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Against technocratic authoritarianism. A short intellectual history of the cypherpunk movement

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ABSTRACT
This essay aims to correct the established idea that the cypherpunk movement was organically embracing libertarianism. By addressing the cypherpunk movement, the intellectual roots of many of the concerns about freedom and about a surveillance society that dominate this internet age come to light. The cypherpunks, a heterogenic group of entrepreneurs, engineers, and activists in the San Francisco Bay Area, argued in the nineties that the Internet would make more pervasive the phenomenon of surveillance of individuals. In the context of this increasing process of surveillance, individual autonomy would be dismissed as an obsolete fiction and social engineering would be elevated to totalitarianism. This article frames the cypherpunks as a movement in opposition to an emerging technocratic authoritarian order.

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> "Many [cypherpunks] are libertarian, most support rights of privacy, some are more radical in approach."
>
> May (1994, p. 3.4.1.)

Introduction

The study of the ideological roots of the cypherpunk movement, perhaps the single most effective grassroots organization in history dedicated to protecting freedom in the cyberspace, brings the reader to the very sources of the current conversation on government surveillance. These sources, in fact, can be recovered among the counterculture of the sixties and the punk rebellion of the eighties in the San Francisco Bay Area. These subcultures shared with the cypherpunks a line of thought that is skeptical of modernization and concerned about the emergence of technocratic authoritarianism. Interest in the cypherpunks and their ideas in the nineties has recently reignited with the success of distributed technologies such as Bitcoin and Blockchain.

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Bitcoin and Blockchain have been celebrated as the brainchildren of a post- cypherpunk generation, a generation that picked up the mantle of decentralization from the legendary stream of entrepreneurs, activists, and scientists that framed the concept in the nineties (Conder, 2018; Vangelisti, 2013). Yet, one of the striking features of this intergenerational lineage is how unreadable the funding generation is, and therefore how such a lineage is vague and disputable. Who were the cypherpunks? To which political, intellectual, eventually philosophical tradition (i.e., 'ideology') did they belong? What was the threat to which they were reacting? It seems that to state the obvious, that is, the cypherpunk movement is the milieu from which the most successful distributed technologies to date emerge, is regrettably unhelpful.

The current literature of the cypherpunk movement's ideology is limited (Assange, 2012; Ludlow, 2001). The best account is probably the entry 'Cyberlibertarianism' in the *Oxford Research Encyclopedia of Communication*. The thesis of that essay, written by Lincoln Dahlberg, is that the movement was libertarian in character (Dahlberg, 2010). On the historical side, outstanding sources come in the form of two books. One is written by the celebrated tech journalist Steven Levy, in which the cypherpunks are mostly investigated through the lens of the attempts of governmental intelligence agencies to limit cryptography for private correspondence. The other is an academic book on the history of cybernetics, where a chapter is dedicated to the cypherpunks' ideas (Levy, 2001; Rid, 2016). Then, of course, there are the cypherpunks themselves and their documents.[1] Certainly a libertarian ethos is an unmistakable thread in some of the most celebrated cypherpunk activists' ideology (think at Timothy C. May, for example). The libertarian label, however, reflects only part of the ideology of the movement.

Most of the self-produced cypherpunk literature is in fact the brainchild of a single mind—that of Tim May. He was an avid reader of science fiction, technology, and philosophy and recognized his debts to thinkers such as libertarian Ayn Rand and Murray Rothbard as well as the non-libertarian Michel Foucault.[2] He was the *de facto* cypherpunk ideologist. He was a libertarian but – as summarized in May's statement that functions as the epigraph of this article – he recognized that the movement was articulated by and contained within it different voices, from socialists to radical libertarians (individualists) (May, 1994, p. 1.2). Moreover, the libertarian label works more as an umbrella brand for diverse expressions of libertarianism, rather than a precise ideological place card. Among the cypherpunks, in fact, one can find the engineer who left the movement to go work for Google; the recluse who lived in a state of permanent anticipation of being picked up by the Feds; the rich entrepreneur who sued (several times) the U.S. Federal government; and, the activist who attempted to subvert the democratic operations of the United States.[3] More work is necessary on the subject.

Dahlberg places the cypherpunks in the context of libertarianism; as a result, the cypherpunk movement in his study emerges as a form of technologized libertarianism. In this article, the cypherpunks are instead placed in the context of the political intellectual history of the San Francisco Bay Area. The result is a movement that is prescient of the current debate on total surveillance; more importantly, it is infused by a more radical orientation revolving around the post-industrialist, post-citizenship issues

of a repressive society. After completing this history, it will become evident that if the cypherpunks share the intellectual legacies of Noam Chomsky (libertarianism), as Dahlberg argues, they equally share those of Michel Foucault. The 1971 debate between Chomsky and Foucault is emblematic of the considerable baggage of two competing philosophical lineages on human freedom. Whereas Chomsky described his universal politics as rooted in "something biologically given, unchangeable," Foucault remained attached to a critical standpoint founded in a "mistrust [of] the notion of human nature" (Chomsky & Foucaut, 2006). To put it differently, if freedom is the freedom to shape one's identity, as an attribute of humanity itself, then freedom means to choose his/her own identity, and the cypherpunks behind the progress of distributed technologies were libertarians. If freedom, however, is far from being a condition that make humans human, rather a highly fragile construction, they were not libertarians after all.

The key question at the heart of the cypherpunk movement was not freedom, but the crisis of freedom in a situation of extensive social control of dominant institutions over private individuals. Aurélien Berlan has recently proposed the notion of 'crisis of freedom' in terms of crisis of modern freedom (or 'freedom of the Moderns,' as he frames it), that is, the crisis of the modern individual right to have a private life in which neither the state nor society would have a say (Berlan, 2019). This situation was already framed in the sixties in terms of 'conformism.' The term implies more than just the uncritical act of following norms of a community. It suggests an intent of social engineering, a society reconstructed on behaviorist lines, where people are framed by impersonal forms of governance and ultimately 'conformed.' On this subject, Félix Tréguer, a sociologist and Internet activist, looks at the role played by the states in disarraying the emancipatory project long associated with the Internet. His thesis is that the trajectory of the Internet, from emancipation to domestication, is an example of the tremendous capacity of the state to shape technology for the purpose of social control (Tréguer, 2019). The thesis of this article is that the cypherpunk movement reacted to the perceived emergence of a surveillance order in a post-industrial era and the way in which it has subtly eroded the democratic fabric of American society and ultimately human freedom. The final stage of this process is a perceived Orwellian phenomenon, that is, a totalitarian, surveillance society, where control and behavior modification mutually sustain each other.

