

Reprogramming the World: Political Places

Written by P.J. Blount

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P.J. BLOUNT, DEC 2 2019

This is an excerpt from *Reprogramming the World: Cyberspace and the Geography of Global Order*. Get your free copy here.

In the novel *Midnight's Children*, Salman Rushdie interweaves his signature magical realism into the political geography of India surrounding the specific time, 12:00am 15 August 1947, that India came into existence as a nation state.^[1] Rushdie identifies this moment of national political identity as inseparably linked to individual identity. In one of the many turns of the novel, the reader is presented with the sale of Methwold's Estate. In the story, William Methwold sells his estate to an Indian family with the contractual stipulation that the family must continue to live exactly as the English inhabitants before them had until the moment of Indian independence, at which point the family could again live as Indians. The fictional contract imposes an English (read colonial/imperial/Western) geography over the estate being sold. The contract extends a political identity as well by defining the identity of the inhabitants concurrently with the state's political borders. The family lacked the possibility to live as and be Indian until the stroke of midnight, because until that point there was no such place to bound such an identity. Borders are what Kamal Sadiq, borrowing Rushdie's phrase, calls "midnight's children." Decolonization led to "[n]ew borders," and "paths that were legal and customary became illegal overnight" forcing, through both inclusion and exclusion, new identities on the local inhabitants as the result of international geopolitical shifts.^[2] In Rushdie's tale law enforces political identity congruent with state geography. At midnight, though, everything changes.

In this example, we can see that the law (i.e. the contract) is the expression of political identity across a territory, rendering a condition in which "[l]ocation equals identity."^[3] Rushdie illustrates that an individual's location is a construct that can change without physical movement. In other words, "space changes ... meaning."^[4] Political space is the space in which negotiations about how social rights and obligations will be allocated among the governed and the government. This negotiation itself gives identity to the participants in terms of membership, which legitimates their role in such negotiations. International borders, therefore, are expressions of legal geography mapped onto spatial geography through an expression of a political geography bounded by common community.^[5] As a result, legal arguments "presuppose spatial knowledge," and human rights actions are "struggles for spatial normativity."^[6] These values structure public space in which discourse and deliberation take place. Of course, such uniform identification of individuals with political values compartmentalized by borders is a mythical construction, but it is the construction that underlies international space.^[7]

Thus far in this research, Cyberspace has been described in terms of its spatial and legal geography. Legal space is not *sui generis*; it has origin and history. Specifically, law is the product of negotiations that occur within the constructed public space of the state. Law is a mechanism used to articulate the parameters of public space as a reflection of the values negotiated by the political membership of the space.^[8] At the heart of the concept of legal jurisdiction are "fundamental questions of order and legitimacy," which describe the political geography.^[9] This chapter turns its attention to the project of identifying how values shape the political geography of Cyberspace through its code and architecture. If code is law, then the coder makes political "[c]hoices among values, choices about regulation, about control, choices about the definition of spaces of freedom."^[10] This section argues that there are underlying values that organize Cyberspace as well as guide and legitimate power distribution in the governance of Cyberspace. First, this chapter will build a framework for understanding how constitutional values structure political space and legitimate action therein. Then, it will analyze how constitutional values were implemented into

Reprogramming the World: Political Places

Written by P.J. Blount

the open network architecture through a historical analysis of its design across the technical layers. The final section will then reflect on the value of interoperability and argue that it is the core organizing logic for the political geography of Cyberspace.

