Crisis, Crisis, Crisis, or Sovereignty and Networks

Wendy Hui Kyong Chun

Abstract

This article addresses the seemingly paradoxical proliferation of coded systems designed to guarantee our safety and crises that endanger us. These two phenomena, it argues, are not opposites but rather complements; crises are not accidental to a culture focused on safety, they are its *raison d'être*. Mapping out the temporality of networks, it argues that crises are new media's critical difference: its exception and its norm. Although crises promise to disrupt memory – to disturb the usual programmability of our machines by indexing 'real time' – they reinforce codes and coded logic: both codes and crises are central to the production of mythical and mystical sovereign subjects who weld together norm with reality, word with action. Codes and states of exception are complementary functions, which render information and ourselves undead. Against this fantasy and against the exhaustion that crisis as norm produces, the article ends by arguing that we need a means to exhaust exhaustion, to recover the undecidable potential of our decisions and our information through a practice of constant care.

Key words

code ■ crisis ■ critical ■ exhaustion ■ networks ■ new media ■ software studies ■ sovereignty ■ states of exception

Introduction

HOW ARE codes and safety related? How can we understand the current proliferation of codes designed to guarantee our safety and of crises that endanger it? Codes, historically linked to rules and laws, seek to exempt us from hurt or injury by establishing norms, which order the present and render calculable the future. As Adrian Mackenzie and Theo Vurdubakis note, 'code systems and codes of conduct pervade many registers of "safe living" . . . many situations today become manageable or tractable by virtue of their codeability' (2007). Although codes encompass more than software – they are also 'cultural, moral, ethical' – computational codes are increasingly

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privileged as *the* means to guarantee 'safe living' because they seem to enforce automatically what they prescribe. If 'voluntary' actions once grounded certain norms, technically-enforced settings and algorithms now do, from software keys designed to prevent unauthorized copying to iPhone updates that disable unlocked phones, from GPS tracking devices for children to proxies used in China to restrict search engine results. Tellingly, trusted computer systems are systems secure from user interventions and understanding. Moreover, software codes not only save the future by restricting user action, they also do so by drawing on saved data and analysis. They are, after all, programmed. They thus seek to free us from danger by reducing the future to the past, or, more precisely, to a past anticipation of the future. Remarkably, though, computer systems have been linked to user empowerment and agency, as much as they have been condemned as new forms of control. Still more remarkably, software codes have not simply reduced crises, they have also proliferated them. From financial crises linked to complex software programs to super-computer dependent diagnoses and predictions of global climate change, from undetected computer viruses to bombings at securitized airports, we are increasingly called on both to trust coded systems and to prepare for events that elude them.

This article responds to this apparent paradox by arguing that crises are not accidental to a culture focused on safety, they are its *raison d'être*. In such a society, each crisis is the motor and the end of control systems; each initially singular emergency is carefully saved, analyzed and codified. More profoundly and less obviously, crises and codes are complementary because they are both central to the emergence of what appears to be the antithesis of both automation and codes: user agency. Codes and crises together produce (the illusion of) mythical and mystical sovereign subjects who weld together norm with reality, word with action. Exceptional crises justify states of exception that undo the traditional democratic separation of executive and legislative branches (see Agamben, 2005).

Correspondingly, as I've argued in my recent book, *Programmed Visions: Software and Memory*, software emerged as a thing – as an iterable textual program – through a process of commercialization and commodification that has made code *logos*: code as source, code as conflated with, and substituting for, action.[1] This article revisits code as *logos* in order to outline the fundamental role crises play in new media networks. Starting from an analysis of rhetorical and theoretical constructions of the internet as critical, it contends that crisis is new media's critical difference: its norm and its exception. Crises cut through the constant stream of information, differentiating the temporally valuable from the mundane, offering users a taste of real time responsibility and empowerment. They also threaten to undermine this experience, however, by catching and exhausting us in an endlessly repeating series of responses. Therefore, to battle this twinning of crisis and codes, we need a means to exhaust exhaustion, to recover the undead potential of our decisions and our information through a practice of constant care.

Internet Critical

The internet, in many ways, has been theorized, sold, and sometimes experienced as a 'critical' machine. In the mid-to-late 1990s, when the internet first emerged as a mass personalized medium through its privatization, both its detractors and supporters promoted it as a 'turning point, an important or decisive state' (*OED*) in civilization, democracy, capitalism, and globalization. Bill Gates called the internet a medium for 'friction-free capitalism' (1995). John Perry Barlow infamously declared cyberspace an ideal space outside physical coercion, writing: 'governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather' (1996). 'We in cyberspace', he continues, are 'creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth. We are creating a world where anyone, anywhere may express his or her beliefs, no matter how singular, without fear of being coerced into silence or conformity' (1996). Blatantly disregarding then-current internet demographics, corporations similarly touted the internet as the great racial and global equalizer: MCI advertised the internet as a race-free utopia; Cisco Systems similarly ran television advertisements featuring people from around the world, allegedly already online, who accosted the viewers with 'Are you ready? We are.' The phrase 'we are' made clear the threat behind these seeming celebrations: get online because these people already are (see Chun, 2006).

The internet was also framed as quite literally enabling the critical – understood as enlightened, rational debate – to emerge. Al Gore argued that the Global Information Structure finally realized the Athenian public sphere; the US Supreme Court explained that the internet proved the validity of the US judicial concept of a marketplace of ideas.[2] The internet, that is, finally instantiated the enlightenment and its critical dream by allowing us – as Kant prescribed – to break free from tutelage and to express our ideas as writers before the scholarly world. Suddenly we could all be Martin Luthers or town criers, speaking the truth to power and proclaiming how not to be governed like that.[3] It also remarkably instantiated critiques of this enlightenment dream: many theorists portrayed it as Barthes's, Derrida's and Foucault's theories come true.[4] The internet was critical because it fulfilled various theoretical dreams.

