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An Argument Summary of Alexander Galloway's *Protocol*

In *Protocol* Alexander Galloway argues that the Internet is not the "free-for-all of information" that many people perceive it to be, rather it is a controlled network. As Eugene Thacker outlines in the book's forward, "Information does flow, but in a highly regulated manner." By examining the network not as a metaphor, or as a theory, but as a technical diagram by which digital data is managed, Galloway illustrates *how control can exist after decentralization*.

I. How Control Exists After Decentralization

1. Introduction and Physical Media

"This book is about a diagram, a technology, and a management style", explains Galloway. The diagram is the distributed network, the technology is the digital computer and the management style is the protocol. These three come together to define the "computerized information management" system that is the Internet.

In order to examine the distributed network in relationship to control, first Galloway looks at what he believes are the management techniques that have been imposed upon the societies of the past. He looks at management in relation to three historical periods: the sovereign society, disciplinary society and the control society.

Whereas the first two periods administer control through a hub or a node, in the distributed network there are "no hubs", for each entity is an autonomous agent. It's within this latter shift that we can come to see the Internet as a trope for Deleuze's control society. Furthermore, it's important to recognize the changes in *diagram* and *manager* over time: from the sovereign society (centralization / hierarchy) to the discipline society (decentralization / bureaucracy) and finally to the control society (distribution / protocol).

Galloway believes that control is fundamentally rooted in the operations of the Internet protocols (TCP, IP, DNS, HTTP, etc.), and he believes that a specific concentration must be given to TCP/IP and DNS as they are "political technologies". He has chosen a very straightforward black-and-white examination of the Internet protocols with his analysis of TCP/IP and DNS. I believe his choice for these protocols is most likely rooted in their binary opposition: TCP/IP represents the foundation of the Internet while DNS represents the upper layer. TCP/IP operates as a horizontal distribution of information while DNS "vertically stratifies that horizontal logic through a set of regulatory bodies." As a result of these two protocols, governance is applied to a seemingly anarchic Internet. Yet while protocols are inherently a system of regulations, protocols are indifferent to the content inside them. They are merely wrappers for another protocol.

2. Form

In the second chapter Galloway moves the argument from the view of the system administrator to that of the web master. He discusses the attributes of a protocol (object,

browser, HTML, font) and how they establish the application layer of the Internet. It's this application layer that the user interacts with and these attributes are responsible for creating a compelling, intuitive experience for the user.

Galloway borrows the concept of *continuity* from film theory in order to give a crust to the technical systems outlined in the previous chapter. He believes that the Internet can be deceptive to those critics that only speculate its importance by looking at it from the user's experience. In addition, the system *within* the outer layer must be understood. In this way, his thirteen techniques of continuity try to exemplify that without form (when the outer layer breaks down) it is the immaterial protocols that are governing the network.

3. Power

Having examined protocol as a physical structure and as the form it manifests, Galloway considers protocol in its political sense. By comparing protocol to Deleuze's concept of "control" and Foucault's concept of biopolitics, Galloway argues that protocol has control over "life itself".

First he establishes that, not only has matter become life, life has become matter. Vilém Flusser notes the move of "subject-object" to "intersubjectivity" as a way of removing the living agent and focusing on the relationship. Foucault provides a similar anti-anthropomorphic concept when he attempts to illustrate history through anonymous transformations, rather than social transformations.

Foucault's notion of biopower is the power of technology used to control the masses. Whereas in earlier societies there was a right to "take life or let live", current administrations can now exercise the right to "foster life or disallow it to the point of death". The term biopolitics uses statistical data to "rationalize" the issues and characteristics that define life. The essence of biopower focused on the individual constitutes Deleuze's concept of the "dividual": a being endlessly divisible into data. Galloway then connects protocol to Foucault's biopower and biopolitics: protocol as it relates to life forms.

Second nature is the term that Galloway uses to refer to the "the way in which material objects in the modern era have a tendency to become aesthetic objects", or in other words, material objects develop into autonomous, organic, artificial entities. He looks to the writings of Karl Marx noting that Marx is "intimately familiar with many of the sociopolitical transformations that prefigure the emergence of protocol". Then specifically to Marx's *Captial* in which Marx looks at the "second immaterial layer" of capital that is "the thing itself and its artificial semblance".