Code and Constitution

At the heart of modern governance is the idea of the constitution. Constitutions are legal documents that are foundational in scope. They serve as the blueprints for the construction of public space, and are distinct from the legal geography they deploy.^[11] Effective constitutions organize and distribute power among the actors within a governance space in such a way that a tenable imbalance of power is created between the citizen and the state.^[12] So for instance, Sajo argues that constitutions embody shared emotions and values of the political community that it organizes,^[13] and as such, constitutions can be seen to organize the “communicative conditions for a reasonable political will formation.”^[14] These value-laden “communicative conditions” are a political geography that structures public discourse and deliberation. The flow of information and boundaries to its flow are connected to build the “public sphere” within which political identity is formed.^[15] Constitutions set the limits of jurisdiction, meaning that they extend communicative conditions across space, and demarcate the limits of community as defined by values embedded through founding political practices.^[16] The constitution shapes the political geography in which “the process by which we reason about how things ought to be” takes place.^[17]

Political geography can be observed in the communicative conditions deployed by code. Code when observed in the layered model constitutes both the spatial geography of Cyberspace (i.e. its architecture) and the legal geography of Cyberspace (i.e. its architecture). This compression is important. In physical space law and politics are extended over and, thus, contiguous with territory. In Cyberspace, space is extended by code, and code is law. It should be no surprise then that code imposes communicative conditions as well, which requires probing the extent to which code functions as a constitutional force. This will reveal how values are architected directly into Cyberspace. Code is of course not the same as a formal constitution, but code does perform many of the same functions as a constitution, which makes the analogy tenable.^[18]

The concept of legitimacy will be helpful in articulating the constitutional values that define a political geography. Legitimacy addresses the “justification of power” within a governance structure and is a “fundamental problem of politics.”^[19] It is a measure of the distribution of power that “concerns first and foremost the right to govern.”^[20] The right to govern is defined through a network of social values, laws, and founding principles that together define the critical “division that separates those individuals who command from those who obey.”^[21] In other words, legitimacy is articulated and observed at points that structure the division of power among entities that *govern* and entities that are *governed*.^[22] Societies use constitutionally constructed political institutions “to settle conflicts that threaten the cohesiveness of the community.”^[23] These institutions are the “guarantors of the public space” in which communicative conditions foster a “network of sociability.”^[24] Constitutions construct a political geography by bounding “exchanges to unfold in a fixed framework and under the form of reciprocity” that “tangl[es] together ... rights and duties.”^[25] The constitution expresses what it means to be a member of a political space by expressing the bounds of that space in terms of rights and obligations in an “unequal distribution of power.”^[26] The rights and obligations themselves, often expressed through law, institutionalize shared values of the community.^[27]

Legitimacy, then, is fluid across space and time,^[28] but actors within a given political community will often invoke foundational or constitutional values in order to legitimate contemporary actions by framing them within the communicative conditions.^[29] Constitutional values shape “rules of conduct [that] are indissociable from a historical context.”^[30] Legitimacy is not a universal norm, so each political geography must be examined in the context “of social facts . . . set within the ongoing flow of history.”^[31] Legitimacy, as the link between the power and values, is an analytic for examining the political geography deployed by code in Cyberspace.^[32]

Code is Politics

Technology as it progresses through its technical life span, from development to operations, is laden with politics.^[33] Technology, often advertised as of the future, is always a product of history.^[34] As a result, design decisions made in

Reprogramming the World: Political Places

Written by P.J. Blount

early stages of development entrench design values in a technology, and such decisions are often influenced by politics.^[35] Cyberspace is no different, and this section will use history of its development as a tool to reveal foundational values embedded in its architecture that shape its political geography.^[36]

This historical inquiry focuses on the source of code: coders. As with any discussion of values, the ability to articulate them with specificity that also applies with generality is limited.^[37] This section will examine the political values that the coders designed into Cyberspace. In the same way that an American constitutional lawyer might consult the *Federalist Papers* to discern the values of the constitutional designers, this section will examine how these coders articulated the values they held into the code they designed.

Making Space

Cyberspace is a globally distributed phenomenon,^[38] but this is a relatively new development in its history. Though the Internet went “public” in the mid 1990s, its first vestiges were established in 1965 when the TX-2 computer in Massachusetts was connected to the Q-32 in California creating the first “wide area computer network.”^[39] This was followed in 1969 by the establishment of the ARPANET, a US Department of Defense funded project to establish networked computer communications that eventually “grew into the Internet.”^[40] The first public demonstration of Internet technology was by Bob Kahn, one of the designers of the TCP/IP, in 1972, and that same year, email was developed.^[41]

Early Cyberspace was inhabited by the people that were constructing it, meaning that “networking research incorporated both work on the underlying network and work on how to utilize the network.”^[42] In other words, the first individuals to set foot in Cyberspace were neither natives or explorers, they were architects. Cyberspace was not territory to be claimed in an imperial sense; it was a territory springing from a community. These individuals were forming the very rules that would bind them as they interacted in Cyberspace, and they were developing these rules as a community as was seen with the IETF and the W3C in the previous chapter.

