Afterlives of the Californian Ideology:
Tech Movements, Pioneer Communities, and Imaginaries of Digital Futures

Introduction

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The Californian Ideology has been a buzzword for criticizing the tech industry in Silicon Valley for almost 30 years. But how exactly is this term to be understood? What is its historical context, and how does the Californian Ideology live on today? This introduction to the thematic issue approaches these questions by first reconstructing the genesis of Barbrook and Cameron's article, "The Californian Ideology," and the original discussion surrounding it. It then takes a closer look at the role of tech movements and pioneer communities: Both were not only an important context for the emergence of Californian Ideology but are also closely linked to its global spread. Finally, based on these clarifications, this introduction provides an overview of the articles in the thematic issue, focusing on their contribution to a discussion of ideological moments and subsequent imaginaries of possible digital futures.

Keywords: Californian Ideology, tech movement, pioneer community, Silicon Valley, sociomaterial imaginary, possible futures

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Date submitted: 04-04-2023

Imagining Digital Futures

Media are gateways to possible futures. This was true, for instance, among popular conceptions of the future dating to the late 19th and early 20th century (Marvin, 1988, pp. 298–231)—an era which imagined its future more and more as a "wireless century" (Sloss, 1910/2013, p. 27) of radio-based media. The connection between new media and possible futures endured with added intensity through the advent of digital media—first the computer, then later, Internet-based media—whose proliferation was seen during its nascent stage as the hallmark of an emerging post-industrial information society (Bell, 1976; Drucker, 1969, among others), in which, according to the futurologists of the day, the connected, always-on, global community would experience the coming of what Alvin Toffler (1970) called "future shock."

This close connection between the emergence of new media and communication technologies on the one hand, and the establishment of "sociotechnical imaginaries" (Jasanoff & Kim, 2015) of possible futures on the other, has consistently occupied the center of media and communications research, and this teleological focus continues into the present. W. Lance Bennett (2020), for example, in light of the current climate crisis, calls for taking more seriously what role forms of political communication play in potential transformations. Mike Schäfer and Hartmut Wessler (2020) point out that it would be worthwhile for "communication studies to focus on the emergent fields of practice in which sociotechnical innovations are negotiated" (p. 313). Or, in a recent anthology, Karen Waltorp, Débora Lanzeni, Sarah Pink, and Rachel C. Smith (2023) discuss why media anthropology should perhaps turn to questions of "futures and technologies" if its research is to produce relevant knowledge. Among this entire field of future-facing research, an increasing number of scholars are interested in what can be called imaginaries of "digital futures"—that is, futures related to digital media and their infrastructures. This predilection with the future is one of many consequences and portrayals of a possible future characterized by the incessant encroachment of "deep mediatization"—the increasing entanglement of the social world with digital media and infrastructures (Couldry & Hepp, 2016, pp. 164–177; Hepp, 2020a).

Lanzeni and Pink (2023) characterize a great deal of research into digital cultures as "techno-solutionist visions of the future" (p. 19). The notion of "technological solutionism" that underlies this phrase echoes Evgeny Morozov's (2013) depiction of solutionism as a Silicon Valley "ideology." For him, the core of this ideology consists of a "recasting [of] all complex social situations either as neatly defined problems with definite, computable solutions or as transparent and self-evident processes that can easily be optimized—if only the right algorithms are in place" (p. 5). In techno-solutionist visions of a digital future digital media and infrastructures do not represent a challenge, but the solution to *all* of humanity's problems. Such thinking is apparent, for example, in the tech discourse around "big data," which is continually presented as the savior of knowledge beyond all theories (Anderson, 2008), or "artificial intelligence," which is associated with a transhuman vision of the future (Kurzweil, 2005).[3]

On closer examination, however, such ideas of technical solutionism are only one aspect of a broader "Californian Ideology" (Barbrook & Cameron, 1996) that combines assumptions about technological

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[3] From a scientific point of view, critical comments on such imaginaries of digital futures were made by, among others, boyd & Crawford (2012), Natale (2021), and van Dijck (2014).

solutionism with certain concepts of society and ideas about the purposeful organization of social processes in general. If one takes a closer look at this ideology, one also realizes that its emergence is not simply based on the media and tech corporations that are currently based in Silicon Valley, which try to underpin their market position. Rather, what is now called the Californian Ideology emerged in a multi-layered "Internet culture" where "the techno-meritocratic culture, the hacker culture, the virtual communitarian culture, and the entrepreneurial culture" (Castells, 2001, p. 37) of Silicon Valley have come together: "Together they contribute to an ideology of freedom that is widespread in the internet world" (Castells, 2001, p. 37).