Modernization

In sociology, 'modernization' is a continuous and open-ended process of transformation of a society from a lower to a higher level of progress. It is used mostly to describe the rise of modern society, that is, the passage from a traditional, rural, agrarian society to a secular, urban, industrial society. Thus, modernization is the process through which a society becomes 'modern,' i.e., it assimilates the features of modernity. Modernity is a paradigm, a multilayer worldview including elements such as individual subjectivity, scientific explanation and rationalization, a decline of interest in religious practices, the rise of bureaucracy, urbanization, the emergence of nation-states, and technology-driven financial exchange and communication. To become

modern, therefore, is to participate in a society in which organizational and knowledge advances make the immediate previous society appear antiquated or, at least, surpassed. This idea of 'social progress' implies a long list of positive achievements, including the end of slavery, the rise of literacy, the lessening of inequalities between the sexes, the disappearance of several diseases, the dismissing of superstition, ignorance, and parochialism, and a state of law. The concept of social progress extends its ramifications into social infrastructures such as politics and economy, so that modernization in the political arena means democracy and civil liberties and institutionalized human rights; in economy it stands for the decline of poverty, economic/technological growth, and the rise of a strong middle class. In sum, the notion of modernization includes a general assumption that modernization almost necessarily guarantees democracy, economic prosperity, and moral advancement (Galbraith, 1958; Hartz, 1955; Trilling, 1950). In the sixties, however, a sense of unease emerged in California, specifically in the San Francisco Bay Area. The concern between sixties student radicals and hippie dropouts focused on the dominant, positive, eventually utopian understanding of modernization. In the view of the countercultural youth, modernization was entering a new phase, which can be labeled 'late modernity' or post-industrial epoch. In a post-industrial era, the nature of modernization changes: no longer the driving force of political freedom and economic growth, but the mechanical impetus of authoritarianism and manipulation of the many in the hands of a few. The end game of modernization is not liberating progress, but rather totalitarianism. In the end, they claimed, modernity delivers mortification. Initially a utopian vision of unlimited progress, modernization turns into a dystopian embodiment of undetectable social engineering. In fact, modernization ultimately produces an Orwellian dystopia, the vision of an Orwellian society in which technocratic totalitarianism controls and socially reengineers masses. To put it differently, inside modernization was a dystopia striving to get out. Californian youth detected and reacted to this illiberal stream within the greater project of modernization of American society. Theodore Roszak (1933–2011), the celebrated author of *The Making of a Counterculture*, names this form of technocratic authoritarianism 'technocracy.' In his view, protesting college radicals, hippie communards, Deadheads (i.e., colloquial term for a Grateful Dead fan), and drug dealers framed a movement of youthful opposition to 'technocracy' (Moretta, 2017; Shire, 2007). Roszak's writings on the counterculture were not the only sources of hippies' and activists' intellectual inspiration. In the sixties, the main influencers were academics and thinkers such as Herbert Marcuse, Paul Goodman, and Alan Watts. Roszak, however, probably better than any other intellectual of that era, was capable of penetrating the countercultural mind. In his words,

> The meticulous systematization Adam Smith once celebrated in his well-known pin factory now extends to all areas of life, giving us humans organization that matches the precision of our mechanistic organization. So we arrive at the era of social engineering in which entrepreneurial talent broadens its province to orchestrate the total human context which surrounds the industrial complex. Politics, education, leisure, entertainment, culture as a whole, the unconscious drives, and even … protest against the technocracy itself: all these become the subjects of purely technical scrutiny and of purely technical manipulation (Roszak, 1969, pp. 5–6).

Here an entire vocabulary is already at work: 'factory,' 'mechanistic organization,' social engineering,' technical manipulation,' and, of course, 'technocracy.' This vocabulary would be adopted by the generations that followed. In the eyes of the countercultural hippies and activists in San Francisco and Berkeley, the post-industrial era operated as an extension of the process of industrialization outside its original confinement. The affluent society, to use another expression that was celebrated in those days, was in fact the embodiment of total modernity, an extreme form of modernity in which certain characters of the manufacturing process expanded well beyond the limits of the economic activities of factories. The mechanistic organization that was typical in the factories had become the archetype of the whole society, so that the entire society in its diverse expressions and features was indeed nothing more than an enormous mechanism.

To put it differently, the hippies and the activists in the San Francisco Bay Area questioned the belief that modernization in an advanced industrial society leads directly to political equality, economic prosperity, scientific and technological knowledge at the service of society, and a higher standard of living. It seemed to them that modernization, a liberating power that brings positive social, political, and economic change, had somehow, in a post-industrial epoch, turned into a force of oppression and control. Here is how Roszak put it: "When any system of politics devours the surrounding culture, we have totalitarianism, the attempt to bring the whole of life under authoritarian control." He continues with a parallel he establishes between the old forms of totalitarianism and this type of authoritarianism, a technocratic totalitarianism. He notes that in the case of technocracy, "totalitarianism is perfected because its techniques become progressively more subliminal." Then he clarifies the point:

> The distinctive feature of the *regime of experts* lies in the fact that, while possessing ample power to coerce, it prefers to charm conformity from us by exploiting our deep-seated commitment to the scientific world-view and by manipulating the securities and creature comforts of the industrial affluence has given us" (emphasis is mine) (Roszak, 1969, p. 7).