This rhetoric of the internet as critical, which helped transform the internet from a mainly academic and military communications network to a global medium, is still with us today, even though the daily experience of using the internet has not lived up to the early hype. From so-called 'twitter revolutions' – a name that erases the specificity of local political issues in favor of an internet application – to Wikileak's steady flow of information to Facebook's alleged role in the 2011 protests in Tunisia and Egypt, internet technologies are still viewed as inherently linked to freedom. As the

controversy over Wikileaks makes clear, this criticality is also framed as a crisis, as calling the critical – and our safety/security – into crisis. This crisis is not new or belated: the first attempt by the US government to regulate the content of the internet coincided with its deregulation. The same US government promoting the Information Superhighway also condemned it as threatening the sanctity and safety of the home by putting a porn shop in our children's bedroom.[5] Similarly, Mike Godwin formulated his law that 'as an online discussion grows longer, the probability of a comparison involving Nazis or Hitler approaches 1' in the 1990s (1994). So, at the very same time as the internet (as Usenet) was trumpeted as the ideal marketplace of ideas, it was also portrayed as degenerating public debate to a string of nasty accusations. Further, the same corporations celebrating the internet as the great racial equalizer also funded roundtables on the digital divide.[6] More recently, the internet has been linked to cyberbullying and has been formulated as the exact opposite of Barlow's dream: a nationalist machine that spreads rumors and lies. Joshua Kurlantzick, an adjunct fellow at the Pacific Council on International Policy in the US, told *The Korea Times* in response to the 2008 South Korean beef protests: 'the Internet has fostered the spread of nationalism because it allows people to pick up historical trends, and talk about them, with little verification' (Kang, 2008).

Likewise, critics have postulated the internet as the end of critical theory, not because it literalizes critical theory but rather because it makes criticism impossible. As theorists McKenzie Wark and Geert Lovink have insightfully argued, the sheer speed of telecommunications undermines the time needed for scholarly contemplation.[7] Scholarship, Wark argues, 'assumes a certain kind of time within which the scholarly enterprise can unfold', a time denied by global media events that happen and disappear at the speed of light (2005: 265). Theory's temporality is traditionally belated. Theory stems from the Greek *theoria*, a term that described a group of officials whose formal witnessing of an event ensured its official recognition. To follow Wark's and Lovink's logic, theory is impossible because we have no time to register events, and we lack a credible authority to legitimate the past as past. In response, Lovink has argued for a 'running theory' and Wark has argued that theory itself must travel along the same vectors as the media event. I am, as I've stated elsewhere, sympathetic to these calls (see Chun, 2008). However, I also think we need to theorize this narrative of theory in crisis, which resonates both with the general proliferation of crises discussed above and with much recent hand wringing over the alleged death of theory. Moreover, we need to theorize this narrative in relation to its corollary: an ever increasing desire for crises, or more properly for updates that demand response and yet to which it is impossible to respond completely, from ever updating twitter feeds to exploding inboxes. (That is, if, as Ursula Frohne theorized in response to the spread of webcams, that 'to be is to be seen', it would now seem that 'to be is to be updated' [2002: 252]. Automatically recognized changes of status have moved from

surveillance to news and evidence of one's ongoing existence.) The lack of time to respond – brought about by the inhumanly clocked time of our computers, which render the new old and, as I contend later, the old new – coupled by the demand for response, I want to suggest, makes the internet compelling. Crises structure new media temporality.

Crisis, New Media's Critical Difference

Crisis is new media's critical difference. In new media, crisis has found its medium, and in crisis new media has found its value – its punctuating device. Crises have been central to making the internet a mass medium to end mass media: a personalized mass device. The aforementioned crises answered the early questions: why go online? And how can the internet – an asynchronous medium of communication – provide compelling events for users? Further, crises are central to experiences of new media agency, to information as power: crises – moments that demand real time response – make new media valuable and empowering by tying certain information to a decision, personal or political (in this sense, new media also personalizes crises). Crises mark the difference between 'using' and other modes of media spectatorship/viewing, in particular 'watching' television, which has been theorized in terms of liveness and catastrophe. Comprehending the difference between new media crises and televisual catastrophes is central to understanding the promise and threat of new media.

Television has most frequently been theorized in terms of liveness: a constant flowing connection. As Jane Feuer has influentially argued, regardless of the fact that much television programming is taped, television is promoted as essentially live, as offering a direct connection to an unfolding reality 'out there' (see Feuer, 1983: 12–22). As Mary Ann Doane has further developed in her canonical 'Information, Crisis, Catastrophe', this feeling of direct connection is greatly enhanced in moments of catastrophe: during them, we stop simply watching the steady stream of information on the television set and sit, transfixed, before it. Distinguishing between television's three different modes of apprehending the event – information (the steady stream of regular news), crisis (a condensation of time that demands a decision: for this reason it is usually intertwined with political events), and catastrophe (immediate 'subjectless' events about death and the failure of technology) – Doane argues that commercial television privileges catastrophe because catastrophe 'corroborates television's access to the momentary, the discontinuous, the real' (1990: 222). Catastrophe, that is, underscores television's greatest technological power: 'its ability to be there – both on the scene and in your living room . . . the death associated with catastrophe ensures that television is felt as an immediate collision with the real in all its intractability – bodies in crisis, technology gone awry' (1990: 222). Rather than a series of decisions (or significations), televisual catastrophe presents us with a series of events that promise reference: a possibility of touching the real. However, like in Feuer's critique of liveness,

Doane points out that television's relation to catastrophe is ideological rather than essential. Televisual catastrophe is central to commercial television programming because it makes television programming and the necessary selling of viewer's time seem accidental, rather than central, to televisual time. 'Catastrophe', she writes, 'produces the illusion that the spectator is in direct contact with the anchorperson, who interrupts regular programming to demonstrate that it can indeed be done when the referent is at stake' (1990: 222). Thus television renders economic crises, which threaten to reveal the capitalist structure central to commercial television's survival, into catastrophes: apolitical events that simply happen. Televisual catastrophe is thus 'characterized by everything which it is said not to be – it is expected, predictable, its presence crucial to television's operation . . . catastrophe functions as both the exception and the norm of a television practice which continually holds out to its spectator the lure of a referentiality perpetually deferred' (1990: 238).