This brings us to the core of what we want to address in this thematic issue: the role of technology-related movements and communities not simply in the emergence and afterlives of the Californian Ideology, but more pressingly so in its perpetuation, spread, and reflexivity. Are social movements and communities such as hackers or makers positioned against the Californian Ideology? Or, do they themselves perpetuate it, in that their engagement is also based on the assumption that a better future could and should be shaped by digital media and their infrastructures? If so, do they imagine fundamentally different digital futures than the tech corporations?

Before we outline each contribution to this thematic issue, however, some further conceptual clarifications are necessary. The first concerns the notion of the Californian Ideology itself, which carries ambiguities that must be seen within a certain historical context. In the following section we want to reconstruct the genealogy of this notion to adequately navigate the various uses of this term. On this basis, we will take a closer look at tech movements' and pioneer communities' relations to the Californian Ideology. Both—tech movements and pioneer communities—were not only important for the emergence of Californian Ideology, but are also closely related to each other. Nevertheless, it remains important to keep in mind the differences between tech movements and pioneer communities if one wants to grasp today's dynamics of a global audience while also maintaining a skeptical, reflexive distance from the Californian Ideology. Grounded in these clarifications, we will then provide an overview of the articles in the thematic issue, focusing on their contribution to a discussion of the ideological moments and the subsequent imaginaries of possible digital futures.

Revisiting the Californian Ideology

The term *Californian Ideology* was coined by Richard Barbrook and Andy Cameron, who were working at the Hypermedia Research Centre at the University of Westminster, London, at the time of publication. They published a first version of "The Californian Ideology" in the London-based art and politics magazine *Mute* (Barbrook & Cameron, 1995) on September 1, 1995, a publication which is generally understood as the "European anti-*Wired*" (Thoburn, 2012, p. 817). An extended version then appeared in the journal *Science as Culture* in 1996. Later, this final version was published in the volume "The Internet revolution" (Barbrook & Cameron, 2015). In this essay, they develop the thesis that the development of the Internet, of digital media, and their commercialization is driven by a specific political economy and social outlook emerging from Silicon Valley.

What distinguishes this Californian Ideology? First of all, they localize the Californian Ideology at a historical moment, namely at the end of the twentieth century, when "the long-predicted convergence of

the media, computing and telecommunications into hypermedia is finally happening" (Barbrook & Cameron, 1996, p. 44). They also identify a group of people from whom the ideology arose, namely a "loose alliance of writers, hackers, capitalists and artists from the West Coast of the USA" (Barbrook & Cameron, 1996, p. 44), in particular those members of the "virtual class" (Kroker & Weinstein, 1994, p. 15) circulating within the "cultural bohemianism of San Francisco" that amalgamated at the time "with the hi-tech industries of Silicon Valley" (Barbrook & Cameron, 1996, pp. 44–45). Barbrook and Cameron (1996) outline the substantive core of this Californian Ideology as combining "the free-wheeling spirit of the hippies and the entrepreneurial zeal of the yuppies" into a "digital utopia" in which everyone can become "hip and rich" (p. 45). At the heart of the ideology is a "hybrid faith" (Barbrook & Cameron, 1996, p. 52) that unites countercultural notions of online space as an "electronic agora" (Barbrook & Cameron, 1996, p. 52) with those of an "electronic marketplace" (Barbrook & Cameron, 1996, p. 53). By bringing together ideas of the New Left with those of the New Right, Californian Ideology reveals "a mystical resolution of the contradictory attitudes held by members of the virtual class" (Barbrook & Cameron, 1996, p. 56). In the process, the "high-tech entrepreneur" is declared the central agent of a technology-related future:

> In this version of the Californian Ideology, each member of the virtual class is promised the opportunity to become a successful hi-tech entrepreneur. Information technologies, so the argument goes, empower the individual, enhance personal freedom, and radically reduce the power of the nation state. Existing social, political and legal power structures will wither away to be replaced by unfettered interactions between autonomous individuals and their software. (Barbrook & Cameron, 1996, p. 53)

The centrality of the entrepreneur is not just a rallying cry for individual initiative but a political economy. Despite the United States government's pivotal role in constructing the Internet and Silicon Valley through military and research spending (Berlin, 2017), the Californian Ideology severed ties with industrial policy, at least rhetorically. Instead of the democratic state, the path to this new, technology-enabled democracy would be privatization and capitalism, whereby investor-funded startups would adopt infrastructural roles previously held by the state or civil society.