In other words, Roszak is arguing that the old undemocratic model of rule was based on *political* authoritarianism, that is, a ruling party retains power through manipulated elections and abuses its authority with the power it wins. The technocratic model of rule is instead a hidden, manipulating form of authoritarianism. To understand what Roszak has in mind, a good analogy is probably a reverse version of the Panopticon. Jeremy Bentham, the founder of utilitarianism, designed Panopticon as an ideal prison designed to keep inmates under observation at all times. In Bentham's mind, control can be equated to behavior modification, in the sense that inmates feel compelled to regulate their own behavior because they know they are being watched at all times. According to Bentham, in fact, human beings act as bundles of sensations rather than choosing agents. Panopticon was intended as a prototype for many other institutions, including workhouses, factories, asylums, hospitals, and schools, and it stands as the prototype of surveillance society. Back to Roszak: his idea of technocratic totalitarianism can probably be crystallized around the notion of a reverse Panopticon, in which citizens are subject to behavior modification without acknowledging it. Thus, in a situation of technocratic totalitarianism, behavior modification (or 'conformity,' in Roszak's

words) can be equated to control (Bentham, 1993). In sum, the age of affluence, post-industrialism, the inclusive society–all of these terms, adopted in that period to show the powerful and positive impact of modernization on America, in the end revealed to a countercultural mind the frightening profile of a golden prison, a hidden Panopticon in which Californian youth was locked.

Free speech movement

It is imperative to go back to an almost mid-century American cultural episode, nearly forgotten today, in which intellectuals, students, and activists shared a belief that human freedom was under threat. The immediate result was a glut of dense networks of actions and abstract reflections, a varied and far-reaching but chronologically delimited trend in American intellectual life, which can be called 'discourse of the crisis of human freedom.' In the sixties, the world had entered a new crisis, not just a crisis of the liberal state, or of a capitalistic economy in general, and not only American imperialism in Asia and the segregation in the U.S. South. The threat was now to 'freedom.' 'Human freedom,' the idea that humans come to live with free will and an active sense of being free to choose how to live, was in crisis. This apparently abstract threat was taken seriously by some serious people. Civil rights activists, freedom of speech students, anti-war marchers, and hippies alike were concerned for the fate of an abstract, universal 'freedom:' freedom has since become the condition everyone insisted must be addressed, recognized, helped, protected, and rescued, and made the center, the measure, the 'root' (Cohen, 2009, 2014; Cohen & Zelnik, 2002; Goines, 1993).

Student protest

For the sake of this article, however, a look at the student protest of the 1960s might reveal something about the idea of freedom and the profile of the power that was trying to limit this freedom. Mario Savio (1942–1996) left behind a few remarkable speeches before going on to a rather uneventful career as a university lecturer at Sonoma State University, California. In his most famous speech, in December 1964, Savio mentioned "the operation of the machine" to frame this idea of bureaucratization of the university, a phenomenon that was proceeding almost inexorably and without any regard for student goals and aspirations. The problem was well defined in his speech: UC Berkeley was a factory turning "raw materials" (i.e., students) into finished products to be bought by corporations, government, or organized labor. These famous lines were introduced by a brief description of the meeting of university officials, with the president of the university, Clark Kerr, compared to the president of a corporation. An inspiration of Savio's lines on 'the operation of the machine was President Kerr himself, who gave an infamous speech two years early. In his speech, President Kerr depicted UC Berkeley as "factory-like producing knowledge the way other factories produce cars or soup" (Goines, 1993, p. 51). The introduction helped to narrow the magnitude of the speech and make 'freedom' and 'oppressor' more concrete.[4] Addressing Harvard students in December 1964, Savio said that the student

protesters at Berkeley represented a "more traditional educational philosophy. We believe in a university of scholars and students," he continued, "with inquiry as its defining characteristic, and freedom as its fundamental tool." So, this is 'freedom:' freedom of forging a personal, nonconformist (in the sense of not subjected to standard), authentic identity. Once this concept of freedom was injected into the social reality of an academic institution, Salvo could not avoid seeing the difference between the growing corporatism of the university of his times and the old tradition of self-governed (i.e., without a specialized managerial class in charge of the administration) universities. In the latter, Savio notes, scholars and students shared the same passion for freedom and were uncompromisingly dedicated in their search for the truth. In the former, in his view, scholars and students were under the jurisdiction of an impersonal college administration. The implication of this confrontation was almost inevitable: "Kerr's university is the most efficient," Savio said, "the most worldly. It is a University plugged into the military and the industrial–but not to truth."[5]

In another famous speech, however, Savio was less successful in framing the same concepts. The enemy is no longer defined, and it is probably quite inevitable that the whole speech revolves around the relationship between fulfilled existence and distant, inhuman, repressive bureaucracy. There are students, Savio argued, that

> have come to the university to learn to question, to grow, to learn—all the standard things that sound like clichés because no one takes them seriously. And they find at one point or other that for them to become part of society, to become lawyers, ministers, businessmen, people in government, that very often they must compromise those principles which were most dear to them. They must suppress the most creative impulses that they have; this is a prior condition for being part of the system.

Students had creative impulses and principles which were most dear to them. But they had suppress all of them to become part of the organized society. The result is that these students become displaced: "Strangers in their own lives there is no place for them." Actually, he continued, students do not need to do anything other than let the university do its job, which is to disallow individuals to construct their authentic identity. The opposite is true:

> The university is well structured, well tooled, to turn out people with all the sharp edges worn off, the well-rounded person. The university is well equipped to produce that sort of person, and this means that the best among the people who enter must for four years wander aimlessly much of the time questioning why they are on campus at all, doubting whether there is any point in what they are doing, and looking toward a very bleak existence afterward in a game in which all of the rules have been made up, which one cannot really amend.

The university's job is, in effect, to 'produce' the conformed person. This sort of misdirection of the educational system coincided with the takeover of the administrators. He described them as "depersonalized, unresponsive bureaucracy," and identified this technocratic, self-serving class of functionaries, "the greatest problem of our nation." But the target remained vague, immaterial. Savio presciently decrypted the link between the "respectable bureaucracy" and "financial plutocrats," and mentioned Aldous Huxley's dystopian novel *Brave New World* to project the sense of a transcendent, invasive, and unstoppable dark power. Yet, the picture projected the sense of

a faceless enemy, invisible and unprincipled, "truly Kafkaesque" (Lucas & Medhurst, 2009, pp. 423–426). In short, an illiberal tendency is already at work in the very heart of modernization. Two ingredients are still missing to complete the entire picture: first, the punks' uncompromised anger toward the system, and, second, a system infused of technology. The dystopian figure of a seemingly arbitrary, faceless, absurd bureaucracy, which eventually will be renamed 'technocracy,' however, is already at work in the student protest. In Savio's accounts, and more generally, in the students-led free speech movement, it is already evident *in nuce* the framework at work in the later cypherpunk movement. On one side stands a rational society with a technocratic and hierarchical orientation, in which knowledge and power are concentrated in a class of administrators; on the other side is denied free will and the intrinsic value of the individual. In the context of radical behaviorism promoted by the Harvard psychologist and inventor Burrhus Frederic Skinner (1904–1990) in the novel *Walden Two* and in *Beyond Freedom and Dignity*, it is the idea of viewing human beings as 'complex chickens' (Skinner, 1948, 1971).

