-skilled, non-white immigrants to Germany. The gaps in the application of immigration policies, which dictate who has to take integration courses and who does not, not only reveal the way that the government understands immigrants according to their usefulness, but also, indicates that politicians are generally not concerned whether highly-qualified immigrants integrate or not. While there does seem to be a presumption among people like Tim that skilled and educated people are

better at integrating, by making it harder for undesirable immigrants to get resident permits and bring their family with them, these integration laws instead become a method of policing the borders of Germany.

*Immigrants Learning German*

Learning a new language is time consuming and often costly. None of my key immigrant informants knew German before moving to Berlin, and even after having lived there for a while, they had limited German language abilities. While many were able to avoid integration courses, most of the immigrants I talked with attempted in one way or another to learn German during their time in Germany. Most of the time, my informants revealed that they tried to learn German when they first came to Germany, and then after a time, they realized they could quite successfully function with a modicum of German. While assumption of monolingualism by the Government suggests that success in Germany requires German language knowledge, the fact that most of my immigrants stopped working on German once they realized it was not necessary provides a counter narrative to the government notion.

Although integration courses are not required of international students, of all my informants Zhang, from China, and Anisa, from Albania, had spent the most time learning German and were also the most comfortable speaking German. Despite not knowing German before moving to Germany, Zhang spent time during her studies working on her German skills and, at the time of my fieldwork, worked in a German-speaking research lab. On the other hand, Anisa specifically chose her university in

southwest Germany because they did not require that students know German and most of the courses were taught in English. Still, Anisa indicated that once she got to Germany, she felt it was important for her to learn German, and she enjoyed taking German as a foreign language course in a university setting, because it was a good way to meet people. After graduating and working in south-western Germany for several years, she moved to Berlin to begin work for an independent research facility and attempted to take German classes from the *Volkshochschule* (a school for adult community education). She found that she had much less in common with the students there and did not enjoy the course as much as she previously had in the university setting. As a result, she stopped taking them. Still, the amount of German that Anisa had learned was enough for her to work in German at her private research organization. Both the cases of Zhang and Anisa mirror Erling's findings which showed all non-Germans interviewed at the *Freie Universität Berlin* (FU) were, "making efforts to learn German" (2002, 5). As Anisa's experience demonstrates, the right circumstances (like the other students in the course) often play a role in the process of actually learning German, and by contrast, the choice for some students to quit their study (or never start) of German.

In the private sector, immigrants' language skills were usually much more limited. Both Wooga and MusicWare's official work language was English, and they offer weekly German classes and tutors for their workers. Those workers with whom I had regular contact from MusicWare revealed that even though MusicWare provided these lessons to its employees, the German skills of the foreign work force remained limited. Likewise, neither Cemil nor Ruhat, who work at a university, but did not get

their degree in Germany, are able to speak German. While they both mention that, in the beginning, they tried to learn German their lives became too busy for serious language instruction. Beth also only speaks limited German despite living and working in Germany for over four years and having a German boyfriend. When Beth first moved to Berlin, she took three German classes at the Goethe Institute, but despite that attempt to learn German, her skills remained relatively basic. She said that while having learned enough German to do basic things, she still feels uncomfortable speaking the language and hangs out primarily with other English speakers. Nevertheless, despite not speaking much German, she developed a very successful career in Berlin and was in high demand for her skills. The reality of both the business and educational facilities suggests that, while highly-qualified immigrants may be interested in learning German, their daily functionality does not require it. Because it is so easy for English speakers to function successfully in and outside of work, learning German is not their priority.

**III. Integration and Multilingualism**

As Wank (2003) suggests, the assumption among government officials is that highly-qualified workers are less difficult to integrate into German society. As I have shown, these assumptions are false. If integration is measured by German language usage, those in Silicon Allee are what would generally be classified as "un-integrated." Not only are many people excused from the integration courses but they never need to learn German, because the primary language in most of their social spheres is either

English or Denglish (German/English). Conversely, the workers in Silicon Allee are able to integrate into their local work communities, because language use flexibly shifts between English and German as needed. In fact, this kind of multilingual community is reflected in the larger goals, not just of Germany, but of the EU, which frames multilingualism as an asset that all member states should pursue (Commission of the European Communities 2005; Stevenson and Carl 2009). As I argued in the last chapter, the nation-state is less important as a marker of identity for those in Silicon Allee, so it is not surprising that workers are less invested in state-dictated integration. While it clearly does not meet the German government's desires, the lack of integration of those in Silicon Allee exists, because the community at large, is more invested in the larger global silicon networks linking technopoles around the world than to the German state itself.

German integration policies treat monolingualism as the norm. Although Germans learn other languages at school (mostly French, English Spanish and Latin), German is framed as the language for Germany. This means that German is for use at home, and any other language is to be used abroad. Yet, reality indicates that, along with immigration, Germany is increasingly becoming a multilingual country (Gal 1987, Stevenson 2008, Cheesman 2004). In Silicon Allee, English maintains a comparatively strong presence, alongside German, as a language used in public spaces. English is often used as either the primary language or as an accompanying language for meet-ups, user groups, and events. Both academic departments and offices often adopt, to varying degrees, English as the standard language of work. One of the main reasons English is used and adopted in Silicon Allee is because it is functional and convenient for students and workers.

Learning and using English means that one's business is not limited to the borders of Germany. Instead, English facilitates connections and movements from place to place both in person and virtually. Also, since English is the standard language of work in Silicon Valley, professional and personal networks between Berlin, Northern California and other parts of the globe are maintained through the use of English. This mixture of English and German means that foreigners are able to function relatively easily without learning German; and thus, remain relatively un-integrated into the larger German society.

*English Use in Work/Education Practice*

In places that have high levels of international communications and foreigners, English is often implemented as the standard language of use. In the hierarchy of languages that operate in Germany, German is the assumed language of Germany, and yet, although not a replacement for German, English is still considered relatively legitimate (Gogolin 2002, 124-125). The places where English is implemented as the formal language of work are in some university departments, research facilities, and a growing number of business sites, such as startups. As I illustrated in the last chapter, Silicon Allee exists across national borders, and both academia and businesses pull workers from various corners of the globe. Management policies often implement English as the language of the workplace. Not only are there accounts of multi-national

corporations (Angouri 2013; Erling and Walton 2007; Sherman and Strubell 2013) adopting English as the standard language for business activities, but even smaller startups in Berlin are eager to implement English as the language of work. In academia, efforts like the Sorbonne Declaration and the Bologna Declaration indicate a push by the European Union to internationalize higher education. The goal of these declarations is to standardize educational structures, and thus, allow for a greater flow of students between educational facilities in European Union countries (Balajeva and Hogan-Brun 2014). These changes show that the incorporation of English into university departments is not just a choice on local levels by universities seeking to attract more students and scholars, but also, one that is driven by intergovernmental policies to encourage and promote multilingualism in the EU. Overall, the more foreigners participating at a particular site, the more likely English will be used as a common language. Not only does English serve as a *lingua franca* in immigrant-rich sites, but the use of English also signals internationalization.

While English is not the standard language of all companies in Silicon Allee, it is slowly gaining in popularity, especially among internationally-inclined startup founders. Adopting English as the language of work indicates to others what the companies are, and often, what the leadership hopes they will become. First, using English provides companies with the opportunity to recruit from beyond both Berlin and German boarders; their recruitment is not limited by geographic and linguistic borders. Secondly, the use of English can be read as a sign that the company wants to be seen as a global entity, rather than a German one; even if their only location is Berlin. Jens Begemann, the founder of

Wooga, is one of the most outspoken proponents of adopting an English workplace in Silicon Allee and advises other startup entrepreneurs to, "make English your company language" (Knight 2011). During a visit to the Wooga offices for Lunch 2.0, Begemann gave an introduction in German to a crowd of technophiles describing the growth and success of the company. Before beginning his speech, he noted that while he was going to give his short talk in German, the company normally operated in English. This concept is once again reinforced in the recruitment website for Wooga, which says, "Wooga's office has turned into a truly international, English-speaking cosmos" (2013) and an article on their blog which boasts, "The fact that all communication is done in English has helped attract international talents, but no one expected the company to rise from only a handful of employees to a hundred and become a truly international StartUp in no time" (2012). Both in person and in articles, Begemann notes that one of the key purposes for the English-based office is that over fifty percent of its workforce is non-German. Additionally, by implementing English as the language of work, Begemann's hope to recruit beyond Germany is not limited by trying to find German speakers (*ibid*; Knight 2011). At Lunch 2.0, the Wooga employees wandered around, chatted with visitors and were identified by name tags that featured their home countries' flags. Most of the foreign workers came from other European countries, like Spain, and Anglophone countries like the United States and Canada. Another software company that used English as the language of work was a company called MusicWare.[182] Several of my informants worked for MusicWare and were also immigrants from Australia, Brazil and Quebec. In

[182] Because I had contact with informants and not public access to the company, MusicWare is a pseudonym.

my various conversations with people from MusicWare, they indicated that English is used as the work language simply because they have such a large foreign work force. Not all the foreigners were native English speakers, but they all spoke English very well and in addition, used it outside the office. Because the majority of the workers associated with work and industry buddies in their free time,[183] they also used English as the primary language of their leisure time. Like Begemann, the workers at MusicWare identified with the global nature of the computing industry and the international reach of their company. While the German government considered these immigrants in relation to their work in Germany, and thereby, helping the German economy, the immigrants saw their work as international and cosmopolitan, where English was the expected language of communication.