The Internet that they created “embodies a key underlying technical idea, namely that of open architecture networks.”^[43] As discussed in Chapter 2, this means that the overall network itself is not hindered by design choices of specific network operators as interoperability is facilitated through packet switching technologies. Packet switching is a design choice that results in there being “generally no constraints on the types of network that can be included or on their geographic scope.”^[44] Interoperability becomes a core communicative condition through the establishment of a common standardized language, the use of which is the only prerequisite for membership in the network of networks.

Bob Kahn articulated “four ground rules” for open architecture networking.^[45] First, each network connecting to the Internet “would have to stand on its own” and there could be no requirement of “internal changes” to such a network for connection.^[46] Second, the transmission of data packets would be on a “best efforts basis,” meaning that if a node failed to transmit a packet it would have to be retransmitted from the source.^[47] Third, the gateways and routers (i.e. the physical layer) would serve transmission purposes only and retain no information about the packets being transmitted.^[48] And finally, “[t]here would be no global control at the operations level.”^[49] These four principles, and especially the fourth principle, construct the limits of the public space through articulation of core values. They also reveal an interesting aspect of the Internet, namely that it is not a singular entity, but instead is an assemblage of technologies working together based on common rules or protocols. This technical design stood in contrast to the traditional telecommunication monopolies that were the norm during its development. The values that were entrenched can be observed in two distinct traditions in Cyberspace: in the egalitarian code that structures the logical layer and in libertarian code developed at the applications layers.

Rights Space

Open architecture networking is more than just a set of technical specifications. It is code that embodies a set of political values embedded by its designers and reflects their specific historical situation.^[50] These designers were generally Americans working at research universities during the Cold War and the American Civil Rights Movement,

Reprogramming the World: Political Places

Written by P.J. Blount

among other historic events.^[51] Their efforts established a particular type of network design that reflects the liberal values that pervaded the coding community at that time. In particular, the Internet's Cold War origins shape this design in a uniquely American way – especially since it was funded by US Department of Defense at its inception.^[52]

As a result, the Internet is the product of a particular historical milieu that led its designers to seek to accompany the technology with “social conscience.”^[53] The designers saw that “we have the free will to either place human rights and virtues – better distribution of wealth, free speech, human rights – in lockstep with technological advances or else suffer the consequences.”^[54] These coders therefore incorporated a “rights culture” into the developing Internet. Information theorists, like Norbert Wiener, argued that distributed flows of information would lead to open discourse “unbounded by geography or politics.”^[55] Such flows would be made manifest as computer scientists began to design the Internet. Early Internet pioneer Douglass Engelbart focused his work on empowering the individual user of computing systems to help the collective good.^[56] Engelbart was a leader in the field of human computer interaction, and invented the computer mouse. Brate connects Engelbart's ideology specifically to American politics at the time, including the Civil Rights Movement, and goes on to say that “Engelbart's values and ethics would remain hardwired into the future of the technology.”^[57]

Wiener, Engelbart, and others like them sought technological development that “intersected with efforts to promote and protect many human rights.”^[58] The open architecture reflects these values as “technologies are imperfect and incomplete physical manifestations of the current political order.”^[59] As Americans, these designers would be acutely influenced by the First Amendment to the American Constitution and the public space that it formulates by delegitimizing government involvement in information exchanges. The five freedoms embodied in First Amendment are all freedoms directly related to information transfer among non-governmental individuals and entities.^[60] Broadly, this can be referred to as the “freedom of expression.” It should be noted that the freedoms enumerated in the First Amendment are constructs:

When the claim to freedom of expression emerged, this presupposed that an originally small but critical mass shared their desire to express their views and receive information without censorship. This desire and need were conceived and felt as something due, which in the emerging rights culture became a matter of strong expectation. This expectation grew stronger, to the point where any disregard of the expectation triggers a sense of injustice.^[61]

As a construct, this freedom developed along with historical processes, and the rights culture embedded in Cyberspace reflects this historical context.^[62] The design itself embeds a historically contextualized freedom of expression that the designers would characterize as “free information.”^[63] The political geography of Cyberspace is one that places minimal restriction on the transfer of information and the autonomy of the individual user.^[64] The early Internet community maintained a “dominant ethos ... [of] altruism” with a “spirit of mutual aid.”^[65] The code was engineered to be “vehemently public sphere.”^[66]

The value placed on free information would be heightened by the Internet's historical links to higher education.^[67] Its use spread initially on college campuses and early Internet policy spread the Internet to all University users.^[68] In the United States, higher education holds freedom of expression – in terms of information sharing and inquiry – as a core egalitarian value. The majority of the population of Cyberspace for close to half of its technical life would be primarily found in higher education.^[69] The connection of the Internet to research is important, because “the network's first role was sharing the information about its own design and operation.”^[70] This means that the information sharing values of the academic communities became part and parcel of the values being embedded in the political geography.

The historical context in which the Internet was being designed sheds light on how the values of open architecture networking emerged. The designers were working in the midst of the Cold War threat of the USSR from abroad and the upheaval of the Civil Rights Movement domestically. These events give context to the communicative conditions that were developed to support the right of free information. First, as a product of a specific time and place – and funded by the US DoD – Cyberspace reflects values shaped by the ideological conflict in the Cold War.^[71] The United States at that time emphasized openness as a way of counteracting the closed, centralized Soviet model,^[72] and as a result Cyberspace is designed as a “highly decentralized” network that stands in contrast to the Soviet

Reprogramming the World: Political Places

Written by P.J. Blount

model.^[73] The “iron curtain” was a descriptive term of a political geography that was locked and therefore not free.^[74] Vannevar Bush, head of the US Office for Scientific Research and Development during World War II – which oversaw the Manhattan Project, argued that freeing information would be a tool against totalitarianism.^[75] We see this reflected in the open network architecture’s underlying principle of “no global control at the operations level.” The decentralized and nonhierarchical network counters the Soviet model by moving power over information to the individuals using the network.

At the same time, deep questions about political membership within the United States were being raised by the civil rights movement. Images of the era show African Americans claiming space in the political geography by invading the white-only spaces of the legal and spatial geography with marches and sit-ins. The Civil Rights Movement was pushing for identity within the political community for minorities. The severe inequalities revealed by the civil rights movement became part of a broader narrative of liberal activism throughout the 1960s and the 1970s.^[76] Open network architecture through its emphasis on interoperability had the potential to “[enhance] the equal rights of participation for all members of society” by opening access to its political geography.^[77] The interoperability envisioned in the network reflects a concern of the coders for equality of access.^[78] This coding was “motivated by the drive to create a greater good through empowerment of the people.”^[79] The Internet is designed specifically not to discriminate among different types of information or users.

The coders working on the design of the open network architecture implemented a version of the freedom of expression that is consistent with the egalitarian leanings of their particular historical context. These early designers were primarily concerned with the logical layer of the Internet, and their design was built to extend rights to users by constructing a space to facilitate interoperable communities. The notions underlying this structure rest in the ideal that the “more information is shared, the freer society is, the greater the potential is for cooperation.”^[80] It is the transfer of information for the public good that underlies their project, and as we will see below, transfers power to the applications layer as a result. The network was designed to create an interoperable citizenry.