Against conformism

At the heart of students' insurrection was a philosophical discussion of 'conformism.' A standard definition of 'conformism' equates the word with 'traditional standards of conduct.' Thus, a 'nonconformist' is a person who does not follows traditional standards of conduct and eventually sets his/her own standards. The students' movement, in this scenario, would be made of nonconformists. But 'conformism' was simply a label for a much more complicated discussion about the nature of society and human freedom. Savio's speeches are a good example of how the use of philosophical concepts encouraged the members of his audience to question their personal assumption about society and themselves. To be conformist, therefore, was exactly that, i.e., "to become part of society, to become lawyers, ministers, businessmen, and people in government, that very often they must compromise those principles which were most dear to them."[6] A conformist was one who gives away his/her most valued principles to become part of the society. Nonconformists, instead, was one who retains such principles. But from where would this freedom to decide whether or not to compromise one's principles come? What is freedom, after all? Is freedom similar to the "most creative impulses" that Savio mentioned in the same speech, that is, innate, part of the package of being human? Or is freedom a social construction, so that one's freedom depends upon the societal understanding of freedom?

In Savio's accounts, for example, both meanings can be found: as long as people "suppress their most creative impulses" and deflect their deepest principles in order to become part of the society, their natural propensity to choose their own identity is compromised. What constitutes a space of individual liberty, i.e., the freedom to shape their identity and act and express themselves as they choose, is jeopardized. The freedom of being themselves is at risk of succumbing to the reign of a repressive order. But Savio also pointed out that "the university is well structured, well tooled, to turn out people with all the sharp edges worn off, the well-rounded person." Here the university is no longer a coercive force, but rather a manipulating power that

produces people conformed to the acceptable societal standards. "The university," Savio continued, "is well equipped to produce that sort of person, and this means that the best among the people" can only accept or resist what others try to make of them.[7] In this case, identity is not a natural right, and neither is the freedom of self-expression from outside sources of interference. On the contrary, identity is a frame and, as such, is more commonly fated than chosen. It means that one is defined by others, and this eventuality has rarely been benign and actually could very easily be lethal. When the artifice broke down, and it became evident that individuals cannot choose who or what they will be, it also became clear that they can only accept or resist what others try to make of them.

Punks

One of the striking features of this 'discourse of the crisis of human freedom' in the 1960s was that it was unreadable and ultimately unhelpful. Still, it served a function: the discourse was somewhat empty but in fact generated the continuation of attempts to fill it. The discourse, in other words, behaved as if it wished to be filled with some sort of answer, but in fact remained unanswered. The emptiness of the concept of 'the crisis of human freedom' acted as encouragement to try to fill in the blank; all that was needed to spur intellectual participation was the assertion that human freedom existed, was in crisis, and needed help. The discourse, then, did not age well in the 1970s and early 1980s: the beautiful and evocative rhetoric of Savio's speeches, lacking material goals and concrete enemies and focused on intellectual and philosophical issues, gave away to a more rancorous tone and critique to precise targets.

SF punks

In late 1970s, San Francisco, like other metropolitan areas of the country, was a city in decline. Deindustrialization and Proposition 13 meant reduction of the tax base and ultimately the dramatic reduction of social services. After Dan White murdered Mayor George Moscone and Supervisor Harvey Milk, punks resented Diane Feinstein, who replaced Moscone and was married to a real-estate developer. She transformed, they argued, San Francisco into a business-oriented city: taxes on business were lowered, social services were dramatically cut, and gentrification of neighborhoods was pursued by real-estate interests. Early San Francisco punks viewed their city as a kind of microcosm of the kind of society America had become: a dispossessed land in the hands of a malevolent political force and its business allies. In the 1960s, the crux of the matter was dehumanization at the hands of a distant and arbitrary power, and in Salvio's words, a destiny of "sterilized, automated contentment."[8] In the late 1970s, however, the heart of the problem was rather political assassination, mass suicide, the traumatic returns of the veterans from Vietnam, the reduction of property tax rates, and the related shrinking of the social services.

The punk movement came together in San Francisco with a mission to challenge not only neoliberal authoritarianism, but also the complacency of the previous

generation. While New York and other urban centers in the United States lived the very same phenomenon of the city's takeover by real estate interests, however, San Francisco also experienced the trauma of the collapsed countercultural idealism. The victorious forces of corrupted governments and self-serving corporations had won, and the status quo was dominant. The countercultural energies of the 1960s had been sanitized, domesticated, and assimilated into the organized power structures. After absorbing like a magnet beatniks and hippies and those who felt they didn't fit elsewhere (this was the punks' opinion), the dark, hidden forces in control of the city had fought back these enlightened values of tolerance and personal freedom and emerged in the late 1970s essentially intact. In the eyes of San Francisco punks, former hippies and activists had become lost in a haze of disillusionment and betrayal. Punks saw hippies retreating into their New Age communes while the whole city of San Francisco seemed to have tumbled into Hell. Thus, punks disdained hippies for giving up a dream before it could be realized. San Francisco punks emerged not only in response to the dismal conditions of the seventies, but also to the grotesque transformation of the hippies into yuppies. San Francisco punk generation – youth with a median age of twenty years old – showed their contempt for former hippies and former activists in equal measure. Those former activists who did not give up, punks agreed, conformed. Punks argued that idealism from the 1960s had morphed into 1970s passivity. This passivity was intentional: the rebellious generation had become the "Me Generation" (Tom Wolfe), more concerned with personal gratification than with ameliorating the world. It's no wonder that, ten years after the Summer of Love, punks distinguished themselves clearly and loudly from hippies and activists, while asserting their own revolutionary ethos.