In contrast, new media is a crisis machine: the difference between the empowered user and the couch potato, the difference between crisis and catastrophe. From the endless text messages that have replaced the simple act of making a dinner date to the familiar genre of 'email forwarding accidents', crises promise to move us from the banal to the crucial by offering the experience of something like responsibility, something like the consequences and joys of 'being in touch'. Crisis promises to take us out of normal time, not by referencing the real but rather by indexing real time, by touching a time that touches a real, different time: a time of real decision, a time of our lives. It touches duration; it compresses time. It points to a time that seems to prove that our machines are interruptible, that programs always run short of the programmability they threaten. Further, crises, like televisual catastrophes, punctuate the constant stream of information, so that some information, however briefly, becomes (in)valuable. This value is not necessarily inherent to the material itself – this information could at other moments be incidental and is generally far less important than the contents of *The New York Times*. Their value stems from their relevance to an ongoing decision, to a sense of computers as facilitating 'real time' action.

Real time has been central to the makeover of computers from work machines to cool media devices that mix work and leisure. Real time operating systems transform the computer from a pre-programmed machine run by human operators in batch-mode to 'alive' personal machines, which respond to users' commands. Real time content, stock quotes, breaking news and streaming video similarly transform personal computers into personal media machines. What is real is what unfolds in real time (see Levin, 2002: 578–93). If before visual indexicality guaranteed authenticity (a photograph was real because it indexed something out there), now real time does so, for real time points elsewhere – to 'real world' events, to the user's captured actions. That is, real time introduces indexicality to this non-indexical medium, an indexicality felt most acutely in moments of

crisis, which enable connection and demand response. Crises amplify what Tara McPherson has called 'volitional mobility': dynamic changes to web pages in real time, seemingly at the bequest of the user's desires or inputs, that create a sense of liveness on demand. Volitional mobility, like televisual liveness, produces a continuity, a fluid path over discontinuity (see McPherson, 2002: 458–70; Galloway, 2004). It is a simulated mobility that expands to fill all time but, at the same time, promises that we are not wasting time, that indeed, through real time, we touch real time.

The decisions we make, however, seem to prolong crises rather than end them, trapping us in a never advancing present. Consider, for instance, 'viral' email warnings about viruses. Years after computer security programs had effectively inoculated systems against a 2005 trojan attached to a message claiming that Osama bin Laden had been captured, messages about the virus – many of which exaggerated its power – still circulated.[8] These messages spread more effectively than the viruses they warn of: out of good will, we disseminate these warnings to our address book, and then forward warnings about these warnings, etc., etc. (Early on, trolls took advantage of this temporality, with their initial volleys unleashing a firestorm of warnings against feeding the troll.) These messages, in other words, act as 'retroviruses'. Retroviruses, such as HIV, are composed of RNA strands that use a cell's copying mechanisms to insert DNA versions of themselves into a cell's genome. Similarly, these fleeting messages survive by our copying and saving them, by our active incorporation of them into our ever repeating archive. Through our efforts to foster safety, we spread retrovirally and defeat our computer's usual anti-viral systems.

This voluntary yet never-ending spread of information seemingly belies the myth of the internet as a 'small world'. As computer scientists D. Liben-Nowell and J. Kleinberg in their analysis of the spread of chain letters have shown, the spread of chain letters resembles a long thin tree, rather than a short fat one (Liben-Nowell and Kleinberg, 2008: 4633–38). This diagram seems counter-intuitive: if everyone on the internet was really within six degrees of each other, information on the internet should spread quickly and then die. Liben-Nowell and Kleinberg pinpoint asynchrony and replying preferences as the cause: because everyone does not forward the same message at once or to the same number of people, messages circulate at different paces and never seem to reach an end. This temporality – this long, thin chain of transmission – seems to describe more than just the spread of chain letters. Consider, for instance, the ways in which a simple search can lead to semi-volitional wandering: hours of tangential surfing. Microsoft has playfully called this temporality 'search engine overload syndrome' in its initial advertisements for its 'decision engine', *Bing*. In these commercials, characters respond to a simple question such as 'we really need to find a new place to go for breakfast' with a long stream of unproductive associations, such as statistics about 'the breakfast club'. These characters are unable to respond to a question – to make a decision – because

each word provokes a long thin chain of references due to the inscription of information into 'memory'.

This repetition of stored information reveals that the value of information no longer coincides with its initial 'discovery'. If once Walter Benjamin, comparing the time of the story and the news, could declare: 'the value of information does not survive the moment in which it was new. It lives only at that moment; it has to surrender to it completely and explain itself to it without losing any time', now newness alone does not determine value (1968: 90). In 2010, for instance, *The New York Times* charged online for its archive rather than its current news (although as of 2011 it charges users once they have read more than 20 articles); similarly, popular radio shows such as *This American Life* offered only this week's podcast for free. We pay for information we miss (if we do), either because we want to see it again or because we missed it the first time, our missing registered by the many references to it (consider, in this light, all the YouTube videos referencing *Two Girls, One Cup* after that video was removed). Repetition produces value, and memory, which once promised to save us from time, makes us out of time by making us respond constantly to information we have already responded to, to things that will not disappear. As the Bing commercials reveal, the sheer amount of saved information seems to defer the future it once promised. Memory, which was initially posited as a way to save us by catching what we lose in real time – by making the ephemeral endure and by fulfilling that impossible promise of continuous history to catch everything into the present – threatens to make us insane, that is, only if we expect search engines and information to make our decisions for us, only if we expect our programs to (dis)solve our crises.