This also makes the Californian Ideology's function crystal clear: at its core, it serves to legitimize the position of the "virtual class" of the San Francisco Bay Area by portraying them as those who will ensure future prosperity, bolstering their position not just the United States, but internationally. This is one of many ways in which the essay is in line with the tradition of the Frankfurt School's culture industry thesis, according to which its hegemony is not simply an American phenomenon but is increasingly global in scope (Horkheimer & Adorno, 1944/1986). Barbrook and Cameron (1996) note that "despite its deep contradictions, people across the world still believe that the Californian Ideology expresses the only way forward to the future" (p. 63). As globalization progressed, many members of the "virtual class" in Asia and Europe identified and solidarized more with their "Californian peers than other workers within their own country" (Barbrook & Cameron, 1996, p. 63).

Barbrook and Cameron see various influences on the emergence of this Californian Ideology. They understand countercultural publications such as Callenbach's (1975) "Ecotopia" as a blueprint for a California that was not only ecologically sound but also egalitarian, focused on local communities and individual

freedom, all bolstered and carried along by the latest media and communications technologies. Marshall McLuhan's (1964) sentiments around the restructuring of society with and through electronic media played a role—but were abbreviated within the discourse of the Californian Ideology to encompass a sort of technological determinism. The libertarian assumptions of other futurologists like Alvin Toffler (1980) and Ithiel de Sola Pool (1983) thrown into the mix as were the ideas of science fiction authors such as Isaac Asimov (1968) and William Gibson (1984).

Barbrook and Cameron's (1996) essay, however, is not only a description of the Californian Ideology, but is also a critique. They place alongside what exists *what could be*. They see alternative digital futures, for example, in the French Minitel system, which was launched in 1981 by a national telephone company that provided terminals free of charge, creating a "critical mass of users for its pioneering on-line system" (Barbrook & Cameron, 1996, p. 64)—which was then appropriated for various purposes, up to and including political self-organization.[4] Similarly, in many Asian countries, the state has had a far greater role in building digital infrastructure than it is given in the Californian Ideology. Barbrook and Cameron (1996) frame such examples as indicating that the state can foster the development of digital futures, targeting the "social apartheid between the 'information rich' and the 'information poor'" (p. 65) that underpins the Californian Ideology. Accordingly, their essay ends with a call not only to European policymakers but also to digital media creators and artists in general to develop a more coherent analysis of digital transformation than the Californian Ideology offers and in doing so develop their own visions of digital futures. Only then will it be possible to avoid the inequalities, exclusions and misguided developments that characterize Silicon Valley. This would involve connecting to the broader culture, combining theory and practice in a productive way, and connecting to existing European traditions of public engagement.

The counter-perspective that Barbrook and Cameron (1996) develop is a critique of ideology, rooted in precedents such as the Frankfurt School (Mannheim, 1936), the sociology of knowledge (Berger & Luckmann, 1966), and above all Marxist class analysis. As Barbrook notes in the interview at the end of this issue, *The German Ideology* by Karl Marx and Friedrich Engels (1978 [1845–1846]) was the inspiration for the essay's title. Although Barbrook distances himself from Stuart Hall in the interview we conducted with him, his and Cameron's argumentation is firmly located within the debates of the (European) New Left, in which Hall is a fellow traveler. In this tradition, the original Marxist concept was expanded to an understanding of ideology as "the mental framework—the languages, the concepts, categories, imagery of thought, and the systems of representation—which different classes and social groups deploy in order to make sense of, define, figure out and render intelligible the way society works" (Hall, 1986, p. 29). The "problem of ideology" (Hall, 1986, p. 28) concerned the question of what contribution ideologies make to maintaining existing capitalist relations of domination. In this way, their critique is ultimately a first attempt to come to terms with what Adrian Daub (2020) today refers to as "what tech calls thinking": The assumption that ingenious technological innovators can redefine and shape, through their growth, the future through disruption.

The afterlives of Barbrook and Cameron's (1996) essay began immediately after its appearance as it generated a far-reaching controversy—especially in the context of the "virtual class" of the San Francisco Bay Area. It is still accessible via *Mute* magazine's website (https://www.metamute.org/) where the discussion first

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[4.] For Stewart Brand's biography, see Markoff (2022).