San Francisco punks showed the same nihilist tendency of the punks of other American cities; to borrow Salon.com founder David Talbot's epigraph for one section of his history of San Francisco in the 1970s, punks were motivated by "Darkness, Darkness" (Talbot, 2013, p. 109). In the Bay Area, however, punk nihilism was mixed with protest. Jello Biafra, the lead singer and frontman of the punk band Dead Kennedys who ran for mayor of San Francisco in 1979 and finished fourth, wrote in a column for *Damage* magazine, asserting, "The more you fuck with society, the less society controls you" (Foley, 2014, p. 86). The enemy, the political-industrial complex, so to speak, cannot be reformed; it needs to be opposed. The symbols of American power must be aggressively challenged, the establishment derided, eventually humiliated, as the prestige of the establishment was part of its power. Here is where the punks' dislike for the past activists originated. Students, free speech activists, civil rights advocates, and war and nuke protesters maintained this dream of changing the system, making progress, doing something meaningful. They were reformists. It is useful to draw a distinction between the reformist and the radical mind. Punks were radical because their primary purpose was to resist. In what they perceived as a moment of conservative backlash, San Francisco punks made common cause with marginalized people, ignited embattling communities, and uncompromisingly opposed the normalizing forces. It was this mix of nihilism and protest, anger and radicalism, disillusion and vitriol, skepticism and resistance and uncompromising opposition that made San Francisco punk a political form of anarchism. The anarchism of the 1960s was all

flowers and dreams, and it was ultimately motivated by self-expression. It was the anarchism of the communes in Berkeley, San Francisco, and the other small and large centers of the Bay Area. A decade later, punks were most explicitly *political* anarchists. Their anarchism was motivated by resistance. It was the attempt to mobilize the youth, to move away from passivity and apathy, and to begin a resilient struggle against the establishment. It was the anarchism of the underground collectives.

In summary, the San Francisco punk movement was the embodiment of a hydrochloric skepticism about the liberal project and the persistence of utopian thinking. The punk movement was neither a lament for the dream that was not, nor an attempt to call forth the better spirit of the 1960s. It was not even a new dream. The dream was dead, finished, or more probably it never existed. But people still behaved as if the dream were alive. And this was the real problem: people were like sleepwalkers controlled by society; individuals behaved like unconscious puppets. The problem was the tragically hopeless promises of liberal humanism, that is, that humans are inherently free. So, a great peril for the punks was to consider freedom an inner property, some kind of privileged drive of personal motives and intentions. The great peril, therefore, was for the punks to believe to be free and be not. The great peril was to become puppets, to be defined by the other. Thus, punks discovered the advantages of the underground. Going underground was not related to a move toward criminality or violence, but rather meant freedom from censorship and monitoring, and ultimately from social reengineering.

Cyberpunks

This complex picture became much clearer in the mid-1980s thanks to a group of authors writing vivid, hard-boiled science fiction stories. They include William Gibson, Bruce Sterling, and Simon Vance, whose tales are often filled with glossy images of mega-corporations and controlling governments set in an urban, dystopian future. Gibson's influential debut novel *Neuromancer* is the story of a computer hacker hired by a mysterious employer to pull off the ultimate hack (Gibson, 1984). Gibson (b. 1948) used the term in a short story published in 1982, two years before *Neuromancer* appeared, but popularized it and identified it with online computer networks in *Neuromancer*. "Cyberspace" is "a graphic representation of data abstracted from the banks of every computer in the human system" (Gibson, 1984, p. 51). This space is also named 'the Matrix.' The 'Matrix,' the term that Gibson used (and which was later adopted by the homonymous movie trilogy) to describe the global computer network in cyberspace, in Gibson's opinion was in effect a representation of the dystopian society in which he lived. The matrix is an allegory of the reality of a mechanized world of globalized reality and ubiquitous surveillance, dominated by large corporations run by faceless bureaucrats, the impunity of government, and the declining relevance of individuals and communities.

In 1984, Steven Levy wrote a book on the hacker culture and ethics: *Hackers: Heroes of the Computer Revolution*. The book was first revised in 1995 (its 10th anniversary edition) and again in 2010 (its 25th anniversary edition). Levy decided to write about the subject of hackers—those brilliant and eccentric nerds from the late 1950s

through the early '80 s—because he saw than as "adventurers, visionaries, risk-takers, [and] artists" rather than "nerdy social outcasts" (Levy, 2010, p. vii). More specifically, Levy understood the hackers as people who took risks, bent the rules, and pushed the world in a radical new direction. It is from resources like Levy's book that a better understanding of the nerd culture as technological libertarian culture can be reached. The novel's hero, a drug addict and cyberspace hacker, is the archetypal cyberpunk, the antihero who merges 'neuro,' the nervous system, and the 'mancer,' a shortcut for 'romancer' (Spinrad, 1986). If the shaman is the necromancer, the one who bridges the gap between life and death, the neuromancer is the one who bridges psychological life and technology. The cyberspace hacker is tech-savvy even when he/she tries exotic new drugs, while the real tech-outlaws are huge corporations employing undetected new marketing and surveillance techniques to drug their users' minds and literally mechanize their consciousness. His/her mission is to resist the psychological reality of a society profoundly disrupted by technology, in which technology exerts powerful control over the minds immersed in it. Thus, the cyberpunk is a technological rebel who rejects the invasive relationship with technologies, a relationship in which human minds are exploited while they are navigating intense, complex, immersive digital realities. To put it differently, the cyberpunk resists technologies used to access the human mind. The cyberpunk hero is a hacker who lives on the edge of society, an alienated loner in a dystopic society driven by rapid technological progress. He/she resists giant corporations and their plans to colonize users' minds and resists technocratic governments and their aim to control their citizens. In the alternative reality of the cyberpunk, the underworld is the ultimate resort; the illegal trade, gangs, and drugs are the marginalized, surviving reserves of humanity in a fully artificial world. The cyberpunk is an outsider, outcast, criminal, and dissenter: his/her illegal behavior represents a reaction against the invasive operation of so-called legal powers; his/her subversive attitude is a positive attack against a corrupted controlling power. To be punk is to question controlling powers, and to be cyberpunk is to actively subvert technology-driven controlling powers.