Bing's solution – the exhausting of decisions altogether through a 'decision engine' (which resonates with calls for states of emergency to exhaust crises) – after all is hardly empowering. Bing's promised automation, however, does perhaps inadvertently reveal that, if real time new media do enable user agency, they do so in ways that mimic, rather than belie, automation and machines. Machinic real time and crises are both decision-making processes. According to the *OED*, real time is 'the actual time during which a process or event occurs, especially one analyzed by a computer, in contrast to time subsequent to it when computer processing may be done, a recording replayed, or the like'. Crucially, hard and soft real-time systems are subject to a 'real-time constraint'. That is, they need to respond, in a forced duration, to actions predefined as events. The measure of real time, in computer systems, is its reaction to the live, its liveness – its quick acknowledgment of and response to our action. They are 'feedback machines', based on control mechanisms that automate decision-making. As the definition of real time makes clear, real time refers to the time of computer processing, not to the user's time. Real time is never real time – it is deferred and mediated. The emphasis on crisis in terms of user agency can thus be seen as a screen for the ever increasing automation of our decisions. While users struggle to respond to 'what's on your mind?',

their machines quietly disseminate their activity. What we experience is arguably not a real decision but rather one already decided in a perhaps unforeseen manner: increasingly, our decisions are like actions in a video game. They are immediately felt, affective, and based on our actions, and yet at the same time programmed. Furthermore, crises do not arguably interrupt programming, for crises – exceptions that demand a suspension, or at the very least an interruption of rules or the creation of new norms – are intriguingly linked to technical codes or programs.

Logos as State of Exception

Importantly, crises – and the decisions they demand – do not simply lead to the experience of responsibility; as the term 'panic button' nicely highlights, they also induce moments of fear and terror from which we want to be saved via corporate, governmental, or technological intermediaries. States of exception are now common reactions to events that call for extraordinary responses, to moments of undecidability. As Jacques Derrida has argued, the undecidable calls for a response that, 'though foreign and heterogeneous to the order of the calculable and the rule, must . . . nonetheless . . . deliver itself over to the impossible decision while taking account of law and rules' (Derrida, 2002: 252). States of emergency respond to the undecidable by closing the gap between rules and decision through the construction of a sovereign subject who knits together force and law (or, more properly, force and suspended law); this sovereign subject through his actions makes the spirit of the law live. Although these states would seem to be the opposite of codes and programs, I want to link them together – and to the experience of crises discussed earlier – through questions of agency or, more properly as I explain later, authority.

Giorgio Agamben has most influentially theorized states of exception. He notes that one of the essential characteristics of the state of exception is 'the provisional abolition of the distinction among legislative, executive, and judicial powers' (2005: 7). This provisional granting of 'full powers' to the executive suspends a norm such as the constitution in order to better apply it. The state of exception is:

> the opening of a space in which application and norm reveal their separation and a pure force-of-law realizes (that is, applies by ceasing to apply . . .) a norm whose application has been suspended. In this way, the impossible task of welding norm and reality together, and thereby constituting the normal sphere, is carried out in the form of the exception, that is to say, by presupposing their nexus. This means that in order to apply a norm it is ultimately necessary to suspend its application, to produce an exception. In every case, the state of exception marks a threshold at which logic and praxis blur with each other and a pure violence without logos claims to realize an enunciation without any real reference. (2005: 40)

The state of exception thus reveals that norm and reality are usually separate – it responds to the moment of their greatest separation. In order to bring them together, force without law/*logos* – a living sovereign – authorizes a norm 'without any reference to reality' (2005: 36).[9] That is, if the relationship between law and justice – a judicial decision – usually refers to an actual case (it is an instance of parole, an actual speaking), a norm in a state of exception is *langue* in its pure state: an abstract and mystical signifier. It is a moment of pure violence without *logos* (2005: 40).

At one level, states of exception would seem the opposite of programming. Programs do not suspend anything, but rather ensure the banal running of something 'in memory'. Programs reduce the living world to dead writing; they condense everything to 'source code' written in advance, hence the adjective 'source'. This privileging of code is evident in common sense to theoretical understandings of programming, from claims made by free software advocates that free source code is freedom to those made by new media theorists that new media studies is, or should be, software studies. Programmers, computer scientists, and critical theorists have all reduced software – once evocatively described by historian Michael Mahoney as 'elusively intangible, the behavior of the machines when running' and described by theorist Adrian Mackenzie as a 'neighbourhood of relations' – to a recipe, a set of instructions, substituting space/text for time/process (Mahoney, 1988: 121; Mackenzie, 2006: 169).

Consider, for instance, the common sense computer science definition of software as a 'set of instructions that direct a computer to do a specific task' and the *OED* definition of software as 'the programs and procedures required to enable a computer to perform a specific task, as opposed to the physical components of the system'. Software, according to these definitions drives computation. These definitions, which treat programs and procedures interchangeably, erase the difference between human readable code, its machine readable interpretation, and its execution. The implication is thus: execution does not matter – like in conceptual art, it is a perfunctory affair; what really matters is the source code.

Relatedly, several new media theorists have theorized code as essentially and rigorously 'executable'. Alexander Galloway, for instance, has powerfully argued that 'code draws a line between what is material and what is active, in essence saying that writing (hardware) cannot *do* anything, but must be transformed into code (software) to be effective. . . . Code is a language, but a very special kind of language. *Code is the only language that is executable* . . . code is the first language that actually does what it says' (2004: 165–6; emphasis in original).[10] This view of software as 'actually doing what it *says*' assumes no difference between source code and execution, instruction and result. Here the '*says*' is not accidental – although perhaps surprising coming from a theorist who argues in an article called 'Language Wants to Be Overlooked' that 'to see code as subjectively performative or enunciative is to anthropomorphize it, to project it onto the rubric of psychology, rather than to understand it through its own logic of

"calculation" or "command"" (2006: 321). The phrase 'code is the first language that does what it *says*' reveals that code has surprisingly – because of machinic, dead repetition – become *logos*. Like the King's speech in Plato's *Phaedrus*, it does not pronounce knowledge or demonstrate it – it transparently pronounces itself.[11] The hidden signified – meaning the father's intentions – shines through and transforms itself into action. Like Faust's translation of *logos* with 'deed', '*The spirit speaks! I see how it must read | And boldly write: 'In the beginning was the Deed!'*', software is word become action – a replacement of process with inscription that makes writing a live power by conflating force and law.