Liberation Space

The egalitarian bent of the open network architecture pushes power to the edges of the network as a way to incorporate individual power into the political geography. This has an interesting effect of not only facilitating communication, but giving users the ability to define the terms of their communication. The political geography extended by the logical layer allows for the development of political geography at the applications layer. This means that diverse political groups are able to create their own spaces through the use of applications. Quite possibly the best example of this is the libertarian ideals that began to drive cryptographic code as a means of individual liberation.^[81] The logical layer created an opening in political space that promised “freedom without anarchy, control without government, consensus without power.”^[82] Libertarians saw the Internet as a place where individual rights would triumph over state control.

This libertarian turn in the design and culture of Cyberspace was a powerful one and has a strong and lasting pedigree, and libertarian philosophy to some extent is responsible for many of the applications that redefine borders.^[83] The word hacker, today, is often used to describe criminals that wreak havoc in Cyberspace by stealing valuable information or defacing websites. Media accounts refer to hackers as the bad guys in Cyberspace that compromise networks and systems for fun and for profit.^[84] However, this use is a far cry from its origins in the tech community, wherein hackers are individuals “who enjoy[] exploring the details of programmable systems and how to stretch their capabilities.”^[85] Hackers maintained an “ethical code [that] was driven by the progress of computer code – it was wrong, almost *evil*, to keep code or programming resources to yourself.”^[86] Hackers, in the original sense, believe that “information sharing is a powerful-positive good,” which echoes the value of free information.^[87] Though hackers often resist political categorization,^[88] the hacker ethic of understanding how things work “is in one sense essentially apolitical and technically focused, while in another sense it is subversive and profoundly ideological.”^[89] Hacking is a “way of knowing things”^[90] that emphasizes empowerment through knowledge of technical architecture. It easily adapts itself to libertarian rhetoric characterizing mainstream society as “being led” and “being fed.”^[91]

The hacking ideology was extremely influential in Internet culture and groups such as the cypherpunks.^[92] A

Reprogramming the World: Political Places

Written by P.J. Blount

cyberpunk is an individual “interested in the uses of encryption via electronic ciphers for enhancing personal privacy and guarding against tyranny by centralized, authoritarian power structures, especially government.”^[93] Their political views are best described as anarcho-libertarian.^[94] Using the motto “privacy for the weak, transparency for the powerful,” they recognized that the applications layer could give substantive meaning to their construction of freedom of expression.^[95]

The central issue to the cryptographic community is that information flows unfettered by state interference, including chilling effects of extensive surveillance.^[96] Cyberpunks cast communicative conditions in terms of “[w]hat is public, and what is private.”^[97] Freedom of expression in this political geography rests on freedom of speech as emphasized in Western liberal democracies.^[98] So for instance, while giving a speech on WikiLeaks, Tor activist Jacob Appelbaum informs federal agents attending the speech that the only thing in his pockets is the Bill of Rights.^[99] The freedom of speech is linked to the freedom of expression found in international human rights regimes, but Cyberpunks redeploy the anti-totalitarianism sentiment from the Cold War against all power structures.

As a result, these coders deploy code that hides the individual from power structures, including the state. Cryptographic code facilitates a political geography with equal distribution of power over information as a way to reallocate power and wealth. Cyberpunks work to reclaim information technology from being “the privileged technology of neoliberalism.”^[100] As an example, Appelbaum endorses the dispersion of power “to people who are not simply the ones who make the decisions” through what Barlow would call a “renegotiation of power.”^[101] Similarly, Domscheit-Berg describes WikiLeaks as a project to shift political geography:

In the world we dreamed of there would be no more bosses or hierarchies, and no one could achieve power by withholding from the others the knowledge needed to act as an equal player. That was the idea for which we fought.^[102]

To anarcho-libertarians, Cyberspace’s open architecture reflects their own value in individual liberty through rights, which explains the pervasive libertarian tone in the tech world.^[103] Libertarian code uses digital cryptography to recode communicative conditions imposed on the individual and to rewrite political geography. They use their code “to prove that technology not pretension would define the nature of identity on the Internet.”^[104]

Interoperability

Cyberspace contains lots of values. Any visit to a social networking website, such as Facebook, will quickly display numerous different value sets. These value sets are not the values of Cyberspace, but the variety and scope of them are indicative of the political geography of Cyberspace. As Lessig observes, the space that is constructed “depends entirely on the values that guide development of that place.”^[105] As discussed above, the principles of open network architecture are constitutional, and these principles create a political geography built around interoperability. The abundance of divergent views that are expressed in Cyberspace is a result of the interoperability value.