Cypherpunk

The association between hackers and libertarianism was established in 1993 through a *Wired* cover story. Levy, this time as a contributor to *Wired*, wrote a piece called "Crypto Rebels" in which he described the hackers (and more specifically, a distinct group of hackers) as mostly "techie-cum-civil libertarians" (Levy, 1993). This group of hackers, named 'cypherpunk,' a San Francisco-based community of those days, was led by a former employee of Intel, Tim May (1951–2018), who operated as the political theorist of the group and as a reluctant libertarian. It is in the early nineties when May (1951–2018) began the cypherpunk movement with Eric Hughes and John Gilmore (b. 1955) in Silicon Valley that the discourse on the 'crisis of human freedom' reached a new high. A group of 16 people started meeting every Saturday in an office building near Palo Alto, an area full of small tech startups, including Gilmore's company Cygnus Solutions. Soon, an unmoderated mailing list, labelled "Cypherpunks," was created, hosted on a server machine owned by Gilmore. The mailing list required no

membership fees and members could join anonymously. By November 1992, the list had about 100 members; it then grew into a global mailing list with over 500 members by 1994. Julian Assange (b. 1971) joined that year. Other célèbre members were Whit Diffie (b. 1944), the legendary co-inventor of public key cryptography, Nick Szabo (b. 1964), who popularized the notion of 'smart contract,' and Hal Finney (1956–2014), who created reusable proof-of-work. Their set of topics amalgamated mathematics, cryptography, politics, philosophy, and computer science. They envisioned that the Internet would make more pervasive the phenomenon of surveillance of individuals; their goal was to develop tools to secure communication and trade on the Internet and avoid government surveillance. A voracious group of consumers of science fiction, they read science fiction, they produced novels of science fiction, and they published non-fictional writings in anthologies of science fiction (May, 2001, pp. 33–87; Milhon & Sirius, 1997). They almost took the name of the cyberspace genre of science fiction. May explicitly connects the 'punk' part of the term to "the 'cyberpunk' genre of science fiction" that "often deals with issues of cyberspace and computer security" (May, 1994). Like the heroes of the cyberpunk genre, the cypherpunk is anti-authoritarian and tech-literate; he/she operates in the underground as the hacker, the anti-hero, the mysterious creator of Bitcoin. He/she is a resistant, at least until Assange would change the image of the cypherpunk into that of a subversive.

The cypherpunks and the free speech movement pursued the same aim, that is, fighting censorship and defending free speech; Gilmore, for example, identified (and still does) as a free speech fighter. The connection between cypherpunks and counterculture was unquestionable, with some cypherpunks acting as former civil rights activists at Selma and free speech students at UC Berkeley. Others participated in the communal subculture and maintained a grassroots attitude toward authority throughout their lives.[9] Some of them maintained (and still maintain) a countercultural attire: Whitfield Diffie (born 1944), the father of public-key cryptography, maintains shoulder-length blond hair and a Buffalo Bill-style beard before aging to resemble the Obi-Wan Kenobi of 1977 *Star Wars*; David Chaum (born 1955), the pioneer of digital cash (the ancestor of Bitcoin), has dressed in the uniform of a billy-goat beard and ponytail for most of his life; Gilmore (born 1955) is a tall, bearded man in wire-rim glasses and a ponytail. But it is more than the individuals' backgrounds and attire that makes interesting the connection between hippies and cypherpunks; it is their total alignment when it comes to resistance to technocracy and to centralized government.

Avant-guard

A little-known episode in the history of the students' movement links bureaucracy to technology. As a matter of fact, an inspiration for Savio's remark on the "operation of the machine" was IBM: technology was part of the governmental machine. The students heard that IBM was working at the service of the university administration on a project of student identity computation, in which each student's personal data would be encoded in a punched card. In reaction to it, free speech marchers at Berkeley wore computer cards as a sign of protest. In an interview, Savio explained that Berkeley students felt that "At Cal [University of California] you are little more than an IBM card."[10]

Students reacted against what they perceived as moral depravation, the prospect of becoming irrelevant as humans and in turn relevant as things. The crux of the matter was dehumanization at the hands of a distant and arbitrary power. In the seventies and the eighties, however, the problem was rather 'traffic data,' that is, the data processed for the purpose of the conveyance of a communication on an electronic communications network; it includes data relating to the routing, duration, or time of a communication and relates to an individual or a corporate subject.[11] Traffic data is also a syncopate expression for 'traffic data collection and analysis,' that is, 'to use or store someone's traffic data.' A group of scientists, engineers, mathematicians, and Silicon Valley entrepreneurs gradually connected the problem of traffic data with that of surveillance society. They all believed that the great political and technological issue of the day was whether governments and corporations in America would use the Internet to increase their control upon the individuals, then monitor and control their freedom and privacy through digital surveillance, or whether autonomous individuals would protect themselves from invasive institutions through the subversive tools digital computing also promised.

Soon, people like David Chaum (b. 1955) and Whitfield Diffie focused their attention on the question of traceability.' This word can be broken into two words: trace and ability, which means that it revolves around a technology with the ability to ensure the tracking of the communication on an electronic communications network, and ultimately the identification of the source. If the government can't track a person, they argued, it can't control that person. Chaum was particularly interested in digital trade and envisioned the solution in some sort of anonymity; Diffie, instead, focused his attention on individual communication and dealt with encryption. The former wrote extensively in the eighties on topics such as anonymous digital cash and pseudonymous reputation systems. His paper "Security without Identification: Transaction Systems to Make Big Brother Obsolete" was a major source of inspiration to the cypherpunks (Chaum, 1985). In first approximation, Chaum's idea is that true privacy is only possible when third-party roles are eliminated. For this, decentralization and a peer-to-peer marketplace are the solutions. MIT mathematician Diffie, however, identified the solution to the problem of traceability in encryption. Encryption is the art and science of keeping communication secret from people while revealing it to other people. Until the seventies, encryption was based on a 'single key' model, with the same code both locking and unlocking the message. Diffie and Martin Hellman solved this in 1976 with a system they called 'public key encryption.' In brief, each user is given his/her own personal cypher system comprised of two 'keys.' One can share his/her 'public' key with everyone, and they can use it to encrypt a message into a meaningless jumble that can be decrypted only with one's own secret 'private' key. Public key encryption transformed the potential uses of encryption, because suddenly people were able to send encrypted messages to each other without having to also exchange a code– and indeed without even having to ever meet at all.