Galloway's goal in this section of the chapter is to show that "*Capital* is an aesthetic object". To Marx capitalism is *second nature*, it is a social construct that is not inherently natural, and is exemplified in what Marx indicates is a "rational kernel" inside the "mystical shell". This shell reveals itself through Marx's use of the word *congeal*. One example is the congealed mystification of the "illusion that ground rent grows out of the soil, not out of our society." Thus, we come to see capital as a vital object when the "form of appearance" metamorphoses into a "mode of expression".

Galloway characterizes human life as that which "resists entropy", and highlights Norbert Wiener's theory that machines are anti-entropic. Wiener's theory of cybernetics bridges the gap between human and machine. If one looks at this merger in terms of biopolitics (the world represented as information) both man and machine are regulated and affected similarly within Weiner's feedback loop. Thus protocol is the control system for which our systems self-regulate, resist entropy and live.

Galloway comes to his conclusion of "life as medium (life becoming matter)" with our passage into the information age. He notes that the information age began in 1953 when Watson and Crick discovered DNA, thus representing life as information. "When life is defined no longer as essence, but as code - is the moment when life *becomes a medium*."

II. Failures of Protocol

4. Institutionalization

In this chapter Galloway points out the failures that threaten protocol - the first failure of the Internet protocol having occurred on April 12, 1994 when the first spam email was received. He clarifies his argument in the idea that the enemies of protocol are those which "limit the open" and are "centrally controlled" (ex. ICANN, Intel etc..). In this chapter Galloway extends his definition of protocol as a "type of controlling logic that operates outside institutional, governmental, and corporate power, although it has important ties to all three."

Galloway highlights the various groups (ITU, ISO, IETF etc) responsible for establishing and standardizing the Internet protocols. This overview of organizations in

control of protocol further emphasizes Galloway's main point: "The founding principle of the Net is control, not freedom. Control has existed from the beginning."

III. Protocol Futures

5. Hacking

In this section Galloway highlights a few of the "resistive strains within computer culture" and argues that they are necessary for the maturation of protocol. He goes further to clarify that "resistance" itself changed as a result of the enemy being trusted into the distributed network. Therefore, to "live in the age of protocol" we need to understand resistance from within the protocological sphere, rather than drawing our tactics from "a bygone age".

While mainstream culture sees *the hacker as a terrorist*, Galloway supports the notion of *the hacker as a libertarian*. He quotes Steven Levy: the hacker believes "all information should be free" and "access to computers...should be unlimited and total". In these ways Galloway is arguing that by promoting decentralization, much like protocol, hackers are eliminating "arbitrary authority", and therefore play a valuable role in the future growth of protocol (and society).

Galloway claims that code is "the only language that is executable"; it has a semantic meaning as well as an "enactment of meaning". He asserts that the hacker's ability to speak this powerful language displays the ability of hackers to push protocol into a more affective distributed state. Further, hackers care about "what is true and what is possible". Galloway equates protocol with "possibility" and "open source", which are also two fundamental aspirations of hackers. Therefore, hacking provides the ability to

exercise power through the action of code and disruption of web continuity.

6. Tactical Media

Galloway defines tactical media as "the bottom-up struggle of the networks against the power centers". In this chapter he looks at tactical media as "those phenomena that are able to exploit flaws in protocological and proprietary command and control". Galloway points to three ways in which tactical media can improve protocol by pushing it "into a state of hypertrophy": computer viruses, cyberfeminism and conflicting diagrams.

A. Computer Viruses

Galloway asks: why do self-replicating programs have such a negative association that they are labeled as viruses? His hypothesis is that, as computer viruses were first being examined in the 1980s, the concept of a computer virus was linked with the AIDS epidemic.

Galloway suggests three stages in the transformation of the computer virus. (1) In the 1960s the virus had an innocuous connotation. Galloway believes this is a result of scientists having used self-replicating programs for "creativity" and "technical innovation". (2) By 1988 the computer virus had already been established as an epidemic - the virus was seen as an out of control entity rather than a weapon. This is exemplified in the lenient punishment of Robert Morris, who was responsible for replicating a worm into approximately 60,000 computers and causing over $10,000,000 in damage. (3) By 1999 David Smith is found guilty for creating the Melissa virus and sentenced to ten years in jail and a $150,000 fine. This change illustrates the computer virus as a criminal weapon. Galloway highlights this as a shift in blame from the virus

to the author himself. Finally, Galloway concludes that by vilifying the author the virus is seen as being less of an epidemic and more of a terrorist act.