Although undergraduate education in Germany is still in German, by and large, the language of more advanced academia in Europe is English (Helms, Lossau and Oslender 2005; Erling 2002; Ammon 2001). The current academic climate depends on various scholars and students being able to communicate over wide-ranging geographies, and as such, like those in Silicon Allee, scholars in many European academic programs create and nurture an international work identity separate from a local position (Massey 1995). At the *Freie University zu Berlin* (FU), two of the professors with whom I met indicated that advanced students needed to know English, and had to be capable of working with it. In Germany, textbooks, particularly those in very specific topic areas, are increasingly only available in English. More and more, Professors and scholars are

[183] As I discussed in Chapter 4, the fact that most of their friends were also coworkers helped contribute to the breakdown of boundaries between work and life.

required to publish in "international" journals, which are almost always in English (Kuteeva 2014; Bajerski 2011; Rodríguez-Pose 2004; Gutiérrez and López-Nieva 2001). Unlike English-speaking countries, where foreign languages are not necessarily required for training in computer science and other technology fields, English knowledge is a requirement for anyone in Berlin seeking a degree in *Informatik*. Although *Informatik* institutes rarely provide the resources for students to maintain and learn English, to most Germans, this requirement entails studying English as a foreign language.[184] The purpose of requiring English as a foreign language for students are twofold: first, in Germany, academia tends to be English-oriented and second, the field of computing, particularly with regards to code, tends to privilege English. Like the field of German computing, hegemony of English is so ingrained in German higher education that, while there are occasional protests, there is little questioning its dominance or place in academia.

Although English was not the only language that people used, the foreign graduate students and post-docs that I encountered all used English as the common language. Hui, who was working on his doctorate at the FU in Informatik, did not speak German, but instead, used English to communicate with his colleagues and professors. Since FU had a fairly sizable Chinese population, Hui also spoke Chinese to fellow Chinese speakers, and also in his free-time, which he typically spent with other Chinese students. At another University, Cemil and Ruhat worked in a research lab, and the bulk of their research was also in English. Ruhat shared his office with a Frenchman with whom he conversed in English. Cemil noted how, when he first moved to Germany he

[184] Erling notes that most English supports in the University go towards those majoring in English and/or American studies. Perhaps, the assumption being that most students already have a strong command of English from their time in Gymnasium (college preparatory high school).

tried to learn German, but so far, this endeavor had not worked out. Ruhat also remarked that, with the busy schedule of work and his private life, he just lost interest in learning German, particularly since English and Turkish were enough to get him everywhere in the city. As with Hui, Cemil, and Ruhat demonstrate that living in Germany, and not speaking German, is not necessarily indicative of one's education or one's ability to function in society. Nonetheless, Hui expressed a desire to learn German so he could participate more in casual departmental events. Outside the university systems, research centers and foundations showed a wide variation in adopting English as a work language, with the majority using German as a standard language of work. Zhang, a researcher for a research lab, was one of the few foreigners I met who was *more* comfortable speaking in German than in English. In fact, she noted that she was uncomfortable speaking English. Not only did Zhang move to Germany from China to attend the University, but after she got her *Diplom* (Masters), she chose to stay in Germany and is employed by a government-supported lab where she does all of her work in German. While English clearly has a large presence in the university and research side of the Allee, the variations between different labs and different institutes show that despite the global influence of English, German still has a place in academic sites.

Beyond Silicon Allee, Berlin is often characterized as a place where English is more common than in other German cities. Many of the advertisements for Berlin that I explored in Chapter 2, including the "be berlin" campaign, use English as a symbol that Berlin is a global city.[185] Because of the Allied occupation, English also occupied a more intimate role in Berlin. When Berlin was occupied and separated into

[185] Although clearly English is not the only foreign language spoken in Berlin.

four sectors, English, American, French and Russian (USSR), the city was influenced by the language of the occupying forces, two of whom spoke English. Instead of seeing themselves as "occupied," many West Berliners saw the allied forces as protectors from the Eastern threat of Communism. For that reason, in the British and American sectors, the activities experienced in English extended to the West Berliners via various fun, cultural events, such as Four of July celebrations which the allied governments in Berlin established. As English as gained the status as a global language and a *lingua franca* in Europe (Forche 2012; Gnutzmann, Jakisch, Rabe 2014; MacKenzie 2009), it has also continued to seep into German society with Anglicisms popping up everywhere from advertisements (Schlick 2002) to daily speech (Busse 2004).

**IV. English: A Language for Computing**

From university professors to programmers in startups, English is assumed to be the language of computer work. While English is Europe's *lingua franca*, and it also indicates a level of internationality and cosmopolitan sophistication often cultivated by people and companies, it is also the language of computing. Even though there is a very tight connection between English and computing today, the selection and use of English as a standard language for computing is neither natural nor neutral. Evidence from France and Iceland indicate that English is not required to compute, but instead, shows the way that asymmetrical power relations have shaped the language of computing. While Stevenson and Carl point out that German was historically, "not only the language of the

political elites in Prussian and Habsburg empires but also the language of trade, advances in science and cultural innovation across the region" (2009, 3) that is no longer the case. While the language of computing in Germany is not completely English, it draws so much on the English language that university programs require their students to have a working knowledge of English. While I previously spoke of English as being marked as the sign for an "international" workplace or diverse student body, English is also marked as the language of computers in Silicon Allee. As a *lingua franca,* English is also found in Silicon Valley with its diverse multilingual population. Using English in California and the US is normalized so that the fact that the language of computing is English does not stand out. On the other hand, in Silicon Allee, despite the large foreign presence of Anglo-American workers, the fact that English is the language of computers is made visible through the reality that German speakers must learn a foreign language to work in their home country. The reality of power relations in regards to German and English use in Silicon Allee is complicated by the fact that the relationship between English and German is in flux depending on the location and who is speaking. Finally, in Silicon Allee, the domination of English in computing is tempered by the fact that the actual act of computing in Germany often becomes more of a multilingual expression rather than one language or the other.

*Calling a Computer a Computer*

The language of computers and computing is less than a century old, and new technologies are being developed and are changing at a rapid pace. These new

technologies, and the behaviors associated with them, have caused a huge influx of new vocabulary to enter the daily speech of many people around the globe. From nouns like "computer" to verbs like "tweet" or "surfing," the new language of computing is rich in metaphors and recycled words (Colburn and Shute 2008). Despite the early success of Zuse and his "first" computer in Berlin, the majority of computer technologies and innovations from the last century arrived to Continental Europe from the United States or Britain. The development of computers after the Second World War came at a rapid pace and was heavily supported in the United States by military funding (Yost 2005). On the European Continent, computer development slowed. Not only were German scientists limited by a lack of funding and infrastructure, but also, by limitations placed on them by the occupying forces (Bauer 1987, 6). This situation meant that the market and research labs were primarily based in America. Except for a few cases like ALGOL,[186] and because most of the development in computing came from overseas, the majority of new or revised terminologies that accompanied new technologies came to Germany, France, and other European countries with already established English versions.

Given the violent history of the Third Reich, which tainted the idea of nationalism, the project of regulating national language in Germany is quite different than those seen in other countries. Many countries, like France and Iceland, enforce specific language policies and have developed special language councils in an attempt to maintain a "pure" national language. One of the major ways that some governmental and official language policies are enacted are through the regulation of foreign words. For countries

[186] ALGO – short for ALGOrithmic Language was a combined effort of European and Americans scientists to create a programing language.

that are invested in language purity, there is, and continues to be, a standard approach to translating or inventing words for new technologies, and then using the national cause to disseminate them into the population. Both academia and the computing industry are often criticized by language protectionists as the gateway for foreign words, most particularly English words, that enter the lexicon. The word "computer" provides an ideal example to illustrate the way that terminologies get integrated into three different countries: France, Iceland and Germany. A comparison of these three countries provides evidence for the way that language, in varying settings, policies and reveals the way that language and nation become intertwined in the politics of words used in daily life. Finally, it reveals that the adoption of English terminologies for computers is not a forgone conclusion.

In Germany, the word for computer is *Computer*, while France and Iceland have specific terminologies for computer that are created from the native language of their respective countries. With the long-established history of France maintaining French through the guidance of the *Académie française*, the early French response to the introduction of IBM computers in the 1950s was to quickly establish a French term for the computer - *ordinateur*. Picon notes that the (re)invention of various words from *ordinateur* to *informatique* (informatics) not, "only sounded French, they also conveyed a different take on what computing was about" (2004, 628). The term *ordinateur*, suggested by Jacques Perret, a professor at the Sorbonne, comes from the a quasi-religious word *ordinateur*, which in addition to describing, "the capacity of someone to arrange and organize" (*ibid*), also references the actions of God bring order to the world.

Instead, of *computeur*, which also has a French history, the choice of *ordinateur*, with reference to divine ordering, indicates the way that different meanings and associations get drawn into the practice of "translating" into different languages -- even technological terminologies. Like France, Iceland has its own word for computer. *Tölva* is made up of the words for "number" (*tala*) and "fortune-teller" (*völva*). The creation of the word *tölva* for a computer demonstrates the way that some new terminologies in native languages shape understandings of technology. Just the way that the origin word of *ordinateur* draws on divine inspiration, Holmarsdottir suggests that, "it seemed to the Icelanders as though the first computers had some sort of supernatural ability to calculate" (2001, 388). Once again the simple translation of a technical word into a native language shows the way that national policies policing language purity also conveys different understandings of new technologies. As the examples of *ordinateur* and *tölva* in France and Iceland demonstrate, English is not a requirement for computer work; in other words, not all computers speak English.