crystallized in the Vol. 1, No. 4—Analogue City issue, then extended online and is documented on Barbrook's website that accompanied his 2007 book *Imaginary Futures* (Barbrook, 2007)*.* There are a total of seven responses to the notion of a "Californian Ideology"; of particular interest are those that come from prominent Silicon Valley insiders: Most dismissive is the polemic from Louis Rossetto (1996), founder and then editor-in-chief of *Wired*, who states in *Mute* that the "utterly laughable Marxist/Fabian kneejerk" (para. 1) by Barbrook and Cameron is characterized by a "whole line of thinking [that] displays a profound ignorance of how technology actually diffuses through society" (Rossetto, 1996, para. 1). In essence, Rossetto (1996) accuses the authors of being bound by an out of date, European way of thinking that does not do justice to current technological change: Only if new technologies are adopted quickly and at high prices by wealthy early adopters can a dynamic emerge that will result in affordable technologies for the masses. Equally poignant, Jeffrey Kaplan (1996) argues as a "Bay Area counter-culture veteran" that "technological utopianism was hardly a defining characteristic of the counter-culture" (para. 3) and that the essay possesses the same "technological naivete and elitism" (para. 7) that the authors accuse the "McLuhanite hippies" (para. 7) of falling victim to. From a European perspective—Franko Berardi (1996), author of *Neuromagma*, criticized in *Mute* "talk of a European way" of "state intervention" (para. 3). Ultimately, he said, Barbrook's and Cameron's critique was fundamentally inappropriate; Europe's technological backsliding shows that a different approach to shaping the future by means of technologies must be found there as well. Only Celia Pearce (1996), a game designer and later professor who was in direct contact with Cameron as a "member of the virtual class" (para. 3) provides in her *Mute* response a more approving reading of the essay. While she agrees with the basic diagnosis, Pearce (1996) disagrees with the picture of the "virtual class" (para. 2) that was painted. In contrast to the arguments of Barbrook and Cameron, she emphasizes the "tremendous personal risk" (para. 3) taken by those at the "forefront of the digital revolution" (para. 3). Pearce (1996) does not portray a *nouveau riche*, but a "community of individualists" between "autodidactic communalism" (the ongoing sharing of what has just been learned) and "social capitalism" (para. 7; by which she means the necessary cooperation of innovative small businesses).

So, is Californian Ideology a caricature of the San Francisco Bay Area and its technological development by two left-leaning Brits who are fundamentally skeptical of individuality and entrepreneurship? For all the exaggeration found in individual sections of the essay, one would be taking too lightly such an assessment, as various research published since "The Californian Ideology" appeared demonstrates. From a historical perspective, for example, Fred Turner (2006) has traced the nexuses that Barbrook and Cameron (1996) outline in much more detail, as a progression and recuperation "from counterculture to cyberculture." In doing so, he succeeded in illustrating the influence of what he calls the Whole Earth Network, a group of people that came together around the Whole Earth Catalog published by Stewart Brand, a compilation of various "tools" for "the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whomever is interested" (Brand, 1968, p. 3). Following Turner's (2006) historical account, it is this network through which cybernetics and the utopian notion of establishing new forms of community through technology spread in the San Francisco Bay Area. The Homebrew Computer Club, a collective through which the personal computer was imagined, later The WELL, an early online community, and *Wired*, all had close ties to this network. Turner uses many historical sources, analyzed in detail, to explain how a libertarian idea of commercialized cyberspace emerged from the counterculture in what is now known as Silicon Valley, and how this idea continues to have a formative influence today.

Later studies in media ethnography also demonstrate that Barbrook's and Cameron's (1996) arguments were not plucked out of thin air. Alice Marwick (2013), for example, in her study of the emergence of the so-called Web 2.0, traces the importance of "Silicon Valley libertarian beliefs," which she argues are based on the conviction that "intelligence and drive are indicators of success, an almost mythological trust in entrepreneurialism, the 'do it yourself' ethic and an idealized view of the internet as a utopian space" (p. 50). In her studies, she draws attention to the fact that it would be oversimplified to equate Californian Ideology *geographically* with a tech thinking being located in the San Francisco Bay Area. Adopting her approach, we are dealing with a certain pattern of discourse that has developed precisely through the romanticizing view of "Silicon Valley" as the assumed location of disruptive technological innovations. From this perspective, the Californian Ideology is a "global imaginary," a "fantasy of technological solutionism" through which Internet-based technologies are increasingly regarded worldwide as a "universal solution to localized problems" (Marwick, 2017, p. 317).

With such a temporal distance, and further historical and empirical underpinning, Barbrook and Cameron's (1996) essay is admittedly overstated at various points. It is a polemic as much as an analysis, and its effectiveness as the former can limit its possibilities for the latter. Nonetheless, they pointed out very early on how our imaginaries of digital futures are shaped by a particular ideology that first emerged in the San Francisco Bay Area. However, it is precisely here that a more nuanced view is necessary, as we will show in the following section.

