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## **de-centered.**

*How are decentralized and distributed technologies postmodern reactions to the centralized, controlling, and oppressive technologies and systems of Nazi Germany and how do decentralized technologies both enslave and empower the individual?*

The Nazi's spearheaded control technology and oppressive hierarchical government. The Nazi Regime made technology into something evil and murderous. They took basic tabulating technologies used for years by other countries, such as the United States, and used them to segregate, categorize, and eliminate entire peoples. Is the technology to blame? Though they were not the *inventors* of the oppressive technologies and strict governmental structures they relied on, they *did* exploit and abuse what we would call every-day technologies. While the specific technologies and systems are not necessarily responsible for the genocide of millions of individuals, the way the Nazi's used technology is certainly at fault and has informed our modern and postmodern uses of technology.

Today, major parts of our lives depend on centralized structures; both complex systems like our government and even our school are centralized, and basic structures, like traffic-light networks, are also centered. We rely on centers to make things work. What would happen if the President, arguably the "center" of our government and school, suddenly disappeared? Or what if the central computers responsible for turning

on and off traffic lights ceased to work? These are examples of our modern reliance on centralized technologies. However, we are also dependent on decentralized systems and structures. Not only do we rely on ultra-modern or postmodern technologies such as the Internet, which is a structure constantly the topic of public critique and debate, but we also rely on more ordinary structures, like the Interstate highway system, today an important network we use blindly without critique. These decentralized technologies have dual roles, too; the Internet was once (and still is) a military communications network but is now a major “people’s” technology and our highways were developed by the military but are also used daily for travel.

In this essay, I examine not only the concrete roots of decentralized and distributed networks and technologies, which I place in Nazi Germany, but I also engage with “decentralization” and “distribution” as abstract concepts. Here, I offer a history and analysis of the transformation of centralized technologies into decentralized technologies and engage with both understandable modernist concepts of centralization and hierarchy and with incoherent postmodernist abstractions of de-centering and distribution. I first examine centralized control technologies in World War Two and investigate how Hitler used and abused these technologies. I then move to consider the United States’ understanding of centralized technologies in relationship to Peter Galison’s conceptual and actual investigation of “bombs” and the role the United States played in World War Two. Then, using the post-WW2 U.S. Military fears of destruction, I consider the advent of decentralization in relationship to the Interstate Highway system and urban spread/suburbia. Finally, I cite two opposing and contradictory sides, identities, or results of “de-centering” and consider the Internet and American

postmodernism as examples and explanations for the contradictory roles of decentralization post-World War Two. I seek to show how decentralized and distributed technologies are postmodern reactions to the centralized, controlling, and oppressive technologies and systems of Nazi Germany and it is my goal to explain how decentralized technologies both enslave and empower the individual.

In an essay entitled “Locating the Victim,” David Martin Luebke and Sybil Milton recount how the Nazi’s monitored, controlled, and ultimately murdered millions of individuals. Not only did the Nazi’s depend on and use technology to collect information on and monitor individuals and communities of various races and identities, but the Nazi’s also relied on a carefully organized and planned centralized government.

“The task of locating and persecuting racially defined victim groups posed a mammoth challenge to the administrative bureaucracy of Nazi Germany. At minimum, it required the close cooperation of civil authorities with the national police, the Reich criminal detective forces...” (Luebke and Milton 25)

The Nazi’s used centralized systems to keep a society in order and forced citizens to register or “enroll” themselves with the government, making them sacrifice all of their personal information to a central database and authority. “The Nazi regime gathered its information with two relatively conventional tools of modern administration: the national census and police registration” (Luebke and Milton 26). The Nazi’s collected and analyzed the data of millions of individuals using tabulation census technology and a centralized government and command. The Nazi regime engaged in a massive project of compiling and processing data. Luebke and Milton say that this was how the Nazi’s *located* their victims. By 1936, local police forces were united and government agencies were centralized (Luebke and Milton 30). Whether or not the technologies and systems the Nazi’s used were directly responsible for the murder of millions of individuals is hard

to tell, for it was not centralized technology and government that incited such hate, but it is clear that modern technology and centered systems aided and expedited the Nazi Project (Luebke and Milton 26).