Unlike France and Iceland, Germany's attempts at integrating German words into computer technologies has been much less successful. In the mid-twentieth century, Zuse and his contemporaries adopted the term *Rechner* (calculator) for computers. While still in limited use, it was, and is not, as successful as the French *ordinateur*. While the French commonly use *ordinateur*, Germans typically call a computer "*ein Computer*." Germany does have many organizations that promote the use of the German language, and the integration debates revolve around the adoption of German by foreigners, but there is no single German governmental council or panel that both invents and helps encourage the

German language through the creation of "new" terms. Because the implementation of specific language ideologies are more closely associated with the Third Reich and the GDR, which were more particular about using language as a medium for maintaining state ideologies, Germany tends to avoid policing language. This history of language "misuse" has promoted a more laissez-faire approach to language policy, and invites the incorporation, rather than translation, of English computer terminologies into German.[187]

The language of computing draws on both the scientific history of computers and on the commercialization of computers. When, in the mid-twentieth century, the majority of work done on computers was through research or institutional settings, Tatarchenko notes that, "…there was no master-plan to impose English on the computer experts world-wide, but a series of localized decisions amplified by the contexts of interpersonal relations, institutional policies, disciplinary interest and geopolitical play" (2010, 29). Although scientists of various backgrounds met and contributed to the development of computer science in Europe, as with much of academia, the common language became English. The move toward English is further cemented by the way computers have been internationalized through corporations like Microsoft, IBM and Apple. Indeed, it was the introduction of computers into France through IBM that first pushed French stakeholders

[187] The term "computer" is a single example of a plentiful number of English loan words used with high frequency in Germany today. An ISACA German/English glossary indicates the variety of English words used in German technical fields including the words: internet, proxy, server, backup, and even startup. The glossary and my own fieldwork confirm the fact that while many longer multi-word phrases are often translated into German like "Vollautomatischer öffentlicher Turing-Test zur Unterscheidung von Computern und Menschen," the daily use of the concept uses the English based acronym - CAPTCHA. Other examples of using the English acronym for a German translated phrase include *Zugriffssteuerungsliste* as ACL (Access controls list) and *Anwendungsprogrammierschnittstelle* as API (Application Programming Interface). Some acronyms forgo any translation and become the words themselves in German, like, ASCII (American Standard Code for Information Exchange), FTP (File Transfer Protocol) and HTTP (Hyper Text Transfer Protocol).

to develop a word for computer lest the English version be adopted. More recently, Iceland also provides an example of the way that corporations can effect language use along with technologies. For example, in the late nineties, Microsoft ignored the pleas of Iceland's cultural minister and the demands of the President, Olafur Grimsson to translate Windows 98 into Icelandic, preferring instead to supply Iceland with English copies of the operating system (Walsh 1998). Eventually, after continued Icelandic governmental pressure, Microsoft relented and translated the software into Icelandic. However, not all countries are like Iceland, with strong governmental interests in language preservation, and so, the case of Microsoft shows how international corporations can influence the language of computing through "international" software with the problematic assumption that, in fact, English is the international language. The diversity of languages and dialects in Europe itself, some with just a few thousand speakers, shows that language worth is measured by companies in economic terms. While Silicon Valley's assumed market is (most often) the supposed English-speaking United States, Silicon Allee's market with many countries and hundreds of languages is much more diverse. While translations might not be burdensome for a large company like Microsoft, small startups in Berlin, whose markets are considerably diverse, may not have the finances or man-power to provide translations for their own software, and instead provide it most frequently in English. Consequently, while English does not have to be the language of computing, in Germany it is; and because of market and government forces, it is likely to remain so.

*The Bilingual Computer?*

While English is not the "natural" language of computing, in Germany it is the defacto language of computing. This means that people who spend their day working with computers, most particularly programming, are exposed to English on a regular basis. The use of English in computer applications and tools points to the fuzzy borders of specific languages, which, while often imagined as distinct, are frequently, "arbitrary and politically contingent" (Stevenson 2008, 484). This reality is manifested in the act of computing in Berlin. The computing *Fachsprache* (technical language) adopts Anglicisms at all levels from consumer to trained workers. In the literature of modern Anglicisms, IT and computer technology are indicated to be one of the top importers of English words (Barbe 2004; Schlobinski 2000; Hohenhaus 2001; Yang 1990). Because Germany did not establish a concrete methodology for incorporating new technical terms into the language, the majority that are integrated into German are borrowed from English.

Even if German workers do not speak English on a daily basis at work, they are active in on-line forums and discussions, which are often in English. For example, in the active Twitter community of Berlin for web designers and IT workers much of the tweeting tends to be done in English. While both English and German are used flexibly in casual conversation in public, in the public domain of Twitter, people are often expected to present themselves either in English or in German. When I first created my Twitter account, and produced my first tweet in English and then produced another tweet in German, a friend gently recommended that I tweet only in one language. Those who tweeted in English were not limited to foreigners; instead, many Germans also tweeted in

English. Occasionally an English tweeter will make a comment on a German word or reference a place in Germany or Berlin in German, but these are intertwined in the general English of the tweets. Since Twitter is used by many workers as tool for communication, networking, and self-advertisement, those who are seeking connections beyond Berlin often choose to tweet in English. Likewise, many Berliner's are active in websites that are produced in English, like github or jquest. These sites, which allow people to share and discuss coding, draw from a wide international range of people and are not limited to German speakers. Once again virtual connections to Silicon Valley reaffirm English use as the language of computing and as a language that can traverse political boundaries for people with a shared interest.

For those who actually code, English is often integrated into the syntax of text-based programming languages. As a visitor to several user groups, I became used to seeing code displayed on a projector screen. Early developers of programming languages imagined programming languages in terms of universality across computers and cultures (Nofre, Priestly, and Alberts 2014), but the most common programming languages in use during my fieldwork drew both from a specific natural language (English) along with mathematical logics. Most code operates on similar mathematical and logical foundations, which translate more easily cross-culturally; however, the syntax, the surface form of the code is most often English or derived from English words. That means, for programmers, knowing English provides an additional layer of functionality. Both Ruby and JavaScript[188] were popular programming languages (although not the only ones) during my fieldwork and used by both immigrants and non-immigrants alike.

[188] These are programming languages typically used for internet-based software

Even in the very basic, beginning programs that simply say "Hello World!" a variety of English-derived[189] words are used. For German speakers, English is literally embedded into their work.

The use of Anglicisms in the computing *Fachsprache* are incorporated into Germany through a variety of different ways. Many times people use direct loans in which the English word is simply incorporated into German. Other times, through loan-bends and loan translations words are either partially incorporated or directly translated like the case of "*Festplatte*" and "Hard Disk" which both mean hard drive. In Barbe's exploration of German Anglicisms, she suggests that, "Most loans will undergo some changes to be aligned with German orthography, phonology and morphology; in one word, they become *eingedeutscht*" (2004, 31) or Germanized. While the origin of many of these words is clearly English, their incorporation into the German language indicates that through their use they become German. This kind of mixed language, particularly with new loan words, is often referred to patronizingly or humorously as *Denglisch* (Deutsch/English). Although English clearly has a huge influence in the language of computing, the incorporation of the English terminologies demonstrate the way that a living language is able to adapt and incorporate new words. Much in the way that the

[189] The examples of the classic "Hello World!" program done in German in both Ruby and JavaScript shows the way that English is integrated in the programming language. The two examples below, while very basic, show the dominance of English through words like "puts," "type," "document," and "write."

**Ruby**

```
puts "Hallo Welt!"
```

**JavaScript**

```
<script type="text/javascript">
document.write ('Hallo Welt!');
</script>
```

definition of who is German is continuously in flux, so is the German language itself. While transformation is a normal behavior of languages, the notion of linguistic purity normalizes the hegemonic notion that language is a static representation of the nation.

**V. Flexible Language Use**

At its heart, Silicon Allee is a multilingual community. Unlike Silicon Valley, where the language of work is also the (assumed) language of the state, diversity in Silicon Allee is marked by cultural differences and by linguistic differences. Despite this reality, Gogolin (2002) and other scholars (Scheider 2009; Gal 2006; Stevenson 2008) note that the German government and many of its citizens expect the language of the nation to be monolingual, or more specifically, Germans *expect* German to be the language of Germany. However, given the increase in immigrants, the increase of regular global contact, and the ease of using the internet, no part of Germany is *only* German speaking. For those in computing jobs, the reality of multilingualism is a requirement of their work. Multilingualism is essential to the academic sphere of life in Berlin, where English and German share a place with many other languages. Although the monolingual *habitus* (Gogolin 2013; Gogolin 2002) positions German as the language of the German nation, workers and students show remarkable flexibility in multilingual work and educational sites. In the case of both educational and work sites, I found wide use of both German and English with some people able to switch between languages quite easily and

others more comfortable with a single language; yet, if needed, able to operate academically in another language.

*Negotiating Language*

Silicon Allee reflects the multilingual realities of both German and the European continent; however, it is not treated as typical. In sites where multiple languages are in use, most often English and German, the use of language is in constant negotiation and in the national hierarchy of languages. English, as a preference, usually marks someone as non-native. Still, speakers of English hold a type of capital that indicates their use of English is not just international, but internationally competitive in a marketplace that increasingly values English as a world language (Bartlett and Erling 2007; Erling and Walton 2007; Angouri 2013; Sherman and Strubell 2013). Therefore, English and German usage is flexible, but depending on the situation, either German or English are practiced according to asymmetrical power relations.