Not surprisingly, this notion of source code as source coincides with the introduction of alphanumeric languages. With them, human-written, nonexecutable code becomes source code and the compiled code becomes the object code. Source code thus is arguably symptomatic of human language's tendency to attribute a sovereign source to an action, a subject to a verb. By converting action into language, source code emerges. Thus Galloway's statement – 'to see code as subjectively performative or enunciative is to anthropomorphize it, to project it onto the rubric of psychology, rather than to understand it through its own logic of "calculation" or "command"" – overlooks the fact that to use higher-level alphanumeric languages is already to anthropomorphize the machine and to reduce all machinic actions to the commands that supposedly drive them. In other words, the fact that 'code is law' – something Lawrence Lessig emphasizes with great aplomb – is at one level hardly profound (see Lessig, 2000). Code, after all, is 'a systematic collection or digest of the laws of a country, or of those relating to a particular subject' (*OED*). What is surprising is the fact that software is code, that code is – has been made to be – executable, and that this executability makes code not law but rather every lawyer's dream of what law should be: automatically enabling and disabling certain actions and functioning at the level of everyday practice. Code as law is code as police. Insightfully, Derrida argues that modern technologies push the 'sphere of the police to absolute ubiquity' (2002: 279). The police weld together norm with reality; they 'are present or represented everywhere there is force of law . . . they are present, sometimes invisible but always effective, wherever there is preservation of the social order' (2002: 278).

Code as law as police, like the state of exception, makes executive, legislative and juridical powers coincide. Code as law as police erases the gap between force and writing, langue and parole, in a complementary fashion to the state of exception. It makes language abstract, erases the importance of enunciation, not by suspending law but rather by making *logos* everything. Code is executable because it embodies the power of the executive. More generally, the dream of executive power as source lies at the heart of Austinian-inspired understandings of performative utterances as simply doing what they say. As Judith Butler has argued in *Excitable Speech*, this theorization posits the speaker as 'the judge or some other representative of the law' (1997: 48). It resuscitates fantasies of sovereign – again

executive – structures of power. It embodies 'a wish to return to a simpler and more reassuring map of power, one in which the assumption of sovereignty remains secure' (1997: 78). Not accidentally, programming in a higher-level language has been compared to entering a magical world – a world of *logos*, in which one's code faithfully represents one's intentions, albeit through its blind repetition rather than its 'living' status.[12] As Joseph Weizenbaum, MIT professor, creator of ELIZA and member of the famed MIT AI lab, has argued:

> The computer programmer . . . is a creator of universes for which he alone is the lawgiver. So, of course, is the designer of any game. But universes of virtually unlimited complexity can be created in the form of computer programs. Moreover, and this is a crucial point, systems so formulated and elaborated *act out* their programmed scripts. They compliantly obey their laws and vividly exhibit their obedient behavior. No playwright, no stage director, no emperor, however powerful, has ever exercised such absolute authority to arrange a stage or a field of battle and to command such unswervingly dutiful actors or troops. (1976: 115)

Weizenbaum's description underscores the mystical power at the base of programming: a power both to found and to enforce. Automatic compliance welds together script and force, again, code as law as police or as the end of democracy. As Derrida has underscored, the police is the name for:

> the degeneration of democratic *power* . . . Why? In absolute monarchy, legislative and executive powers are united. In it violence is therefore normal, conforming to its essence, its idea, its spirit. In democracy, on the contrary, violence is no longer accorded nor granted to the spirit of the police. Because of the presumed separation of powers, it is exercised illegitimately, especially when instead of enforcing the law, it makes the law. (2002: 281)

Code as *logos* and states of exception both signify a decay of the decay that is democracy.

Tellingly, this machinic execution of law is linked to the emergence of a sovereign user. Celebrations of an all-powerful user/agent – 'you' as the network, 'you' as producer – counteract concerns over code as law as police by positing 'you' as the sovereign subject, 'you' as the decider. An agent, however, is one who does the actual labor, hence an agent as one who acts on behalf of another. On networks, the agent would seem to be technology rather than the users or programmers who authorize actions through their commands and clicks. Programmers and users are not creators of languages, nor the actual executors, but rather living sources who take credit for the action. Similarly, states of exception rely on *auctoritas*. The *auctor* is one who, like a father who 'naturally' embodies authority, authorizes a state of emergency (Agamben, 2005: 82). An *auctor* is 'the person who augments, increases or perfects the act – or the legal situation – of someone else' (Agamben, 2005: 76). The subject that arises, then, is the opposite of the

democratic agent, whose power stems from *protestas*. Hence the state of exception, Agamben argues, revives the *auctoritas* as father, as living law:

> The state of exception . . . is founded on the essential fiction according to which anomie (in the form of auctoritas, living law, or the force of law) is still related to the juridical order and the power to suspend the norm as an immediate hold on life. As long as the two elements remain correlated yet conceptually, temporally, and subjectively distinct (as in republican Rome's contrast between the Senate and the people, or in medieval Europe's contrast between spiritual and temporal powers) their dialectic – though founded on a fiction – can nevertheless function in some way. But when they tend to coincide in a single person, when the state of exception, in which they are bound and blurred together, becomes the rule, then the juridico-political system transforms itself into a killing machine. (2005: 86)

The reference here to killing machines is not accidental. States of exception make possible a living authority based on an unliving (or, as my spell check keeps insisting, an unloving) execution. This insistence on life also makes it clear why all those discussions of code anthropomorphize it, using terms such as 'says' or 'wants'. It is, after all, as a living power that code can authorize. It is the father behind *logos* that shines through the code.