Cypherpunk

The cypherpunks were born in 1992. The term is a derivation of 'cipher' and 'cyberpunk.' 'Cypher' is the British spelling of 'cipher,' a U.S. spelling. It stands for a

secret or disguised way of writing, i.e., a code. Less complicated is the explanation of 'punk.' The term 'cypherpunk' is credited to Jude Milhon (1939–2003): "I've got it! Cypherpunk!" she exclaimed at one of the group's first meetings in 1992 (Sirius, 2013). Members of the group and of the list that grew up later were busy exchanging ideas, discussing developments, and proposing and testing cyphers on a daily basis. Among the ideas elaborated by these members, a short list includes a secure crypto-currencies, a software enabling people to browse the Web anonymously, an unregulated marketplace—which May called BlackNet'—where anything could be bought or sold without being tracked (because there is no need for a central repository), and a prototype anonymous whistleblowing system. Most of these ideas would be over the next two decades transformed into operating technologies. Among the list's largest legacies, WikiLeaks has focused on spreading government secrets, the cryptocurrency Bitcoin was informed by the cypherpunk principle of using cryptography to avoid being tracked, and Blockchain embodied its philosophy of decentralization, that is, evading a centralized institution's surveillance of individuals. This primacy of action over theory is more than just a practical orientation within the movement; it is an existential requirement. In Hughes' words, "cypherpunks write code," that is, members of the cypherpunk movement take *personal* action to protect their and other people's freedom (Hughes, 1993).

In 1994, May published *Cyphernomicon*, his second manifesto, which incorporates his earlier piece *The Crypto Anarchist Manifesto* (May, 1988 and 1992). In it, he describe the cypherpunk movement from the inside with these words: "many of us are explicitly antidemocratic and hope to use encryption to undermine the so-called democratic governments of the world" (May, 1994). It is easy to interpret these words in terms of libertarian spirit, as Jamie Bartlett did in his precious book *The Dark Net: Inside the Digital Underworld*. According to Bartlett, May's words may be interpreted in terms of "too many decisions that affected the liberty of the individual were determined by a popular vote of democratic governments" (Bartlett, 2016, p. 78). But if democratic government is no longer the liberal government of modernity, rather the illiberal government of late modernity, the expression "democratic governments" takes on an entirely different meaning. A look at his previous *The Crypto Anarchist Manifesto* helps to clarify the point. In it, May establishes a parallel between print and encryption:

> Just as the technology of printing altered and reduced the power of medieval guilds and the social power structure, so too will cryptologic methods fundamentally alter the nature of corporations and of government *interference* in economic transactions (emphasis added) (May, 1988 and 1992).

Here the statement is limited to the phenomenon of economic transaction. But the problem is identified not in the operating mechanism of corporations and government, but instead in the nature of their interference in economic transaction. The problem is not how they work, but that they interfere with individuals' economic exchanges. In *Cyphernomicon*, May makes an obliquus reference to an Orwellian society. He is rebutting the idea that government monitoring can reduce crimes. Yes, he comments sarcastically, let's place a camera in every house! Then he concludes his comment with a list of references: "Orwell, fascism, surveillance states, what have you got to hide, etc." (May, 1994). The cypherpunks believed that technology, rather than law, can protect their freedom, not because the democratic system is wrong, but

because it is broken. This is why, in May's words, "these [freedom] rights may need to be secured through technology rather than through law" (May, 1994). More explicit is a long statement found on Gilmore's website where he narrowly focuses his criticism on the U.S. government and its agencies, including the F.B.I. and the N.S.A., with regard to the violation of "the basic rights of its own citizenry." He argues that people of the government are "burning the Constitution in order to save it," a proposition that can be fairly interpreted in terms of violation of the Constitution in name of national security (Gilmore, n.d.). Once again, the idea behind these comments is that of a technocracy operating behind the scenes; an illiberal force is bypassing the Constitution, working in the shadows against the same citizens that its members were supposed to protect. This situation raises the question about how private citizens can protect themselves from the government's invasive action of monitoring and censorship. The solution, therefore, is not to ask the government to enforce the law, the same law the government is breaking in name of a superior national interest, but rather to go underground. The most relevant cypherpunk's response to surveillance society, indeed, is the notion of cryptoanarchy, a theory of social organization developed by May. May devoted several papers to finalizing a theory that could be considered sound. On several occasions he paid tribute to Foucault and his work, and eventually admitted that in drafting his own theory of cryptoanarchy, he was under several influences, including that of Foucault.[12] With this assumption in mind, it can be argued that one reason that anarchy became a relevant topic in the cyberspace arena is that cypherpunks detected a change in the nature of government, so that the government was no longer the expression of a democracy or of a capitalist society, but rather of a technocracy. As a result, anarchism in cyberspace was both a declaration of autonomy and a reaction to a technocratic threat.

Conclusion

Successful distributed technologies such as Bitcoin and Blockchain have given new life to the ideas of the cypherpunk movement. This essay investigated where these ideas originated. More precisely, this essay provides a new framework for the mid-to-end of century trajectory of the 'crisis of human freedom' and so explains the intellectual lineage of the cypherpunk movement. It is an account of the origins of this trajectory, encompassing events in the San Francisco Bay Area between the mid-sixties to early nineties that gave rise to the cypherpunks. The argument is that the cypherpunks detected a certain 'crisis of human freedom' due to the rising of technocratic authoritarianism and reacted to it.

Notes

1. The Cypherpunk Archive can be found at https://lists.cpunks.org/pipermail/cypherpunks/2013-September/000741.html. Part of the primary documents issued by the cypherpunk leaders can be also found at http://nakamotoinstitute.org/literature/.
2. For the remark on Foucault, see Timothy C. May, conversation with the author (11/15/2017).
3. References are to Ryan Lackey, May, John Gilmore, and Julian Assange.
4. Mario Savio, Sit-in Address on the Steps of Sproul Hall, delivered December 2, 1964, The University of California at Berkeley.

5. *Harvard Crimson*, December 15, 1964.
6. Mario Savio delivered two speeches on December 2, 1964. The second speech was published several weeks later with the title "An End to History."
7. Savio, 'An End to History.'
8. Savio, 'An End to History.'
9. Jude *Milhon was at Selma in 1965. She was also instrumental in the development of the first online classified in the early Seventies*. Phil Zimmermann (born 1954) participated in antinuclear sit-ins and went to jail twice.
10. Mario Savio, California's Angriest Student, *Life*, February 26, 1965, 100–101, 100.
11. For the remark on 'traffic data,' see David Chaum, remark in front of the author (1/11/2019).
12. For the remark on Foucault, see Timothy C. May, conversation with the author (11/15/2017).