While English does occupy an ambivalent place in German society, and in Silicon Allee, it is also relatively high ranking in German society. English is the most common foreign language learned by native German speakers and is largely becoming (as I have illustrated) the language of trans/international business, academia, and politics. Phillipson and Tove suggest that more and more English is becoming a, "High language for prestige purposes…" where, "competence in English may become essential for social functioning and upward mobility" (1997, 35, note original text includes "High" capitalized although not beginning of the sentence). Indeed, in the MINT/STEM fields, which German

politicians argue are key for keeping Germany internationally competitive, English is becoming standard. This expression of this diglossic division of labor (*ibid*) is seen in the experiences of Cemil and Ruhat. Both Cemil and Ruhat mention that their status as foreigners changes depending on what language they speak. As someone who is fluent in English and Turkish, Ruhat notes that when he begins to speak English, Germans seem surprised that a Turk could be so fluent, and their attitude towards him becomes more positive. Ruhat's ability to speak English marks him as "different" from other Turks, and indicates that he is educated. Unlike other foreign languages in Germany, such as Turkish or Russian, which have connections to unskilled populations and the stereotypes of violence and gangs, English has a relatively high status in Berlin and Germany at large.

In most companies, events and schools, German is the primary language of work (Erling and Walton 2007). The vast majority of events, user groups, news blogs and general communication in Silicon Allee are done in German. However, despite this dominance of German, English is slowly gaining popularity and use in various sites. As I have shown previously, English is integrated into the very work that many people do in technical jobs, even if their work is primarily done in German. Additionally, it is through English where people indicate that Silicon Allee is the *European* site of computing and startups, instead, of the merely *German*. The imagined reach of the Allee beyond German borders is expressed through the adoption of English in companies like Wooga and MusicWare. Additionally, on rare occasions, some Germans even preferred speaking English when discussing technology or their work. During an interview with Lars, one of the key players in Silicon Allee, I asked if he would prefer to speak German (his native

language) or English, and he responded that he preferred to speak English when he was discussing work and business. For Lars, who worked for a time in Silicon Roundabout, English is the language of work. By preferring English to German for work and technical discussions, Lars positions himself as a global cosmopolitan whose work transcends the hegemony of national borders and language. However, the Lars's example is unusual. Most of the Germans I met preferred speaking their native language when given the opportunity.

Many of the immigrants, like Hui and Anisa, in educational facilities noted that while they came to Germany with the promise that they could do their work in English, they soon found that not knowing German left them out of larger social and academic opportunities. While most undergraduate courses in FU's *Informatik* department are taught in German, a portion of graduate courses were taught in English. In order to attract a broad range of students into their graduate program, the department at FU does not require in-coming graduate students to be able to speak any German at all. Hui does not speak any German and does not need to speak German in order to take classes and work on his PhD. Like many people in academic programs, his interest in studying at FU was not based on an interest on being in Germany, per say, but instead, because of his advisor's academic qualifications. Hui's path reveals the way that academic interests, like many in Silicon Allee, traverse national boundaries and engage global networks of academic work around computer technologies.

While English has a formal role in *Informatik* and in the university environment, native languages tend to occupy a more casual role. In FU's graduate program, there are

native speakers from a variety of different countries, and so, the social spheres tend to group by language. Hui, for example, lived, played and even worked with other Chinese students, because there was a large Chinese presence in FU's Informatik Institute. Because a lot of students at FU are German, German was also the de facto language for casual events and conversations among most people. As part of a larger research team, Hui suggested that his lack of German was a disadvantage for him. Not only did his language abilities restrict him in course choices, limiting him to what he calls "international" courses, but he felt his language abilities kept him from participating fully in the department. Despite offering an international program, which only requires students to know English, the Informatik department at FU still encourages its foreign students to learn German. Prof. Dr. Schmidt, both Hui's and formerly Tim's adviser, pointed out that while learning German was not a formal requirement by the department, they encouraged, with varying degrees of success, the students to learn German. Part of this push was based on the desire for students to integrate into a department, where most people still spoke German on a regular basis. Prof. Dr. Schmidt, who preferred speaking to me in English, noted from his experiences that there was a lot of variation among international students in their receptiveness of learning German. He spoke disapprovingly of some international students who never attempted to learn German, spoke English for their work projects, and their native language with others of their same background. Although not a requirement for studying in Germany, making no attempt to learn the language is looked down upon, because it suggests a desire, direct or indirect, not to fit in with the rest of the department. Research on European academic departments reveals the

way that English often exists is as a parallel language which does not replace the native language, but instead, supplements it. Often, official functions and lectures are presented in English, while more spontaneous and casual social interactions, like question and answer periods, adopt the native language of the department (Bolton and Kuteeva 2012). While English is clearly integrated into research and learning at FU, German still remains an important language for the day-to-day politics, functions, and social aspects of the department. This phenomena suggests that while German is not a formal requirement, it is often a social one. In other words, academia rewards those who practice multilingualism.

Outside of academia, people also showed a great deal of flexibility in using both English and German. In general, the primary language for most events was German. However, if events had a large number of foreigners or were run by foreigners, the primary language would most likely be English. This reconfirms the idea that English is presented as the language of internationality. The change in participant makeup often shifted the way language was negotiated in events. Since German is considered the legitimate language of the state and has a higher status than English (Gogolin 2002), English use in German spaces has to be negotiated, and German speakers get the authority to decide the language. Some events, like Web Montag, were traditionally held in German, but when a foreigner presented (or even asked questions), they could ask to speak English. In these situations such as the one I described at the beginning of the chapter, at the beginning of the presentation, foreigners often made a show of attempting to speak in German. As in Harry's case, he offered to speak German, but in reality, his

knowledge of German would not have been adequate to present his startup. Harry's offer to speak German, despite his inability of actually do it, indicates the way respect is performed in German sites. His behavior was an offer, and an acknowledgment, of the status of German in that particular space. Again and again in German-speaking sites, I saw foreigners (often uncomfortably) offer to try speaking German only to be reassured that English was fine. Although the part of the performance depended on the native Germans acquiescing to foreigners that English was indeed fine, I did experience one case where someone objected. During some small group work with German speakers and a single non-German speaker, one of the German speakers suggested that we all speak English. However, there was a quick objection to that from another person, and so, the group discussion was done in German with the non-German speaker mostly excluded from participation. In these German language spaces, the request for English complicates the way that multilingualism is expected. On one hand, the monolingual hegemony of the state creates an assumption that people in Silicon Allee should speak German. However, through the use of English, those same German speakers illustrate the reality of their multilingualism, which is not shared by the foreigner, who cannot speak German. Although the foreigner may speak other languages besides English, in this way the inability to speak German marks them as neither conforming to monolingual nor multilingual practices.

In spaces dominated by foreigners, English was the primary language used, and like German spaces where English use had to be negotiated, formal German use in English settings also had to be negotiated. Like academia, parallel language use was often

practiced in both English settings where English was used in more formal, prepared activities like presentations, while German occupied more spontaneous, casual aspects of activities. If a German speaker asked at an English event if he could speak German, his request always granted. Despite the apparent flexibility of language use, these events, supposedly egalitarian, often showed signs of strain in the choice of language. Because Beth was one of the leaders of one user group I often attended, it was generally conducted in English. However, despite the assumption of English use, during one meeting, the first speaker asked to speak in German and ended up creating a trend where every speaker after him, all native speakers, also spoke German. Beth was very upset by this turn of events. During the event, Beth kept saying to me how strange it was that all the presentations were in German. She mentioned that R, the normal moderator, was on vacation, and so the substitute moderator, was not doing his job of leading the speakers. While keeping presentations in English was not an official function of the moderator, Beth expected the leader to guide people to the correct language choice (in this case English.) Afterwards, the sizable group of foreigners, many from Anglophone countries, also complained that the majority of the meeting was held in German. For Beth, the lack of oversight in directing speakers in language usage indicated a poorly run meeting. The reactions of Beth and other foreigners at the user group meeting indicate the how foreigners felt excluded from a linguistic space which they felt should be theirs. Beth did not have a problem with a single speaker asking to present in German, but instead, it initiated a flow of events where everyone ended up speaking German and several of the regulars (like herself) felt like outsiders to their own event. The traditional legitimization

of non-standard voices (in this case English speakers) was ignored during the event, which in turn, effectively excluded them from participation. The asymmetrical power relationships between German speakers and non-German speakers indicate that while English is globally high ranking in this situation, non-German speakers felt powerless to re-direct the language use. Even in flexible, multilingual communities language frustrations cause friction due to unequal power relationships[190] and behaviors that end up isolating or excluding people, who, even in Silicon Allee, tend to be foreigners.

In general, there is an assumption in Berlin's computing fields that most foreigners, particularly English speakers, speak very limited or no German. As a researcher who studied German for most of my academic life, and who expected to do the majority of my research and interviews in German, I was surprised that I ended up speaking English so often. In some cases, my own experiences pointed me to the awkward way that language was negotiated by someone who was bilingual, and also, illustrated the way that not all multilingual spaces have multilingual speakers. At one user group, I joined in a conversation in English with Beth and a German acquaintance of hers. Since English was already being used, I chose to speak English as well. However, later during the same event, I began speaking German to the same man, because at that point, he was speaking German with a man from England. Upon hearing my German, he remarked that he was surprised I spoke German. Still, during the conversation between the German man, the English man and me, there was some awkwardness as to what language to speak. With two languages on the table and more native English speakers than German speakers, I followed their lead by flitting back and forth between English

[190] Even among people who are general considered privileged.

and German while others tried to figure out the best language for the conversation. After our conversation ended, the English man, who spoke fluent German, confided in me that these kind of conversations were always awkward for him, because he never knew what language was appropriate to use. For multilingual people, events that were held in both German and English with people who spoke both English and German to varying degrees, the scenario of awkwardly trying to figure out the proper language to use was relatively common.