B. Cyberfeminism

Cyberfeminism, like a computer virus, "exists to mutate and transform" questions of body and identity. It is a type of tactical media that is responsible for spreading an "alliance between women, machinery and the new technology that women are using." In *Zeros and Ones* Sadie Plant writes that "technology threatens phallic control and is fundamentally a process of emasculation". Galloway believes that Plant's technology is protocol, and that "as protocol rises, patriarchy declines". Therefore, resistance to protocol can bring about real social change in the way we lives our lives. In seeking to obtain this kind of social change he notes that the "essence of tactical media" is "how and when to inject change into protocol". Finally, although Galloway fails to explicitly state the connection, his examination of cyberfeminism relates to the previous argument of "life as medium". When life itself is translated into code we are detached from the body, we are, in a similar manner, in "the process of forgetting the body".

C. Conflicting Diagrams

As Galloway once again points out, clearly there has been a shift from "centralized, hierarchical powers" to "distributed, horizontal networks." Here he emphasizes the conflict of power between the two opposing network diagrams. Galloway shows how the distributed network diagram is ideal for the system's (as a whole) sustainability, because much like the initial concepts for the Internet "destruction of a part of the network would not threaten the viability of the network as a whole." Thus, the only way

to remove the power from a distributed network is to remove the entire network: the entire diagram must be shut down, every node. Galloway concludes that hierarchies have a "difficult time fighting networks" and that "it takes a network to fight a network". This is the power of using tactical media as a weapon.

7. Internet Art

"The definition of Internet art has always been a tactical one", argues Galloway. Here he attempts to trace the shift from Internet art as being "defined by the limitations of the network" to being "defined more by the commercial interests of the software industry". Net.art is a sub-genre of Internet art that allows the user to "experience the network protocols themselves". Galloway suggests that through "computer crashes, technical glitches, corrupted code and otherwise degraded aesthetics" the Internet becomes an artistic medium. As Galloway has already made clear, "the protocols that underlie the Internet are not politically neutral", and so all expressions of Internet Art are somewhat politically charged, as well as tactical. Net.art is believed to have began 1995 when Alexei Shulgin received a corrupted email on the *Nettime* email list where the only readable part was included in the fragment "[...]*J8~g#*|\;*Net*. *Art*{-^s1 [...]". Internet art pioneers Jodi "continued to explore the margins of computer programming" with their projects like *day66* and *OSS*. Finally, Galloway recognizes the end of the net.art phase in Heath Bunting's 1999 Berlin presentation where he intentionally exposed his audience to protocological failure. The presentation had already begun while Bunting nervously tried to display the webpage www.castro.cu (a page that he knew didn't exist). Shortly after, Bunting abandoned the project and left the stage. What the audience didn't know was that it was not a presentation, it was a performance.

Galloway sees the phase after net.art (the commercial phase) beginning in 2000 when toy retailer eToys withdrew their lawsuit against the similarly titled domain name of the artists Etoy. The battle was known as *Toywar* and is described by Etoy as "the single most expensive performance in art history" incurring "$4.5 billion in damage" to eToy's stock price. In addition to Etoy, Internet art groups like RTMark (later known as The Yes Men) furthered Internet art through there many tactical projects - including the creation of a fake, subversive George W. Bush website.

Galloway ends the chapter, and the book, anti-climatically with a brief summary of another sub-genre of Internet art he refers to as auction art, or "auctionism". Auctionism uses auction sites like Ebay in ways that they probably weren't intended to be used: examples include the bidding for "The Body of Michael Daines" and Cary Pepermint's "Use Me As A Medium". Galloway notes that with auctionism the user can experience the limitations of the network in a situation where the location of the art object has been moved off the Web site and into a "social space of the Net".

Conclusion

Protocol concludes with a hypothetical example of a town trying to reduce speeding by either creating speed bumps or by installing speed limit signs and police surveillance. Galloway explains that it is the speed bump solution, and not the police surveillance, that is protocological. "Bumps", he writes, "create a physical system of organization. They materially force the driver to acquiesce. Driving slower becomes advantageous. ...protocol always appeals to the body...at the level of 'what we want'". Galloway reminds us that “Protocol is a solution to the problem of hierarchy.” It is how a seemingly “out of control” technology can “function so flawlessly”. It is that “massive

control apparatus that guides distributed networks, creates cultural objects, and engenders life forms". In other words, as Galloway emphasizes, Protocol is *how control exists after decentralization.*

Works Cited

Galloway, Alexander R. Protocol: How Control Exists After Decentralization. Cambridge: The MIT Press, 2004.