Interoperability pervades Cyberspace and organizes its geography. More than just technical design, interoperability can be seen as the value given constitutional force in the code. It addresses concerns about closed political space and opens up the possibility of the expansion of political space through the applications layer. Interoperability is the operationalization of “information wants to be free.” It recognizes that information freedom rests in the ability for information to be communicated among as many individuals as possible.

As the core value in Cyberspace, interoperability facilitates direct communication by devices, and therefore it can be seen as facilitating interoperability among individuals as well. Interoperability uses three mechanisms to shape political geography. First, it decentralizes communications. Second, it creates free access through openness. Third, it creates equality on the network through peering. Critically these mechanisms shift the division between ruler and ruled and fosters participation by opening up political membership. Interoperability means that participation is no longer subject to specific central authority; instead, participation is self-authenticating through the adoption of a standard protocol.

Reprogramming the World: Political Places

Written by P.J. Blount

The networkification of the world pushes this principle to world-scale and makes geography interoperable. Networked geography is no longer bounded in terms of exclusion. Instead, its limits are understood in terms of inclusion and accessibility. This means that the bounds of the political geography of Cyberspace are not territorial, rather the bounds are the digital divide between those with access and those without.

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The layered model is a conceptual stack that serves as a framework for understanding the complex technical architecture of Cyberspace. By delineating different functions, the layers model allows for the categorization of technologies to understand their discrete functions and features. The layered model, though, sometimes obscures the fact that these technologies are not always discrete, and that Cyberspace is an assemblage of these layers.

Similarly, thus far the geography of Cyberspace has been described as layered: a spatial geography layered with a legal geography that is layered with a political geography. The problem is that all these geographies happen at once. When an individual looks at the state of their nationality on a map, they do not see the drawn borders and deconstruct the state into spatial, legal, and political units. Instead, the borders represent a compression of those concepts into a single understandable geography. While one cannot see Cyberspace in terms of borders, Cyberspace functions such that individuals experience the same compression of concepts, possibly more so. In real space it is much easier to disaggregate physical geography, such as a mountain, from the other geographies of the state. In the geography of the state, the mountain stays the same while the legal and political geographies that encompass it can change, sometimes literally, at the stroke of midnight. In Cyberspace the geography can change at a keystroke.

The geographic compression in code is an extension of Lessig's principle: code is geography. Cyberspace does not have nature; it only has code and as such code is central to its organization. Part I has described Cyberspace in insular terms. This is a view of Cyberspace from within Cyberspace, which is not without its limitations. This exercise will prove essential in examining how Cyberspace as an alternative geography interacts with international space.

Notes

[1] Rushdie, *Midnight's Children* (2006).

[2] Sadiq, *Paper Citizens* (2010) 39. See also, Cooper, "What Is the Concept of Globalization Good For?" (2001) 206.

[3] Greenberg, *This Machine Kills Secrets* (2012) 141. See also, Clark & Landau, "Untangling Attribution" (2010) 25.

[4] Lessig, *Code 2.0* (2006) 87.

[5] Coicaud, *Legitimacy and Politics* (2002) 12. See also Streck, "Pulling the Plug on Electronic Town Meetings" (1998) 39.

[6] Liste, "Transnational Human Rights Litigation and Territorialised Knowledge" (2014) 1–19.

[7] For instance, see Ferguson, *Global Shadows* (2006) 113–154. See also, Clapham, "Degrees of Statehood" (1998) 154; Walzer, "The Moral Standing of States" (1980) 214; and Mattelart, *Networking the World* (2000) 1.

[8] Coicaud, *Legitimacy and Politics* (2002) 83.

[9] Post, "Against 'Against Cyberanarchy'" (2002) 1387.