To summarize, we are witnessing an odd dovetailing of the force of law without law with writing as *logos*, which perverts the perversion that writing was supposed to be (writing as the bastard 'mere repetition' was defined in contrast to and as inherently endangering *logos*). They are both language at its most abstract and mystical, albeit for seemingly diametrically opposed reasons: one is allegedly language without writing; the other writing without language. This convergence, which is really a complementary pairing, since they come to the same point from different ends, puts in place an originary sovereign subject. This originary sovereign subject, however, as much as he may seem to authorize and begin the state of exception, is created belatedly by it. Derrida calls sovereign violence the naming of oneself as sovereign – the sovereign 'names itself. Sovereign is the violent power of this originary appellation', an appellation that is also an iteration (2002: 293). Judith Butler similarly argues that it is through iterability that the performative utterance creates the person who declares it. Further, the effect of this utterance does not originate with the speaker, but rather with the community s/he joins through speaking (1997: 39). The programmer/user is produced through the act of programming. Code as *logos* depends on many circumstances, which also undermine the authority of those who would write.

Sources, After the Fact

Source code as source – as *logos* – is a highly constructed and rather dubious notion, not in the least because, as Friedrich Kittler has most

infamously argued, 'there is no software', for everything, in the end, reduces to voltage differences (1995). Similarly (and earlier), physicist Rolf Landauer has argued that 'there is really no software, in the strict sense of disembodied information, but only inactive and relatively static hardware. Thus, the handling of information is inevitably tied to the physical universe, its contest and its laws' (1987: 35). This construction of source code as *logos* depends on many historical and theoretical, as well as physical, erasures. Source code after all cannot be run, unless it is compiled or interpreted, which is why early programmers called source code pseudo-code.[13] Execution, that is a whole series of executions, belatedly makes some piece of code a source. Source code only becomes a source after the fact. Source code is more accurately a re-source, rather than a source. Source code becomes the source of an action only after it expands to include software libraries, after it merges with code burned into silicon chips, and after all these signals are carefully monitored, timed and rectified. It becomes a source after it is rendered into an executable: source code becomes a source only through its destruction, through its simultaneous non-presence and presence.[14] Even executable code is no simple source: it may be executable, but even when run, not all lines are executed, for commands are read in as necessary. The difference between executable and source code brings out the ways in which code does not simply do what it says – or more precisely, does so in a technical (crafty) manner.[15] Even Weizenbaum, as he posits the programmer as all powerful, also describes him as ignorant because code as law as police is a fiction. The execution of a program more properly resembles a judicial process:

> a large program is, to use an analogy of which Minsky is also fond, an intricately connected network of courts of law, that is, of subroutines, to which evidence is transmitted by other subroutines. These courts weigh (evaluate) the data given to them and then transmit their judgments to still other courts. The verdicts rendered by these courts may, indeed, often do, involve decisions about what court has 'jurisdiction' over the intermediate results then being manipulated. The programmer thus cannot even know the path of decision-making within his own program, let alone what intermediate or final results it will produce. Program formulation is thus rather more like the creation of a bureaucracy than like the construction of a machine of the kind Lord Kelvin may have understood. (1976: 234)

This complex structure belies the conceit of source code as conflating word and action. The translation from source code to executable is arguably as involved as the execution of any command. Compilation carries with it the possibility of deviousness: our belief that compilers simply expand higher-level commands – rather than alter or insert other behaviors – is simply that, a belief, one of the many that sustain computing as such. It is also a belief challenged by the presence and actions of viruses, which – as Jussi

Parikka has argued – challenge the presumed relationship between invisible code and visible actions and the sovereignty of the user (see Parrika, 2007).

Source code as source is also the history of structured programming, which sought to reign in 'go-to crazy' programmers and self-modifying code. A response to the much discussed 'software crisis' of the late 1960s, its goal was to move programming from a craft to a standardized industrial practice by creating disciplined programmers who dealt with abstractions rather than numerical processes. This dealing with abstractions also meant increasingly separating the programmer from the machine. As Kittler (1995) has infamously argued, we no longer even write. With 'data-driven programming' – in which solutions are generated rather than produced in advance – it seems we even no longer program. Code as *logos* would seem language at its most abstract because, like the state of exception, it is language in pure state. It is language without parole, or, to be more precise, language that hides – that makes unknowable – parole.

To be clear, I am not valorizing hardware over software, as if hardware naturally escapes this drive to make space signify time. Hardware too is carefully disciplined and timed in order to operate 'logically' – as *logos*. As Philip Agre has emphasized, the digital abstraction erases the fact that gates have 'directionality in both space (listening to its inputs, driving its outputs) and in time (always moving toward a logically consistent relation between these inputs and outputs)' (1997: 92).[16] This movement in time and space was highlighted nicely in early forms of 'regenerative' memory, such as the Williams tube. The Williams tube used televisual CRT technology not for display but for memory: when a beam of electrons hits the phosphor surface, it produces a charge that persists for .2 seconds before it leaks away. Therefore, if a charge can be regenerated at least five times per second, it can be detected by a parallel collector plate. Key here – and in current forms of volatile memory involved in execution – is erasability. Less immediately needed data does not need to regenerate and Von Neumann intriguingly included within the rubric of 'memory' almost all forms of data, referring to stored data and all forms of input and output as 'dead' memory. Hence now in computer speak, one reverses common language and stores something in memory. This odd reversal and the conflation of memory and storage gloss over the impermanence and volatility of computer memory. Without this volatility, however, there would be no memory.[17]