Tech Movements, Pioneer Communities, and the Californian Ideology

Various tech-oriented movements and communities have not only been important for the emergence and the global spread of the Californian Ideology, but also as a basis from which to question some of its more egregious statements, especially when it comes to imaginaries of digital futures. It is the role of such movements and communities that we consider in more detail in this thematic issue. To do so, however, it seems necessary that we take a closer look at what kinds of social figurations we are dealing with.

Very early on, Rob Kling and Suzanna Iacono (1988) pointed out that what they called "computerization movements" played a significant role in the spread of digital technologies in the United States and beyond. At their core, such computerization movements are a kind of social movement "whose advocates focus on computer-based systems as instruments to bring about a new social order" (Kling & Iacono, 1988, p. 228). The movements they consider—urban information systems, artificial intelligence, computer-based education, office automation, and personal computing—would certainly be described differently today, with the benefit of historical perspective. However, Kling and Iacono's (1988) analysis remains remarkable because of two arguments. First, they see "ideological elements" (Kling & Iacono, 1988, p. 234) at work across the various movements that would later form part of the Californian Ideology: Computer-based technologies would be central to a reformed world; by improving these technologies one could further reform society; and more computerization is always better. Secondly, Kling and Iacono (1998) notice that in addition to what they call computerization movements, other groups are also of importance, such as the people they call "activist entrepreneurs" who "help drive movements through books, speeches and other actions" (p. 228). Such activist entrepreneurs in turn seem to be very close to what Patrick McCray (2013) describes as "visioneers," that is a group of scientists and engineers, who developed "broad and

expansive visions of how the future could be made radically different through as-yet-undeveloped technologies" (p. 6). Ultimately, it is this dichotomy between more social-movement-oriented figurations on the one hand and more entrepreneurial-visionary-oriented figurations on the other hand that points to the terms we want to use here: that of tech movements and that of pioneer communities. Both have a dynamic relationship to each other when it comes to the emergence and spread of Californian Ideology, but they cannot be reduced to one another.

The term *tech movement*, as we will use it, borrows from the idea of the *social movement*. Social movements are distinct social figurations made up of "collective actors" (Dolata & Schrape, 2015, p. 3) with a shared agency that operate in a conflictual relationship with clearly identified opponents (Rucht & Neidhart, 2022; Touraine, 2002). Such actors are linked by dense informal networks and share a distinct collective identity (Porta & Diani, 2006, p. 20). Media have long played an important part in the self-organization of social movements, and are also used to appeal to a wider public for their political aims (Cammaerts, Mattoni, & McCurdy, 2013; Gamson & Wolfsfeld, 1993; Kavada, 2016).

In this sense, social movements as we know them are always "mediatized" (Mattoni & Treré, 2014): Media serve their internal organization and mobilization, just as social movements aim at media-mediated attention precisely through their forms of (also online) protest, ultimately to make their political objectives heard. With advancing deep mediatization, however, social movements have increasingly made digital media and their infrastructures the subject of their engagement, simply because the possible futures of our societies are understood as fundamentally interrelated. The computerization movements analyzed by Kling and Iacono (1988) are early examples of this. Since the 1970s, however, the number of such movements has increased in the United States, Europe, and other regions of the world, and we can see more and more social movements that are "acting on media," which means that they, as collective actors, "take an active part in the moulding of media organizations, infrastructures and technologies" (Kannengießer & Kubitschko, 2017, p. 1).

Tech movements, as we want to use the term, are social movements that "act," in such a way, "on" media, where media at this point in time means digital media and their infrastructures. The examples are manifold: the "open source movement" (Söderberg, 2008), the "open data movement" (Baack, 2015) or the movement behind "data activism" (Milan, 2017). All these tech movements share the assumption that digital media and digital infrastructures are a central aspect of possible futures, which is why they enter into open political debate about them. According to historical analysis, such tech movements have contributed to the emergence of Californian Ideology through the "technological utopianism" (Segal, 1985) they often share (Castells, 2001). And as the Californian Ideology implies, these movements act at the intersection of grassroots activism and capital accumulation, justifying the latter with the aesthetics and the values of the former. That said, some of today's tech movements, for example in the domain of "design justice" (Costanza-Chock, 2020), are increasingly distancing themselves from technological utopianism. The discourse currently seems to be opening up again, also against the background of the increasing problems of the platform economy.