*English the Aggressor Language*

Despite the flexibility of language, multilingualism is not always welcome; particularly in regards to English. This is not something that is particular to Germany. Instead as a global language, English is often portrayed as powerful interloper. In reference to English on the World Wide Web, Lockard suggests, "Born in the primitive command-and-control Arpanet and its Pentagonese argot, cyber-english [*sic*] emerged from the nuke-hardened military cellars and now projects American world power overtly" (1997). In a similar, perhaps more academic critique of English, Phillipson describes the domination of English as linguistic imperialism that, "is asserted and maintained by the establishment and continuous reconstitution of structural and cultural inequalities between English and other languages" (1992, 47). Although German is not remotely close to being an endangered language, the threat of English is also a threat to the monolingual *habitus*. Based on the assumption that the nation is based on a singular language, foreign languages threaten, not only the language of the people, but the nation

itself. Furthermore, the hegemony of global English, means that Germans are often required to learn a foreign language (English) for use in their own country. The privileged status of the native German is then brought into question. While most people were generally accepting and willing to speak English when necessary, sometimes tensions surfaced when language negotiations broke down. Other times, the use of German and English along with other languages shaped who and how someone was able to socialize with colleagues. Finally, I contend that many of the disagreements about language are not necessarily about language in as much as they are representative of the community's inner negotiations of positioning Silicon Allee as a German silicon site or a Continental one.

German speakers had various reactions to the use of English in various social and work situations. Some people, like Lars, felt comfortable with English and utilized it as his primary language of work and business. As someone who worked outside of Germany for a while, Lars knew English quite well, and his vision for Berlin's computing communities was more international than nationally based. Because English is the language of computing in most parts of the world, particularly Silicon Valley and Silicon Roundabout, it only made sense for Lars to adopt the language of the larger global spheres of computing as a way of integrating not just himself but his work and community into a global networks. For businesses and workers, who are either foreign or Germans with foreign experience, the use of English implies a kind of connection to the global. The heavy influence of English on computing and the heavy use of English in Berlin's tech communities draws on the idea that English is not just the global language,

but the language of silicon places. By requiring workers to use English in their daily work, employers are positioning themselves in the global computing community beyond the borders of Silicon Allee. This idea is based on an optimistic growth perspective with the idea that startups are arranged to grow quickly and, given the relatively small size of the German market, outgrow the German market.

In other cases, English use was tolerated with ambivalence, or even, outright anger. Lynx, who was a programmer, a native German speaker, and Beth's boyfriend, seemed slightly bemused about the use of English, but not because he particularly liked it. As someone who was dating a non-German speaker, Lynx had a relatively good command of English and reported that he liked user group meetings better when they were done in English, because people asked fewer questions. Lynx's observation that English use in public events points out the fact that, while all Germans in the twenties have had some form of English instruction, they are not all comfortable with using it. In the same way that German events exclude some foreigners through language use, some natives are also excluded from participation when English is the standard language of use. Even though people clearly welcomed questions in German, it was the barrier of having to ask to speak German that possibly limited participation as well as the very real likelihood that some attendees may not have completely understood the presentation in English. Nico, a native German speaker and programmer, was more adamant about his frustrations with the creeping of English into German workspaces. When I asked him about his feelings on English, particularly companies that used English as a standard work language, he said that those companies were making a mistake. Nico felt like many

Germans' English skills were not strong enough to regularly function in a multilingual workspace and so, as a result, the product would be compromised. His became quite hostile when he was speaking about English use, and also, emphasized that he felt foreigners were outsiders to the local computing community in Berlin; instead of integrated into the computing community, he felt that foreigners, based on their lack of German skills, were destined to remain on the periphery. Scholarly research on multilingual workspaces illustrates the reality that language is key for establishing group boundaries and, "creating and reaffirming hierarchical structures in a workplace, especially when local language is also construed as valuable and desirable (Negretti and Garcia-Yeste 2015, 111). Indeed, people, who are comfortably bilingual such as Lars, have an advantage over those who just speak one language or are uncomfortable regularly using a second language (*ibid*, Marschan-Piekkari, Welch and Welch 1999, Angouri 2013).

When Silicon Allee is presented as a continental project drawing on people and markets beyond the German border, multilingualism is more accepted; however, there is no consensus for this. Instead, like Nico, many Germans see the computing community in Berlin as an essentially a German one, where foreigners are unwilling to integrate. This viewpoint is reaffirmed by a comment on a blog from the Berlin startup Wunderlist on August 12, 2011; the commenter writes that, "The 'German' founders' scene is always spoken of proudly, but what about pride for the German language? If you celebrate Germany as the 'Anti-Copycat-City then please do it in German :-) Young German entrepreneurs should demonstrate more courage to speak the German language!!!"(Es

wird immer über Stolz über die “deutsche” Gründerszene gesprochen, aber was ist mit dem Stolz auf die deutsche Sprache. …Wenn man schon Deutschland als "Anti-Copycat-Stadt" feiert, dann bitte auch auf deutsch :-) ... Deutsche Jungunternehmer sollten mehr Mut zur deutschen Sprache beweisen!!!).[191] This comment on the blog positions Berlin as something that is German and belongs to Germany, which according to the monolingual *habitus* requires the use of German and the standard language of use. Especially interesting in this comment is the fact that, the commenter notes that founders need to have more pride in their language and the courage to speak up. Although German is clearly the standard language of Berlin’s computing community, the commentator’s language positions it as if it is the minority language. English is also experienced as a threat to many native German speakers, who are angry having to use a foreign language in their home country, much to the benefit of foreigners, but to the detriment to Germans. As a global language, the language of computing and the language of the silicon, English is sometimes positioned as a threat to local communities where the deviation from monolingualism is symbolically damaging to the nation.

Because the majority of immigrants working in Silicon Allee are white, until they begin speaking they are often able to blend in with Germans. Their foreign language and foreign accent are one of the few ways that some highly qualified immigrants are marked more differently than native (and ethnic) Germans. The reality of being “different” than the general population is not something that a many white, Anglo-American foreigners are used to. One informant mentioned how he always felt awkward speaking English in public places, like the *U-bahn* (Subway), because his English speaking indicated he was

[191] https://www.wunderlist.com/blog/founders-stand-up-the-anti-copycat-revolution-starts-now/

foreign and he felt that while many people could understand him, he could not understand them. In another example, Beth described an event that she attended which had a few foreigners. After the group decided to use English for the event, Beth says she felt uncomfortable and felt like some of the German speakers were blaming her for the language choice. Beth says she felt targeted, because she was the only *native* English speaker. According to her, the person who wanted the event in English was actually a native French speaker. The negotiations with regards to linguistic choice indicate the frustrations experienced in a multilingual community where not everyone was happy with the language choice. Despite whichever language they spoke, people often felt targeted or ignored in their preferred choice of language, and it sometimes made them feel left out both socially and linguistically.

For workers, who come to Berlin from foreign countries with a working language of English, the necessity of learning German is limited. Aided by a strong expatriate community, non-German speaking tech workers find it easy without a working knowledge of German, to function in Berlin both inside and outside of work. The reactions to these foreigners, who live and work in the larger Berlin area, is mixed. Noting the practicality of English as the language of work and computing, some people see English as either a necessary evil, or at best, a useful tool. While the government's integration program allows ways for many highly-skilled workers to renege in learning German that does not mean that the Germans themselves were pleased with English-speaking foreigners failing to learn German. People often criticized those who came to Germany, found successful employment, but failed to learn German. One informant told

me that a German friend of his berated his wife for living in the country for two years but failing to make any formal efforts to learn the language. To live in Germany without making efforts to incorporate into the "German" society by specifically learning the language to some people seems to be irresponsible and lazy. The assumptions by native German speakers that immigrants, who do not learn German are not integrating into society, illustrate the way that local populations adopt the rhetoric of national integration. The question remains: what does it mean to integrate? If one is functional in a society, engaged in work and leisure activities, and perhaps, even has a German friend (or partner), is that person integrated? Even if they do not know German? According to the ideology of monolingualism -- no; and many would say that these immigrants are not operating in the larger society as well. It is this point of contention that underlying fears of loss of the imagined nation become more visible.

Still, despite some frustrations with language adoption, highly qualified immigrants working in tech fields and using English are not considered to be a type of "problem" immigrant. These immigrants are not included, as Tim pointed out to me, in the debates around "*multikulti* being dead." On one hand, these immigrants are not imagined as a burden, because they are employed in a field that the German government is attempting to nurture. Indeed, while Wank suggests, the German government's immigration policies themselves are set up with the presumption that a, "qualified person generally can be integrated," (2003, 458), my research in Silicon Allee, shows, that while these immigrants are able to operate in Berlin, they remain limited to a relatively specific community of expatriates and tech workers who feel comfortable speaking English.