This repetition of signals both within and outside the machine makes clear the necessity of responsibility – of constant decisions – to something like safety (or saving), which is always precarious. It thus belies the overarching belief and desire in the digital as simply there – anything that is not regenerated will become unreadable – by also emphasizing the importance of human agency, a human act to constantly save that is concert with technology. Saving is something that technology alone cannot do – the battle to save is a crisis in the strongest sense of the word. This necessary repetition makes us realize that this desire for safety as simple securing, as ensured by code, actually puts us at risk of losing what is valuable, from

data stored on old floppy drives to CDs storing our digital images because, at a fundamental level, the digital is an event, rather than a thing.[18] It also forces us to engage with the fact that if something stays in place, it is not because things are unchanging and unchangeable, but rather because they are constantly implemented and enforced. From regenerative mercury delay line tubes to the content of digital media, what remains is not what is static, but rather that which is constantly repeated. This movement does not mean that there are no things that can be later identified as sources, but rather that constant motion and care recalls things in memory. Further, acknowledging this necessary repetition moves us away from wanting an end (because what ends will end) and towards actively engaging and taking responsibility for everything we want to endure. It underscores the importance of access, another reason for the valorization of digitization as a means of preservation. To access is to preserve.

By way of conclusion, I want to suggest that this notion of constant care can exhaust the kind of exhaustion encapsulated in 'search overload syndrome'. The experience of the undecidable – with both its reliance on and difference from rules – highlights the fact that any responsibility worthy of its name depends on a decision that must be made precisely when we know not what to do. As Thomas Keenan eloquently explains, 'the only responsibility worthy of the name comes with the removal of grounds, the withdrawal of the rules or the knowledge on which we might rely to make our decisions for us. No grounds means no alibis, no elsewhere to which to refer the instance of our decision' (1997: 1). Derrida similarly argues that 'a decision that would not go through the test and ordeal of the undecidable would not be a free decision; it would only be the programmable application or the continuous unfolding of a calculable process' (2002: 252). The undecidable is thus freedom in the more rigorous sense of the word – a freedom that comes not from safety but rather from risk. It is a moment of pause that interrupts our retroviral dissemination and induces the madness that, as Kierkegaard has argued, accompanies any moment of madness. The madness of a decision, though, differs from the madness described by Microsoft, which stems from the constant deferral of a decision. This deferral of decision, stemming from a belief in information as decision, catches us in a deluge of minor-seeming decisions that defer our engagement with crisis – or renders everything and thus nothing a crisis. To exhaust exhaustion, we need to exhaust too the desire for an end, for a moment in which things can just stand still. We need to learn to rest while moving.

To exhaust exhaustion we must also deal with – and emphasize – the precariousness of programs and their predictions. That is, if they are to help us save the future – to help us fight the exhaustion of planetary, reserves, etc. – they can only do so if we use the gap between their future predictions and the future not to dismiss them, but rather to frame their predictions as calls for responsibility. That is, 'trusting' a program does not mean letting it decide the future or even framing its future predictions as simply true, but instead acknowledging the

impossibility of knowing its truth in advance while nonetheless responding to it. This is perhaps made most clear through the example of global climate models, which attempt to convince people that something they can't yet experience, something simulated, is true (this difficulty is amplified by the fact that we experience weather, not climate – like capital, climate, which is itself the product of modern computation, is hard to grasp). Trusted models of global mean temperature by organizations such as Geophysical Fluid Dynamics Laboratory (GFDL) 'chart' changes in mean temperature from 1970–2100.[19] Although the older temperatures are based on historical data, and thus verifiable, the future temperatures are not. This suturing of the difference between past and future is not, however, the oddest thing about these models and their relation to the future, although it is certainly the basis from which they are most often attacked. The weirdest and most important thing about their temporality is their hopefully effective deferral of the future: these predictive models are produced so that, if they are persuasive and thus convince us to cut back on our carbon emissions, what they predict will not come about. Their predictions will not be true or verifiable. This relationship is necessary because by the time we know if their predictions are true or not, it will be too late (this is perhaps why the Bush administration supported global climate change research: by investigating the problem, building better models, they bought more time for polluters). I stress this temporality not because I'm a climate change denier – the fact that carbon monoxide raises temperature has been known for over a century – but because, by engaging this temporality in terms of responsibility, we can best respond to critics who focus on the fallibility of algorithms and data, as if the gap between the future and future predictions was reason for dismissal rather than hope. (Surprisingly, these critics often accept other models with this same temporality – such as economic models – without question.)

This mode of deferring a future for another future is an engagement with the undead of information. The undead of information haunts the past and the future; it is itself a haunting. As Derrida explains, 'the undecidable remains caught, lodged, as a ghost . . . in every decision, in every event of decision. Its ghostliness . . . deconstructs from within all assurance of presence, all certainty or all alleged criteriology assuring us of the justice of a decision, in truth of the very event of a decision' (2002: 253). This undeadness means that a decision is never decisive, that it can always be revisited and reworked. Repetition is not simply exhaustion, not simply repetition of the same that uses up its object or subject. What can emerge positively from the linking of crisis to networks – what must emerge from it if we are not to exhaust ourselves and our resources – are constant ethical encounters between self and other. These moments can call forth a new future, a way to exhaust exhaustion, even as they complicate the deconstructive promise of responsibility.

Notes

1. As Barbara Johnson notes in her explanation of Jacques Derrida's critique of logocentrism, *logos* is the 'image of perfectly self-present meaning . . . the underlying ideal of Western culture. Derrida has termed this belief in the self-presentation of meaning, "Logocentrism," for the Greek word *Logos* (meaning speech, logic, reason, the Word of God)' (Johnson, 1981: ix).

2. See Gore (1994) and US Supreme Court Decision *Reno versus ACLU No. 96–511* (1997).

3. For more on enlightenment as a stance of how not to be governed like that, see Foucault (1996: 382–98).

4. For examples see Landow (1992), Turkle (1997) and *Women and Performance* issue 17.

5. Senator Daniel R. Coats argued during congressional debate over the *Communications Decency Act*: 'perfunctory onscreen warnings which inform minors they are on their honor not to look at this [are] like taking a porn shop and putting it in the bedroom of your children and then saying "Do not look"' (as quoted in the *Department of Justice Brief Filed with the Supreme Court 21* in 1997).