Like social movements, *pioneer communities* work along informal networks, a collective identity and a shared aim for action. More particularly, they come very close to "technology-oriented and product-oriented movements" (Hess, 2005, p. 516), much like the ones named above. However, while often *calling*

themselves a movement, pioneer communities are generally not involved in comparable conflict-driven *political* projects relations with identifiable opponents in the way that tech movements are (Hepp, 2020a, p. 32f.). Instead of being in opposition to business and politics, pioneer communities are much more closely interwoven with them and "activist entrepreneurs" (Kling & Iacono, 1988, p. 228) are an integral part of their "organizational elite" (Hitzler & Niederbacher, 2010, p. 22) which curates these social figurations (Hepp, 2020b). Examples of such pioneer communities include the aforementioned Whole Earth Network (Turner, 2006), the Maker movement (Hunsinger & Schrock, 2019), and the Quantified Self movement (Neff & Nafus, 2016). Closely interwoven with Silicon Valley, they all propagate better futures created with and through digital media technologies.

As collective actors, pioneer communities construct their identities around adopting a forerunner role within a certain domain and are accepted as such by other members of that domain (but not necessarily all). Within their domains they act as "intermediaries" (Bourdieu, 2010, p. 151), who, through their practices, connect different spheres of activity (development, everyday media use, politics etc.)—often explicitly advocating the necessity of moving beyond their own field. By virtue of their experimental practices, pioneer communities play a special role in the development of their domains (e.g., in the sense that they also act as trainers or consultants). Pioneer communities consider visions of possible futures that are perceived as the "sociotechnical imaginaries" (Jasanoff & Kim, 2015) of media-related developments.

Much more closely than tech communities, pioneer communities were linked to the emergence and spread of Californian Ideology. This is most apparent in the historical example of the Whole Earth Network, where notions of everyday cybernetics emerged, which we can then understand as a core aspect of Californian Ideology (Turner, 2006, pp. 103–140). In the process, the Whole Earth Network also contributed significantly to the spread of Californian Ideology, as can be exemplified by the spread of notions of the "lab" as a place of everyday experimentation and innovation: Stewart Brand and other important representatives of the Whole Earth Network laid the foundation for decoupling the lab discourse from the site of the scientific lab and relocating it toward various other sites of experimentation (Hepp, forthcoming). This also marked the beginning of a decoupling of the laboratory from as a specific, experimental locale to the laboratory as an attitude, what characterizes the sometimes-naïve enthusiasm for labs in many countries today (Wershler, Emerson, & Parikka, 2022, pp. 3–6). As with tech movements, however, it is apparent that the relationship between pioneer communities and Californian Ideology is becoming increasingly complex. If one understands the Whole Earth Network as a pioneer community of the first generation, the Maker and Quantified Self movements as those of the second generation. In turn, it appears that pioneer communities of the third to fourth generation include ideas of alternative models for creating social change through entrepreneurship and technology. An example of this is Zebras Unite, a pioneer community focusing on cooperative ownership models in tech, or Reboot, a pioneer community advocating progressive techno-optimism.

The relationship between tech movements, pioneer communities, and the Californian Ideology is ambivalent. This can be illustrated very well by the example of the Maker movement: As a pioneer community, replete with its "maker ideology" (Turner, 2018, p. 180), it has an apparent proximity to the Californian Ideology and focuses much of its energy in propagating its philosophy globally, through Maker Faires, for example. This is about imagining a future in which digital media and their infrastructures enable comprehensive innovations, based on local manufacturing and community-building (Davies, 2017), which

in Asia, for example, can go hand in hand with extensive appropriations and reinterpretations of the original Maker idiom (Lindtner, 2020; Wen, 2017). At the same time, the Maker movement, which was initially supported by Make: Media in particular and, after its bankruptcy, by Make: Community, also remains connected to other tech movements of do-it-yourself (Day, 2016; Ratto & Boler, 2014). From such movements, in turn, initiatives of a critical (re)engagement with Making emerged (Bogers & Chiappini, 2019), which are also directed against the dominant Maker Ideology, among other things. It is in these moments that a questioning of the Californian Ideology takes place. But even in such critical utopias of possible societies, a core idea of the Californian Ideology breaks through again and again, namely that these utopias can be realized in particular with and through digital technologies.

What Are the Alternatives?

The Californian Ideology has become so closely linked to the set of possible digital futures that thinking outside of it can seem impossible. Yet in both the mid-1990s and today, not all digital futures are Californian. The penultimate section of the original essay by Barbrook and Cameron (1996) is called "There Are Alternatives," an apparent reference to Margaret Thatcher's slogan that "there is no alternative" to neoliberalism. This section calls for more intentional public policy around the digital economy, insisting that "collective intervention will be needed to ensure that all citizens are included within the digital future" (Barbrook & Cameron, 1996, p. 65). As noted already, Barbrook and Cameron (1996) highlight France's government-run Minitel network as an example of such an alternative, and they hint that, due to the rapid growth of Asian economies, "the digital future will not necessarily first arrive in California" (pp. 63–64). Tech movements and pioneer communities, if they can avoid absorption into neoliberalism, present opportunities to establish terrains for networked societies other than what the Californian Ideology offers. So, how have the alternatives fared?