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References

Assange, J. (2012). *Cypherpunk*. New York, NY: OR Books.

Bartlett, J. (2016). *From the Dark Net: Inside the digital underworld*. New York, NY: Melville House.

Bentham, J. (1993). *Official aptitude maximized; expense minimized: The collected works of Jeremy Bentham* (Vol. 18). Oxford: Clarendon.

Berlan, A. (2019). Snowden, Constant, et le sens de la liberte a lheure du desastre. *Terrestrial*. Retrieved from https://www.terrestres.org/2019/12/20/snowden-constant-et-le-sens-de-la-liberte-a-lheure-du-desastre/

Chaum, D. (1985). Security without identification: Transaction systems to make big brother obsolete. *Communications of the ACM*, *28*(10), 1030–1044. doi:10.1145/4372.4373

Chomsky, N., & Foucaut, M. (2006). *The Chomsky-Foucault debate: On human nature*. New York, NY: The New Press.

Cohen, R., & R. E. Zelnik (Eds.) (2002). *The free speech movement: Reflections on Berkley in the 1960s*. Berkeley, CA: University of California Press.

Cohen, R. (2009). *Freedom's Orator: Mario Savio and the Radical Legacy of the 1960s* (Oxford: Oxford University Press).

Cohen, R. (Ed.) (2014). *The essential Mario Savio. Speeches and writings that changed America*. Berkeley, CA: University of California Press.

Conder, J. (2018). *Cypherpunk revolution: A bitcoin and blockchain primer*. Amazon Digital Services.

Dahlberg, L. (2010). Cyberlibertarianism. In *Oxford research encyclopedia of communication*. Retrieved from http://oxfordre.com/communication/view/10.1093/acrefore/9780190228613.001.0001/acrefore-9780190228613-e-70. A previous version was published as "Cyberlibertarianism 2.0: A discourse theory/critical political economy examination". *Cultural Politics*, *6*(3), 331–356.
Foley, M. S. (2014). *Dead Kennedys' fresh fruit for rotting vegetables*. Oakland, CA: PM Press.
Galbraith, J. K. (1958). *The affluent society*. Boston, MA: Houghton Mifflin Harcourt.
Gibson, W. (1984). *Neuromancer*. New York, NY: Ace Science Fiction.
Gilmore, J. (n.d). Retrieved from http://www.toad.com/gnu/
Goines, D. L. (1993). *The free speech movement: Coming to age in the 1960's*. Berkeley, CA: Ten Speed Press.
Hartz, L. (1955). *The liberal tradition in America: An interpretation of American political thought since the revolution*. San Diego, CA: Harcourt, Brace, and Howe.
Hughes, E. (1993). *A Cypherpunk Manifesto*.
Levy, S. (1993). Crypto Rebels, *Wired*, 02.01. Retrieved from https://www.wired.com/1993/02/crypto-rebels/
Levy, S. (2001). *Crypto: How the code Rebels beat the government saving privacy in the digital age*. New York, NY: Random House.
Levy, S. (2010). *Hackers: Heroes of the computer revolution*. Sebastopol, CA: O'Reilly Media, 25th anniversary edition.
Lucas, S. E., & Medhurst, M. J. (2009). *Worlds of a century: The top 100 American speeches, 1900–1999*. New York, NY: Oxford University Press.
Ludlow, P. (Ed.) (2001). *Crypto anarchy, cyberstates, and pirate utopias*. Cambridge, MA: MIT Press.
May, T. C. (1994). *Cyphernomicon*.
May, T. C. (1988 and 1992). *The Crypto Anarchist Manifesto*.
May, T. C. (2001). True Nyms and crypto anarchy. In J. Frenkel (Ed.), *True names: And the opening of the cyberspace frontier* (pp. 33–87). New York, NY: Tor Books.
Milhon, J., & Sirius, R. U. (1997). *How to mutate & take over the world: An exploded post-novel*. London: Random House.
Moretta, J. A. (2017). *The hippies, A 1960s history*. Jefferson, NC: McFarland & Co.
N.D. (1964). *Harvard Crimson*, December 15.
Rid, T. (2016). *Rise of the machines: A cybernetics history*. Brunswick, VIC: Scribe Publications.
Roszak, T. (1969). *The making of a counter culture*. Berkeley, CA: University of California Press.
Savio, M. (1965). California's Angriest Student, *Life*, February 26, pp. 100–101.
Shire, P. (2007). *Hippies of the religious right*. Waco, TX: Baylor University Press.
Sirius, R.U. (2013). Cypherpunk rising: WikiLeaks, encryption, and the coming surveillance dystopia. *La Verge*, March 7. Retrieved from https://www.theverge.com/2013/3/7/4036040/cypherpunks-julian-assange-wikileaks-encryption-surveillance-dystopia
Skinner, B. F. (1948). *Beyond freedom and dignity*. New York, NY: Knopf/Random House.
Skinner, B. F. (1971). *Walden two*. Indianapolis, IN: Hackett Publishing Company.
Spinrad, N. (1986). The neuromantics. *Issac Asimov's Science Fiction Magazine*, May, pp. 180–191.
Talbot, D. (2013). *Enchantment, terror, and deliverance in the city of love*. New York, NY: Free Press.
Tréguer, F. (2019). *L'utopie déchue: Une contre-histoire d'Internet, XVe-XXIe siècle*. Paris: Fayard.
Trilling, L. (1950). *The liberal imagination*. New York, NY: Viking Press.
Vangelisti, P. (ed.) (2013). Decentralized currencies, digital panhandling, startup governments: It's a cypherpunk world. *Bitcoin Magazine*, Issue 11, June.

Sources

Cypherpunk Archive at https://lists.cpunks.org/pipermail/cypherpunks/2013-September/000741.html.

Part of the primary documents issued by the cypherpunk leaders can be also found at http://nakamotoinstitute.org/literature/.

Chaum, D. remark in front of the author (1/11/2019).

May, T. C. conversation with the author (11/15/2017).

Savio, M. Sit-in Address on the Steps of Sproul Hall, delivered December 2, 1964. The University of California at Berkeley.