According to the government's own standards of integration, highly-qualified immigrants are not integrating. Since they are able to forgo many of the integration requirements, their process of learning German is slow or non-existent. However, since they are white, middle-class and educated, the German government does not perhaps consider them a threat to the German *Kulturnation*. Furthermore, while not acceding to the government standards of integration, I contend that those in Berlin's computing communities are not necessarily un-integrated; instead, they are integrated into a specific continental and global computing space that is led by English, but not bound by specific linguistic nationalisms.

## VI. Conclusion

Since Silicon Allee is a migrant rich community with Germans and foreigners working closely side by side, politics of language use comes easily to the forefront. Because the nation is normalized as being monolingual, the German government has focused its concerns on integration concerning foreigners. The integration programs initiated in 2005 emphasize German language learning as a vehicle for immigrant success and incorporation. However, as shown in the previous chapter, the privilege of being a highly-qualified worker means that the government's requirements are often applied unequally; and for foreigners in Berlin's computing community, integration requirements are easier to avoid, and even forgo, altogether. Part of this notion is based on the assumption that highly-qualified immigrants are easier to integrate than other immigrants.

Still, based on the German government's definition of integration, which hinges on language learning, my work shows that foreign tech workers are less likely to integrate in terms of the standards espoused by the German government. Instead, immigrants are integrated but not by German standards. Foreign workers in Silicon Allee, without a knowledge of German, have no difficulties socializing, working and operating successful lives in Berlin. Part of this is facilitated by the fact that Silicon Allee is more of an international site of computing, rather than a domestic one; where multilingualism is practiced, and English is slowly becoming standard in addition to German.

Even without being viewed as an international space, German technological communities are already seeped in English jargon and terminologies. Not only is the German language of computing heavily influenced by English, but programming languages themselves are typically based on English. Within work places, school sites, and public events, multilingualism is the norm, with English usually adopted for more formal activities, and then German for more casual ones. The decision to use English at universities, offices and events connects these places both symbolically, and in actuality, to global networks. By using English as a standard language, in addition to German, German universities and offices are no longer limited to the tiny pool of people who speak German and most likely live within the German borders. English provides a gateway beyond the German borders, and despite fears to the contrary, English is not replacing German, but instead, accompanying it.

Symbolically, English is used to establish internationality, even while locally situated. The use of language in these various sites shows the flexibility and adaptability

of workers in Silicon Allee, who work in an English-rich field within a German speaking country. However, the heavy use of English and its encroachment into the daily lives of German speakers is not without tension and criticism. Some native German speakers consider the extensive usage of English dangerous to productivity and a concession that Germans should not need make to foreigners. Even in multilingual sites, negotiation often become sites of friction, where people are included and excluded based on language knowledge. Indeed, the power relationship between English and German is asymmetrical, but also, shifting and changing depending on context. Ultimately, multilingualism is a key feature in the development of Silicon Allee, not as a German space, but as a trans/international space where multiple voices and multiple languages are, to varying degrees, incorporated into daily activities. Indeed, I contend that it is this embrace of foreignness and foreign languages, in particularly English, that makes Silicon Allee.

# Chapter 9: Epilogue

## I. Introduction

The irony of the ethnographic present is that the moment we describe it, it is no longer the present. The ethnographic present brings forth the idea that cultural, anthropological research exists, "situated between past and future" (Sanjek 1990). Furthering the present objective, the researcher is present in the field and the writing should be written in the present tense. This is all to give the reader the idea of how things are *now*. Yet, the reality of life and the academic structure means that by the time now is *now*, it is history; and so it is with my research project.

Ten years have passed since I first began this project. I began work on this dissertation in 2006 when I first started graduate school. My work has changed dramatically since then twisting and turning, changing topics and themes, and eventually, coming together and into focus. I entered the field on an atypically snowy January in 2010 and left a year and half later in the middle of summer. From the end of my fieldwork in 2011 until 2016, I have worked to shape my fieldwork research from fragmented ideas, experiences, notes, pamphlets and conversations into this dissertation, but my knowledge of the field remains locked in that year and half when I was present in the field. I have not had the opportunity to revisit Berlin or my various field sites. I have had limited contact with informants, and so Silicon Allee, continues to change: companies are started, grown and are sold, people moved in and out, cafes change names,

management or go out of business, coworking sites fill and empty, and every year camps send out similar emails, reminding people of a new year for cloud camp, community camp, or info camp. In other words, life continues.

In this epilogue, I seek to discuss some of the ways that Silicon Allee has changed and could change. When I started my fieldwork, Silicon Allee was fairly new. Compared to Silicon Valley and Silicon Roundabout, it is still a youngster; but since my fieldwork there, I have noticed some changes from abroad. Of the many changes over the last five years, I have selected three things that I feel have, and will have, the most impact on the site of Silicon Allee. First, through my digital connection to the field, I have seen that the Berlin has taken notice of Silicon Allee and is putting more resources towards startup-specific initiatives and projects. Second, while German immigration law has remained the same, the European-wide Blue Card is now being used in Germany and has become another avenue for highly-qualified workers to immigrate to Berlin. Finally, in June 2016, the United Kingdom voted to remove itself from the EU in a campaign nicknamed "Brexit." While this brings up some larger questions about a European-wide market, bloggers in Berlin have wondered if Brexit means that Berlin will finally become the preferred choice for tech startups and companies, superceding London. As the reader can tell, these three changes are large scale, policy, and governmental changes, not local, personal changes. Because I have not been back to the field, my viewpoint is limited to more macro changes that are easily accessible virtually. Finally, after I discuss these three changes, I will discuss some of the questions that remain for me as a researcher. As is typical, the dissertation provides only a starting point to the field of inquiry, and so I will

outline some of the ideas, questions and paths that I think would be intriguing for anthropology and the social sciences.

The scholarship of mobility, flexibility, liquidity, crossings and entanglements that has inspired me during my writing, sees change and movement as standards for many human places, but most particularly, urban places. Equally as much, silicon sites themselves embrace continuous changes with flows of people coming in and out, companies starting, growing, moving, going public or being sold, and new innovations, ideas and technologies which seek to disrupt. As such, Silicon Allee itself is constantly changing. As I have already mentioned, in 2010 Silicon Allee was really new. The name was new, the reputation was new, and to a large degree, many of the people were new, too. In 2016, as I write this epilogue, Silicon Allee is still new(ish) but it has had time to mature; here are some key changes and updates.

**II. Startup Units & Alliances**

One of the key changes that has occurred in the five years since my fieldwork, is that the city of Berlin has taken notice of the startup community. In Chapter 2, I discuss the creative city and how Berlin Partners purposefully focused on developing the city's brand. While Florida and other proponents of the creative city use Silicon Valley as a model, Berlin Partners seemed to pay little attention specifically to startups in 2010 and 2011. Now, Berlin Partners puts more emphasis on startups in their marketing. There is a specific unit devoted to startups and mirroring the "be berlin" campaign; the title of the

webpage notes "Berlin: The place to be for startups." [192] The website, drawing heavily on both the silicon, utopian ideals and the creative city discourses, notes that "Berlin is known as a startup hub and as a breeding ground for creative people who want to change the world." [193] Although I have focused a great deal on Berlin Partner's advertisements in this dissertation, another one of their functions is to provide support for companies moving to Berlin. In 2016, Berlin Partners now has a specific Startup Unit and a Startup Alliance both of which are devoted to encouraging startups from around the world to move to Berlin. The Startup Unit was created to help further the goals of establishing startups in Berlin and getting other companies to move there. In a 2016 analysis, the Startup Unit listed a variety of activities that it has already help to implement (from a talent portal to encouraging venture capitalism) and a list of things that it deems necessary for the continued growth and development of Berlin's startup community, including training for incoming refugees (2016). The Startup Alliance, on the other hand, provides support for international startups looking to move to, or expand to, Berlin. Upon acceptance into the Alliance, Berlin Partners provides support, including free coworking desk space for a month. Although there had always been talk of venture capitalist funds to a degree, now Berlin Partner's promotional materials directly address the way that startups *can* be funded in Berlin from a government fund to specific startup-oriented programs (Berlin Partner 2016a).

The city's response to the increased popularity of startups in the city coincides with their previous campaigns aligned with the creative city. The increased focus on startups

[192] http://www.berlin-partner.de/en/the-berlin-location/the-place-to-be-for-startups/
[193] *ibid*.

in promotional material notes further emphasizes the way that Berlin conforms to the characteristics of the creative city through technology, tolerance, and talent. And yet still, even as Berlin's tech community is coming into its own, the Berlin Partner's materials continue, in the manner of the creative city, to encourage people to come to the city writing: "Start-up Mecca, Silicon Allee, Digital Hotspot – Berlin is one of the most important locations for the digital economy in Europe and globally. Berlin stands for creativity and innovation. Year after year, this is something that *attracts young creative minds* from all over the world who want to turn their business ideas into reality here" (Berlin Partner 2016b, italics mine). The attraction of Berlin is starting to work. In 2010, Berlin had almost no established technology companies, now it boasts big names such as Microsoft, SAP, Nokia, Oracle, IBM, eBay, Amazon, and Cisco Systems.