To some degree European governments have represented a counterweight to Californian tendencies, as Barbrook and Cameron (1996) hoped. The European Union's General Data Protection Regulation (GDPR) has had global influence on the behavior of platforms based in California and elsewhere, establishing a framework for privacy protections that the United States government failed to enact on its own (Goddard, 2017). European governments have also played important roles in investing in free, open-source software, which can in some cases serve as a kind of "public option," influencing the behavior of corporations in the market (Cassell, 2008; Poortvliet, 2019). Still, these moves have not produced a decisive counterweight, and such interventions have mainly served to augment, rather than supplant, the Californian Ideology in Europe and beyond.

The major market where the Californian Ideology has been perhaps most effectively contained is that of China—more than among the free-market Asian Tigers, where Barbrook and Cameron (1996) expected competition to arise. China's "Great Firewall," while often discussed in the West solely as a means of censorship, has also served as a formidable basis for industrial policy, preventing the dominance of United States platforms while establishing a vibrant, home-grown platform economy (Chu, 2017). While the Chinese tech industry has growth through many of the same entrepreneurial dynamics that Silicon Valley mobilizes, the Chinese Communist Party has proved willing to take decisive steps to contain its corporate tech giants, establishing privacy regimes, taking antitrust action, and targeting individual entrepreneurs

who depart too much from the favored ideology. For sure, this Chinese authoritarianism not exactly the kind of liberating alternative Barbrook and Cameron were hoping for. However, the Chinese example does show the potential for robust state power to reshape and orchestrate a vibrant Internet economy, even in the face of global competition. In the interview with Richard Barbrook in this issue, he speaks of an apparent Shenzhen Ideology as both an extension of and contrast to the Californian Ideology.

A further site of alternative-building against the Californian Ideology has been through tech movements and pioneer communities attempting to build tech companies as cooperatives, owned and governed by workers or other users (Schneider, 2018; Scholz & Schneider, 2016). The afore mentioned Zebras Unite are an example of this. Cooperativists share Barbrook and Cameron's (1996) aspiration for a "future that starts from a rejection of any form of social apartheid" (p. 66), attempting to ensure that all stakeholders on digital platforms have voice and leverage. Barbrook himself has been involved in these efforts, having spoken at the first "platform cooperativism" conference (Scholz & Schneider, 2015, p. 9). Cooperative platforms have arisen around the world; some have even developed as network-native organizations through blockchain technology that has otherwise been strongly associated with Californian Ideology-style thinking (Mannan, 2018; Radebaugh & Muchnik, 2021; Schneider, 2021a). But, on the whole, platform cooperatives and their ilk have yet to present a significant counterweight to the wealth and power of tech companies cast in the Californian Ideology's mold. Venture capital and other tools of investor ownership have proven so successful under the reigning political economy that cooperative alternatives face overwhelming odds when pitted against them (Schneider, 2021b; Spicer, 2021). The urgency of Barbrook and Cameron's rallying cry thus remains salient: Without a concerted alternative vision, enacted in both culture and public policy, the Californian Ideology is well poised to proceed on its path toward "social apartheid."

Afterlives—Lines of Discussion

This question about possible alternative imaginaries of digital futures has brought us to the discussion in the various contributions to this thematic issue: It aims to comprehend the afterlives of "The Californian Ideology" in and through tech movements and pioneer communities, tracing the endurance of the themes the essay diagnosed, across diverse contexts, and that ideology's ever-unfolding ambivalences. The spectrum of such afterlives ranges from blockchain communities over the Maker movement to the recent imaginaries of the self-driving car. The question in each case is: With which imaginings of digital futures does the respective afterlife of Californian Ideology go hand in hand?

Arguing through the lens of Science and Technology Studies, the article by Ann Brody, Tamara Kneese, and Julie Frizzo-Barker draws a line between Ethereum blockchain communities and the Californian Ideology, through an analysis of the "frontier-themed visions" of "two influential technopreneurs," Stewart Brand and Jeff Berns, in their speeches on the DevCon4 event, at the Prague Convention Center in the Czech Republic. On the one hand, such imaginaries position Ethereum as an accessible, decentralized, and future-oriented technology. On the other hand, they tend to frame it as yet another commercial enterprise, often falling back into the same libertarian ideologies as they were connected to the social Web. We can see at this point a first afterlife of Californian Ideology: The material practices of blockchain technology combine countercultural leanings with commercial elements, collectivism with individualism, and the physical with the ethereal, and yet much like the Californian Ideology.