During World War Two, the United States had the project of analyzing and deconstructing the Nazi regime. Using the “U.S. Strategic Bombing Survey,” the U.S. Military wanted to figure out where the center of the Nazi government was and how it could be destroyed. Peter Galison, in an essay called “War Against the Center,” tells the story of bombs in relationship to de-centering. Even though the “Nazi Machine,” as Galison calls it, was certainly “centered,” it was willing to de-center its murder machine all the while maintaining a unified government, complete with databases full of information about its citizens; the Nazi regime dispersed its concentration camps and spread its factories (Galison 9). The U.S. Military realized that bomb attacks became less successful as the Nazis scattered their military infrastructure: “Again and again, the bomb analysts repeated their message: Aerial warfare worked with it hit concentrated, centralized production standing at a functional node...Bombing failed when the Germans effectively dispersed their factories” (Galison 12). To the U.S. Military, the idea of decentralization emerged as a way to avoid attack.

Galison now shifts his discussion to a post-bombing analysis of the United States’ attacks on Japan. He says that the surveyors saw parallels between the constructions of Japanese cities and American cities.

“Sifting the rubble...the Bombing Survey investigators began to see similarities between Japanese buildings and American ones...They made it clear in print that they thought the two nuclear-devastated sites were the best argument against war itself...” (Galison 13)

The message of the U.S. Bombing Survey became indisputably anti-war. The surveyors noticed that medical facilities and economic establishments were all in the centers of cities. They advocated for distribution, dispersal, and spread of cities, homes, and industry (Galison 13-14). The United States Government began to speak out against the creation of livable urban city centers, instead advocating for “suburbia.” Galison says that even the highway system became a means of defense: “Radial roads would afford clear routes for city evacuation. Circumferential roads...should be encouraged wherever possible to drain industry and population from the dense city centers” (Galison 26). He cites Route 128 around Boston as an example of this government-sponsored “de-centering” (Galison 20). The only way for the city to defend against bombs was to disperse. “Urban concentration” was the greatest vulnerability. The city became the ultimate target and decentralization and distribution were the only safe ways of life (Galison 24). The United States’ reaction to the decentralization of the Nazi war machine has informed and created our current interaction with our daily lives.

Near the end of his essay, Galison asserts that these decentralized technologies and systems have altered the American understanding and representation of the self. “Throughout the transformation of these architectures of infrastructure, computation, highways...lay the remarkable practice of training Americans to see themselves as targets” (Galison 30). While living with and using decentralized systems inspired by the U.S. Military, Americans experience both oppression and freedom in every-day life.

It is here where two contradictory roles of de-centering emerge. The Internet is a perfect example of a decentralized and distributed technology and network with multiple functions and contradictory identities. The Internet is, by nature, not hierarchical, unlike

traditional telephone networks, in which calls are first switched and routed locally, then nationally (MacKenzie and Wajcman 353). Janet Abbate says that, “a distributed system would have many switching nodes...Such redundancy would make it harder to cut off service to network users” (MacKenzie and Wajcman 355). Just like the distribution of factories or concentration camps by the Nazi’s or the American Interstate Highway System, the Internet is a de-centered and fragmented network. But the fascinating and confusing part about the contradictory role of the Internet and the decentralized technology is in that the Internet, just like the Interstate Highway system, was developed primarily by the military and by military contractors and technologists (MacKenzie and Wajcman 353). Today, the Internet is used as a mechanism for free speech by activists, but it still is inherently a military technology.

It is not easy for me to reconcile and come to terms with these contradictory roles of decentralized technologies. I can only resign myself to a postmodern set of ideologies. Peter Galison, again, in his essay, “War against the Center,” identifies postmodernism as a form of de-centering, dispersal, disorientation, and counter-urbanization. From my own analysis of the Nazi war machine and the U.S. Bombing Survey, the postmodern project and trope is an evolution and continuation of the “centering” and “de-centering” that occurred during and after World War Two. The postmodern project seeks to fragment and confuse. It attempts to de-concentrate and offers “multiple codings,” “depthless meaning,” and “metaphysical placelessness” (Galison 7). It now becomes acceptable for the Internet to serve dual and opposing purposes and forces.

I have attempted to represent and explain the cultures surrounding centered and de-centered systems. I offered a history of centralized technologies and systems in Nazi Germany and analyzed the U.S. Military's reaction to World War Two, centralization, and decentralization. I then moved to consider the implications of decentralized and distributed technologies on the individual, using the Internet as an example and American postmodernism as an explanation. In this essay, I moved from clarity to confusion. I first examined the modernist language and the unquestionably oppressive actions and technologies of Nazi Germany, but then proceeded to consider the postmodern ideologies of disturbance and confusion. The technologies of Nazi Germany were brutally simple and explicit, while the decentralization that began during World War Two is indubitably fragmented, unfocused, and intricate. This essay, inasmuch it represents the formation of the de-centered from the centered, embodies disintegration and itself disperses.

## **bibliography.**

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