As I noted in the second chapter, the activities of Berlin Partners comes at a cost to some in the city. It is unclear how the changes in the city's approaches to startups themselves have played out in the lived experiences of Berliners. However, given the history of gentrification and displacement related to the computing and ICT industries, one can surmise that an increased presence, support and funding of startups is probably simply helping accelerate the changes in the city. Even as recent as June 2016, over 3,500 protestors against gentrification clashed with police in Berlin's hip Friedrichshain (*BBC*, July 10, 2016). Friedrichshain, a bohemian former-Eastern hotspot, is also one of the key neighborhoods for new startups, ICT companies, coworking sites and popular cafes for workers. The overlaps between these gentrifying sites and computing sites are not coincidental; but without on the ground work, it is hard to understand workers own

experiences and feelings towards the changes occurring in the areas of Berlin where they work and live. Given my experiences and discussions in the field, I suspect that the increased success of Silicon Allee and the attention that it is receiving from the city continues to create ambivalent feelings among many of those in Silicon Allee. While the success and attention is clearly desired (and celebrated), I am sure that workers themselves (like Lars) will probably be upset with neighborhood changes, police confrontations, and increasing costs that come along with these successes.

## III. European Blue Card & German Immigration

As I describe in Chapter 7, the majority of immigrants in Silicon Allee came under the provisions of the 2005 Immigration Law. I described the CDU's stance towards immigration as being traditionally negative and noted that much of the Immigration Law was gutted before it was finalized. One of the key provisions that would have encouraged and allowed for easier immigration for ICT and similar types of technology workers was removed and never replaced. I noted in my dissertation that these kind of limitations had an effect on the population of Silicon Allee, and who was more likely to immigrate and work there. Since my fieldwork, a continental-wide directive was introduced and set into motion offering a new way for highly-qualified immigrants to move to Germany and the EU with the Blue Card. The Transposition Act for the European Union's Directive on Highly-Qualified Employment (Directive 2009/50/EC), commonly called the Blue Card, came into law on August 1, 2012; a year after my fieldwork ended. While the Blue Card

is not restricted to highly-qualified ICT workers, information and technology skills are often listed in the shortages that the Blue Card covers. The EU Blue Card comes along with much flexibility, including increased allowances for movements in the EU, relaxed conditions for family reunification (like granting a resident permit for family members *before* they learn German) and increased accessibility to permanent residency (between two and three years depending on German language knowledge) (BAMF 2015). [194]

As I argued in Chapter 8, the policies of the Blue Card in Germany again indicate that highly skilled immigrants remain excused from the government's notion of integration. While I noted from my work that many of my informants were excused from integration courses due to work, those who now come into Germany under the Blue Card are not even entitled to integration courses. The website FAQ for the Blue Card in Germany notes: "Since holders of an EU Blue Card are assumed to have a minimal need for integration as they process a higher education qualification, no documentation [of German language or culture knowledge] is required as a rule"[195] although the FAQ still notes that immigration officials can require documentation if they feel the individual in question may resist integration. Of course, as I show in Chapter 8, not only is the question of integration unevenly applied but often, in the case of the English-speaking, globally situated Silicon Allee "German" integration might not even be necessary or useful.

One of my questions is: will the introduction of the Blue Card change the population in Silicon Allee? On one hand this is a definite possibility. In 2015, BAMF

[194] There is also a chance, as the Startup Unit suggests, that educated refugees from countries like Syria may help contribute to computing work in Berlin.
[195] http://www.bamf.de/EN/Infothek/FragenAntworten/BlaueKarteEU/blaue-karte-eu-node.html

reported that over a third of Blue Card recipients were from India, China and Russia (31). Additionally, according to a 2015 report, Indians are now increasingly choosing to move to Germany for work (with an 80% increase in Indian immigration between 2007 and 2015). It is also unsurprising, given their global reputation in regards to ICT that over 20% of Indian immigrants to Germany move for computing jobs (Palstring, 147). These statistics are for all of Germany and do not indicate where the immigrants end up residing within Germany. I suspect, as in the past, most highly-qualified Indian and Chinese workers are recruited and work for more established computing companies in the south and western regions of the country. However, with the increased presence of more companies, like Microsoft, in Berlin, I expect that Silicon Allee may slowly become less white. However, despite the presence of many immigrants from India and China, as Silicon Valley itself shows, most of the more elite positions remain relatively white (and male). Furthermore, as I noted in Chapter 6, startups are often risky ventures for employees as well as founders. So, foreigners might be less interested in working for them. I imagine, at least for the time being, that Silicon Allee will still have a limited diversity, with the majority of the population continuing to be young, male, and of Anglo-European heritage.

**IV. Brexit Boom?**

Until 2010, London was presented as the de-facto silicon site in Europe with the moniker Silicon Roundabout. Although other areas of Europe, like Paris, Ireland and Estonia, have

also attempted to create their own computing hotspots, the only other place in Europe that has come close to competing with London is Berlin. As Berlin started to be an up-and-coming spot for computing, people automatically started to compare the two cities. In the field, much of the attitude was that both of the sites were so different, it was hard even to compare them, but most of the time Berliners obviously favored Berlin. The Startup Compass, which analyzes various startup eco-systems globally, has year after year constantly ranked London above Berlin[196]. London was an attractive choice for companies moving from the US because of the shared language. On the other hand, Berlin was attractive, particularly because it really is in the heart of Europe, more affordable, and any company serious about the European market, is going to need to deal with multiple languages, cultures, and currencies. Another difference between London and Berlin is that London has a more mature eco-system for startups and Berlin is just a newcomer. This (mostly) friendly rivalry between the two computing centers remains. When the United Kingdom decided to leave the EU, the Silicon Valley blogosphere saw the upcoming "Brexit" as the opportunity for Berlin finally to become the true (and only) capital of computing in Europe.

Although nothing has happened yet, those in Berlin remain hopeful. Even before the vote itself, *Politico* noted that Berlin was getting ready to "lure tech firms" (*Politico Europe* 2016). After the vote, the *International Business Times* followed up noting that the Berlin Senator for Economics and Technology Cornelia Yzer suggested that, "not 10, or 20, or 30- more. Over a hundred" (2016) tech companies had contacted her about

[196] In 2015, London ranked at #6 and Berlin #9. The top 10 world ranking is: 1. Silicon Valley (of course) 2. New York City 3. Los Angeles 4. Boston 5. Tel Aviv 6. London 7. Chicago 8. Seattle 9. Berlin 10. Singapore; For unknown reasons, they exclude China, South Korea and Japan in the ranking.

relocating to Berlin. Shortly after the Brexit vote, advertisements saying, "Keep calm and move to Berlin" began popping up in London (and on the web); (un)ironically adopting the World War II slogan meant to encourage Brits in the face of the German *Blitzkrieg*. People like Florian Nöll from the German Startup Association and Christoph Gerlinger of German Startup Group both felt Brexit would be good news for Berlin. A statement from Gerlinger noted that the Brexit vote, "will accelerate and the distance between Berlin vs London [in favor for Berlin] will increase. We expect a significant decrease in new incorporations in London in favor of Berlin, as well as an influx of successful London Startups" (German Startups Group 2015). Berliners hope the uncertain future of Britain, with regards to trade, markets, and immigration, will encourage a startup and VC exodus and it will also encourage brand new startups in picking Berlin over London. In the future, people like Gerlinger, speculate that the open EU markets, easy immigration and more tolerant city will feed Berlin's growth at London's cost.

## V. Conclusions

In many ways, the updates in this epilogue seem unfulfilling; they really provide only a part of the picture. As an ethnographer, I am interested in the way that these kind of larger policy changes influence people through their own experiences, but given the nature of fieldwork and the distance of the field, I only have real access to public information and the policies themselves. Historically, anthropologists had more opportunities to have longitudinal relationships with various people and communities;

revisiting field sites year after year. Although this kind of research method is no longer in vogue, I think that it would provide a fascinating opportunity for researchers on silicon sites. Those in computing communities and scholarly communities often discuss silicon sites in terms of eco-system maturity. As just an upstart itself, Silicon Allee was brand new and struggling for recognition when I started my fieldwork. Although silicon sites themselves (as I have shown throughout this dissertation) tend to be forward-looking anyway, following Berlin's path to maturity would provide an interesting look into the way communities change, ideologies get more entrenched, or rejected, and why some things succeed and others do not. It would also provide an opportunity to follow specific people, specific movements, specific companies and ideas of the eco-system through time. Finally, a longitudinal study would also provide for a greater context and opportunity to explore the way that those in the computing field not only make silicon sites themselves, but also, how the ideologies associated with the work get incorporated into the products and technologies that are produced. I feel that this last focus is something that will (should) become more prominent in social science itself.

Whether they are aware or not, more and more people's lives, are being connected to silicon places. From teenagers who use smartphones to text their friends to grandparents who use video calls to see their grandchildren; technologies made by people in California, New York, Seattle, London, Berlin and elsewhere are interwoven into daily lives. Even those who do not use the popular new tablets, laptops or smart phones are still affected by the reverberations of silicon places, which influence world economies, the global environment, governmental policies, popular culture and people's worldviews

about work, life, and technology. Along with associations of neutrality, the regular use of these technologies often renders them invisible and their makers even more so. Although names like Zuckerburg and Gates are well-known, silicon places and the technologies they produce, are made created through the work of engineers, artists, programmers, manufacturers, factory foremen, secretaries, janitors and countless other people who help create, shape, and innovate the technologies that billions of people use on a daily basis. It behooves researchers not just to study computers, programs, and data, but also, to study those who are behind these products. This dissertation is one attempt at doing just that.