6. For more on this see Chun (2006).

7. See Wark (2005) and Lovink (2000). Lovink elsewhere contends: 'because of the speed of events, there is a real danger that an online phenomenon will already have disappeared before a critical discourse reflecting on it has had the time to mature and establish itself as institutionally recognized knowledge' (Lovink, 2003: 12).

8. See 'Osama Bin Laden Virus Emails' (http://www.hoax-slayer.com/bin-laden-captured.html; accessed 7 July 2010).

9. According to Agamben: 'The state of exception is an anomic space in which what is at stake is a force of law without law (which should therefore be written: force-of-law). Such a 'force-of-law,' in which potentiality and act are radically separated, is certainly something like a mystical element, or rather a *fictio* by means of which law seeks to annex anomie itself' (2005: 39).

10. Given that the adjective executable applies to anything that 'can be executed, performed, or carried out' (the first example of 'executable' given by the *OED* is from 1796), this is a strange statement.

11. See Derrida's analysis of *The Phaedrus* in 'Plato's Pharmacy' (1981: 134).

12. Fred Brooks, while responding to the disaster that was OS/360, also emphasized the magical powers of programming. Describing the joys of the craft, Brooks writes:

> Why is programming fun? What delights may its practitioner expect as his reward?
> First is the sheer joy of making things . . .
> Second is the pleasure of making things that are useful to other people . . .

> Third is the fascination of fashioning complex puzzle-like objects of interlocking moving parts and watching them work in subtle cycles, playing out the consequences of principles built in from the beginning . . .
> Fourth is the joy of always learning, which springs from the nonrepeating nature of the task . . .
>
> Finally there is the delight of working in such a tractable medium. The programmer, like the poet, works only slightly removed from thought-stuff. He builds his castles in the air, from air, creating by exertion of the imagination. . . . Yet the program construct, unlike the poet's words, is real in the sense that it moves and works, producing visible outputs separate from the construct itself. It prints results, draws pictures, produces sounds, moves arms. The magic of myth and legend has come true in our time. One types the correct incantation on a keyboard, and a display screen comes to life, showing things that never were nor could be. (1995: 7–8)

13. For instance, *The A-2 Compiler System Operations Manual* (1953) explains that a pseudo-code drives its compiler, just as 'C-10 Code tells UNIVAC how to proceed. This pseudo-code is a new language which is much easier to learn and much shorter and quicker to write. Logical errors are more easily found in information than in UNIVAC coding because of the smaller volume' (p. 1).

14. Jacques Derrida stresses the disappearance of the origin that writing represents: 'To repeat: the disappearance of the good-father-capital-sun is thus the precondition of discourse, taken this time as a moment and not as a principle of *generalized* writing. . . . The disappearance of truth as presence, the withdrawal of the present origin of presence, is the condition of all (manifestation of) truth. Nontruth is the truth. Nonpresence is presence. Differance, the disappearance of any originary presence, is *at once* the condition of possibility *and* the condition of impossibility of truth. At once' (1981: 168, emphasis in original).

15. Compilation creates a logical – a crafty – relation rather than a numerical one – one that cannot be compared to the difference between decimal or binary numbers, or numerically equivalent equations, for it involves instruction explosion and the translation of symbolic into real addresses. For example, consider the instructions needed for adding two numbers in PowerPC assembly language:

```
li      r3,10          *load register 3 with the number 10
li      r4,20          *load register 4 with the number 20
add     r5,r4,r3       *add r3 to r4 and store the result in r5
stw     r5,sum(rtoc)   *store the contents of r5 (i.e. 30)
                       *into the memory location called 'sum'
blr                    *end of this piece of code
```

16. When a value suddenly changes, there is a brief period in which a gate will give a false value. In addition, because signals propagate in time over space, they produce a magnetic field that can corrupt other signals nearby ('crosstalk'). This schematic erases all these various time- and distance-based effects by rendering space blank, empty, and banal.

17. Memory is not static, but rather an active process. A memory must be held in order to keep it from moving or fading. Memory does not equal storage: although one can conceivably store a memory, storage usually refers to something material or substantial, as well as to its physical location: a store is both what and where it is stored. According to the *OED*, to store is to furnish, to build stock. Storage or stocks always looks towards the future. Memory stems from the same Sanskrit root for martyr. Memory calls for an act of commemoration or renewal of what is stored. Memory is not a source but an act, and by focusing on either memory or real time as sources, we miss the importance of this and other actions, such as the transformation of information into knowledge, of code into vision. Since the coded 'source' of digital media can only operate by being constantly refreshed, degenerated, and regenerated, the critical difficulty of digital media thus stems less from its speed or source, but rather from the ways in which it runs.

18. Wolfgang Ernst thus argues that new media is a time-based medium. See Ernst (2006: 105–23).

19. See the Geophysical Fluid Dynamics Laboratory (GFDL) 'chart' here: http://www.gfdl.noaa.gov/video/gfdlglobe.tref.d4h2x1.1970.2100.30f.720x480.mov

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Wendy Hui Kyong Chun is Professor of Modern Culture and Media at Brown University. She has studied both Systems Design Engineering and English Literature, which she combines and mutates in her current work on digital media. She is author of *Control and Freedom: Power and Paranoia in the Age of Fiber Optics* (MIT, 2006) and *Programmed Visions: Software and Memory* (MIT, 2011), and she is co-editor of *New Media, Old Media: A History and Theory Reader* (Routledge, 2006) and of a special issue of *Camera Obscura* entitled *Race and/as Technology*. She is currently working on a manuscript entitled *Imagined Networks, Glocal Connections*. [email: whkchun@brown.edu]