Other forms of afterlife are described by Fredy Mora-Gámez and Sarah R. Davies in their analysis of tech communities of crafting and repairing. Typically, such communities are investigated with a focus on how they appropriate technologies, an approach these authors extend by taking a more holistic perspective. Through such an angle, it becomes obvious that such communities are concerned with more than tech and that their hacking, making, and crafting practices revolve around care and emotional work. An afterlife of Californian Ideology then becomes apparent as a specific tension—a tension between imaginaries of attentiveness and care as an alternative ideology and the counterparts of technological determinism, techno-optimism, and individualism. Ultimately, these communities are oriented toward technology, but not necessarily centered around it.

The article by Andreas Hepp and Anne Schmitz examines the appropriation of the Maker Ideology by local Makerspaces and the vaporization of Californian Ideology through them. Based on an ethnographic study they identify ambivalences toward the Maker Ideology within the local makerspaces. The afterlife of the Californian Ideology consists precisely in these ambivalences. On the one hand, a critique in the local spaces of the ideology of the (Californian) organizational elite is evident. On the other hand, however, notions of technological feasibility continue to seep into local practice. Through analyzing the dynamics between the local makerspaces to the globalized Maker movement, the article reflects on the contradictions of the Californian Ideology in glorifying individual engagement and the emancipatory potential of technologies while ignoring structural problems of ownership, influence, and power.

Danbi Yoo also focuses on pioneer communities by looking at an early civic hacker scene in South Korea. She discusses how these civic hackers responded to the government-led discourses and Silicon Valley ideologies. According to her findings, the dominant narrative of civic tech in South Korea was focused on using public data for citizens' volunteer activities and entrepreneurial actions to revitalize the national economy, but civic hackers refused to align themselves with this goal and instead organized their own groups for civic hacking. In all, these civic hackers rearticulated the dominant narrative of civic tech in South Korea to prioritize open and equitable participation, contributing to alternative imaginaries on technology development and citizen empowerment evolving outside the West.

A further kind of afterlife of Californian Ideology is addressed by James Miller: the driverless car. Through a critical reading of selected books and chapters, he examines the role in the sociotechnical imaginary of autonomous vehicles in the United States. He argues that the authors of these books are an informal community of American innovation pioneers, and their visionary writings can be seen as the ideational glue that holds the community together and articulates its collective aspirations. In his analysis, Miller criticizes the homogeneity of this community and their visions, noting that the sphere of these pioneers consists mainly of engineers and software developers who may initially be located in different parts of the world and organizations, frequently funded by governments, but often settle in Silicon Valley to monetize autonomous vehicles. Their statements tend to be optimistic and utopian about the potential of driverless cars to solve social problems, but they also acknowledge the difficulty of predicting the future and show the evolved, self-rewarding culture in which autonomous vehicles development takes place.

In the last analytical contribution, Nathan Schneider presents a new interpretation of the politics behind the Californian Ideology, which goes beyond its original focus on political economy and instead

focuses on the micropolitics of everyday online life. There, the Californian Ideology is inscribed into the products and habits of homesteading—a practice rooted in the colonization of the American West. Through a careful rereading of the essay, in light of online experience since and accompanying religious imaginaries, he argues that Californian technologies that promised to deepen democracy have in fact hollowed it out. Ultimately, he stresses that the production of alternatives must involve the cultivation of political skills—along with ritual life, devotional commitments, and structures of belief. Until then, the ghosts of Californian politics continue to haunt attempts to reconstitute societies on networks, resulting in political tremors that must be understood by paying attention to everyday politics of online life.

Concluding the thematic issue is an interview with Richard Barbrook. There he explains out the essay's genesis in trips by him (and Cameron) to California, a reflection of possible future developments of the "virtual class" in the United States and Europe, as well as in a pitch for a new graduate program. He explores the inspiration offered by Marx and Engels' (1978) *The German Ideology*, and discusses his ambivalent—and not simply dismissive—relationship to California and the United States. In line with the essay's arguments, they wanted to impart a different approach to digital technologies than was prevalent in Californian tech culture at the time. Overall, the interview makes it apparent how "The Californian Ideology" should be seen in its temporal context—as well as how the basic questions the essay raises continue to shape the discussion about digital media and infrastructures today. The afterlives that the essay has spawned continue to amaze Barbrook himself.

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