Unfortunately, social science research on silicon sites and the development of new technologies is lacking in the field of anthropology. Although anthropologists of technology like English-Lueck (2002), Downey (1998), Boellstorff (2008), and Miller (2011) have made valiant efforts in exploring the relationships between self, computers, work, and the virtual, there is much work to be done in understanding lay people's relationships to computer and virtual technologies, and also, in exploring the politics of making them. Although limited in scope, I have used this dissertation to explore the way that work ideologies can and are shared globally within a specific industry. Using these ideologies, these silicon ideologies, as the basis of my work, I used this dissertation to show the way that silicon communities make and are made by the people who work on ICT and other computing technologies.

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## Appendix I: Glossary

**404 page:** An error message that is often created when one tries to access webpages are moved or deleted.

**Angel:** also angel investor. A person who uses his or her own funds to provide early funds to a startup or other venture.

**Annex II countries:** Countries outside of the EU which have created agreements with Germany to allow their citizens easier movement between the two countries. Citizens are not required to have a visa prior to visiting Germany. Annex II countries are typically categorized as "First World" and include (but are not limited to) the US, Australia, New Zealand, Australia, South Korea, Japan, Canada, Brazil and Mexico.

**Annex I countries:** Countries whose citizens require a visa prior to entering Germany. Includes all countries that are not part of the EU, EEA, Switzerland, or Annex II countries. Major Annex I countries include China, India, Turkey, Russia, most of the middle east, most of south east Asia, most of South America, and most of Africa.

**BarCamp:** An open conference, first started in 2005 that focuses on an informal creation of workshops, sharing ideas and group participation. These un-conferences are held all over the world with a variety of topics.

***Bezirk*:** Administrative district. For example, Berlin is divided into 12 *Bezirke* which each have their own government and supply the Berlin Senate.

**BAMF:** Bundesamt für Migration und Flüchtlinge (translates as Federal Office for Migration and Refugees). The federal office, under the oversight of the Ministry of the Interior, that is responsible for regulating all forms of immigration, including refugee and asylum proceedings, to Germany and promoting integration nationally.

**BMWi:** Bundesministerium für Wirtschaft und Energie (translates as Federal Ministry for Economic Affairs and Technology). The federal ministry in Germany which focuses on establishing and implementing German economic policies.

**Blue Card:** The nickname for the Transposition Act for the European Union's Directive on Highly-Qualified Employment (Directive 2009/50/EC) which was implemented in 2012. The Blue Card is an EU based immigration policy that is aimed at encouraging highly qualified workers to immigrate to Europe.

**Camp:** See *BarCamp*

**CeBIT:** Centrum für Büroautomation, Informationstechnologie und Telekommunikation (Center for Office Automation, Information Technology and Telecommunication); a

large international technology conference and expo that is held every March in Hannover, Germany.

**CDU/CSU:** Christian Democratic Union and the Christian Social Union (in Bavaria), two parties with a long stand standing alliance, who hold control of the federal government in Germany. Both parties are center-right. The CDU is found in all federal states, except Bavaria, where the CSU operates.

**Coworking:** A type work that takes place in an office space that independent contractors, freelancers, artists and others can rent space and work together in a shared office space.

**Crowdsource/Crowdsourcing:** A model of community creation which depends on a group of people, most traditionally over the internet, to help create either through information, data or funds.

***Diplom***: A terminal degree at German universities somewhere between the bachelors and a masters (most often a masters). This degree has become less common in recent years due to attempts to standardize degrees within the EU.

**Digital native:** A person who was born after personal computers were introduced into daily life, i.e. mid-ninteen-eighties. Also, a person who grew up with access to computers, video games and other digital content in their lives.

***Döner*:** A popular Turkish sandwich which is often sold at fast food restaurants in Berlin. It typically contains lamb, cabbage and cucumber garlic sauce.

**Dotcom boom:** The dotcom boom most often refers to a period in the mid-nineties and early 2000s, when the internet first became widely available and there was a huge rush to start new internet companies. Some companies that have lasted from this era include Yahoo!, Google, and Amazon.

**Dotcom bust:** A period of economic downturn after the turn of the millennium which featured a number of failing internet ventures and bankruptcies.

**Fork:** The act of building a piece of source code from another.

**FRG:** Federal Republic of German (Bundesrepublik Deutschland). The name of West Germany.

**Front End:** The presentation side of software, i.e. what the user sees.

**GDR:** German Democratic Republic (Deutsche Demokratische Republik). The name of East Germany.

**GitHub:** A code repository website which has social networking like functions.

**Guest-workers:** A type of labor immigrant who is expected to migrate for a short time, work, and then return to his or her home country. In Germany this the term is *Gastarbeiter*.

**Hackathon:** A portmanteau of hack (exploratory programming) and marathon. An event where programmers and other software developers get together to work intensively on projects collaboratively.

**Havel:** A large river that passes through the western region of Berlin. During cold winters, the Havel often freezes completely over so one can walk across to the other side.

**ICT:** Information and Communication Technologies. This term refers to a wide ranging group of technologies including computers and mobile phones. The term ICT industries refers to a huge range of industries that make and contribute to various forms of technical hard and software. The range of jobs in ICT is vast and can include everything from graphics designers to programmers to CEOs. Increasingly ICT has become a replacement for the term IT (information technology) to reference the increase of communication technologies like smart phones in the larger tech industry.

**IEEE:** Institute of Electrical and Electronics Engineers. An international, but US based, professional organization that includes the fields of software and computer engineering.

**IHK:** Industrie-und Handelskammern (Industry and Trade Board). Regional organizations that focus on regional economics and development.

**Incubator:** A company or organization that helps new companies, particularly startups, in the early phases of its development often by providing mentoring, office space, and trainings.

***Informatik*:** A common academic discipline in Germany, which grew out of mathematics, but focuses most particularly on information technology and computing. Similar, but not the same as computer science in the United States.

**Integrated circuit:** also referred to as silicon chip or microchip. A piece of hardware that allowed for the replacement of vacuum tubes in computers and thus allowed for computers to become cheaper, faster and smaller over time.

**Internet:** This typically refers to the global system of connected computers and servers which create a form of infrastructure for online activities; however, increasingly this has also become slang to refer to the World Wide Web. I purposefully choose to not capitalize the internet in this dissertation.

**JavaScript:** A dynamic programming language that is most often used for web based programs.

**Mate:** A type of caffeinated drink made from the leaves of the Yerba mate plant. In Berlin, this drink was most often sold in a cold carbonated form, similar to soda and as an alcohol-free alternative to beer.

**MINT:** Mathematik, Informatik, Naturwissenschaft und Technik (Mathamatics, Informatics, Natural Sciences and Technology/Engineering). This is analogous to the US's STEM. These are the key disciplines that Germany sees as being key for the future economic success.

***Multikulti*:** Shortened version of *Multikulturalismus* (Multiculturalism) often used as a political buzzword.

***Leitkultur*:** (translates as "leading culture") *Leitkultur* is used to refer to the idea that there is (and should be) a single leading culture in Germany. This is a controversial idea and often used in opposition to the advocacy for *Multikulti*.

**PHP:** A type of scripting language that is used to build dynamic web applications.

***Plattenbau*:** Tall, rectangular concreate high-rises that are characteristic of architecture in East Germany. The name comes from pre-made concreate slabs (*Platten*) that were used to build the buildings.

**Prosumer:** portmanteau of producer and consumer. This references the activity that academics have noticed where people are increasingly both making and consuming things on the web simultaneously. This is often described as an invisible form of labor.

**Prouser:** portmanteau of producer and user. See *prosumer*.

**Off-shoring:** The act of moving part of a company's production or services outside the country, typically in an attempt to lower costs and increase profits.

**Outsourcing:** Similar to off-shoring, but instead of moving ones company or services out of the country, one depends on an contracting with a foreign company for goods or services, once again with the goal to lower costs and increase profits.

**Sand Hill Road:** A road in Menlo Park California which is famous for having a high concentration of venture capital companies. Also home to SLAC National Accelerator Laboratory, the focus of Sharon Traweek's ethnographic study.

**Seed Funds:** A very early form of investment for startups. Money can come a variety of places including family, friends, crowdsourcing, and angels.

**SPD:** Social Democratic Party of Germany (Sozialdemokratische Partei Deutschlands). A major political party in Germany that is center-left.

**Spree:** A river that goes through the center of Berlin.

**STEM:** Science, Technology, Engineering and Math. This is analogous to Germany's MINT. These are the key disciplines that the US sees as being key for the future economic success.

**Telecommuting:** The act of working remotely, typically over the telephone or internet.

**Un-conference:** See *BarCamp*

**Venture capital:** A form of financing and investment for companies, usually startups, at various stages of development. Venture capitalists typically do not provide their own private funds but instead draw on a collection of professionally managed funds.

**VC:** See *venture capitalist*

**Virtual migration:** A term to refer to workers who telecommute across international borders.

***Wissenschaft:*** The German term for science, but instead of referencing just the natural sciecnes, like it does in English, Wissenschaft refers to the larger landscape of scholarly and intellectual pursuits from philosophy to ethnology to physics.

**Web 2.0:** Technologically this refers to the increasing dynamic nature of the World Wide Web. For further discussion please see Ch. 4

**World Wide Web:** also known as the *web*. An online collection of interlinked pages and resources that can be accessed by the internet (but not to be confused with the internet).

***Wende*:** (translates as "turn") The *Wende* references the reunification of Germany both physically (through the destruction of the Wall) and politically from the 1989s to 1990. This is the standard term for the fall of the wall and reunification in Germany.

**Wiki:** A type of website that people can easily edit with a simple markup language.

***Wirtschaftswunder***: Economic Miracle. A period of time after the Second World War when Germany experienced large economic growth.