[10] Lessig, *Code 2.0* (2006) 78.

[11] Rawls, *A Theory of Justice* (1971) 7. See also, Habermas, *The Postnational Constellation* (2001) 116 and

Reprogramming the World: Political Places

Written by P.J. Blount

Noveck, "Designing Deliberative Democracy in Cyberspace" (2003) 11.

[12] Rawls, *A Theory of Justice* (1971) 28 and Clark, *Legitimacy in International Society* (2005) 19.

[13] See generally, Sajó, *Constitutional Sentiments* (2011).

[14] Habermas, *The Postnational Constellation* (2001) 117.

[15] See generally, Kellner, "Intellectuals, the New Public Sphere, and Technopolitics" (1998) 147-86; Noveck, "Designing Deliberative Democracy in Cyberspace" (2003) 11; Clinton, "Internet Rights and Wrongs" (2011); and Jayakar, "Globalization and the Legitimacy" (1998) 713.

[16] See, for example, Whitehead, *Science and the Modern World* (1967), 13 ("Law is both the engine for government, and a condition restraining government").

[17] Lessig, *Code 2.0* (2006) 78.

[18] See Lessig, *Code 2.0* (2006) 6-7, 275, 314 and Martin, "Using the US Constitution to Frame the Governance of Cyberspace" (2015) 24-26.

[19] Wight, *International Theory* (1992) 99.

[20] Coicaud, *Legitimacy and Politics* (2002) 10.

[21] *Id.* at 26.

[22] *Id.* at 10.

[23] *Id.* at 21.

[24] *Id.* at 11.

[25] *Id.*

[26] *Id.* at 31

[27] *Id.* at 32; Lessig refers to these as "framing values." Lessig, *Code 2.0* (2006) 316.

[28] Coicaud, *Legitimacy and Politics* (2002) 207-08 and Power & Tobin, "Soft Law for the Internet" (2001) 39.

[29] Coicaud, *Legitimacy and Politics* (2002) 23 and Clark, *Legitimacy in International Society* (2005) 2.

[30] Coicaud, *Legitimacy and Politics* (2002) 83.

[31] *Id.* at 192; Clark, *Legitimacy in International Society* (2005) 13.

[32] Tambini *et al.*, *Codifying Cyberspace* (2008) 13 and Clark, *Legitimacy in International Society* (2005) 3.

[33] See Lessig, *Code 2.0* (2006) 24.

[34] Coicaud, *Legitimacy and Politics* (2002) 199.

[35] Fleischmann *et al.*, "Thematic Analysis of Words That Invoke Values in the Net Neutrality Debate" (2015) 1.

Reprogramming the World: Political Places

Written by P.J. Blount

[36] Walzer, "The Moral Standing of States" (1980) 211. *See also* Lipschutz, "Environmental History, Political Economy and Change" (2001) 73.

[37] Coicaud, *Legitimacy and Politics* (2002) 138.

[38] Castells, "Communication, Power and Counter-Power in the Network Society" (2007) 247.

[39] Leiner *et al.*, "A Brief History of the Internet" (2002).

[40] *Id.*

[41] *Id.*

[42] *Id.*

[43] *Id.*

[44] *Id.*

[45] *Id.*

[46] *Id.*

[47] *Id.*

[48] *Id.* and Post, *In Search of Jefferson's Moose* (2012) 40.

[49] Leiner *et al.*, "A Brief History of the Internet" (2012).

[50] Betz & Stevens, *Cyberspace and the State* (2011) 33.

[51] Brate, *Technomanifestos* (2002) 85.

[52] *For example see* Clinton, "Internet Rights and Wrongs" (2011). *See also* U. S. Department of Defense, "Department of Defense Strategy for Operating in Cyberspace" (2011); Martin, "Using the US Constitution to Frame the Governance of Cyberspace" (2015) 24–26; and Mattelart, *Networking the World* (2000) 1, 4.

[53] Brate, *Technomanifestos* (2002) 26–27.

[54] *Id.*

[55] *Id.* at 25.

[56] *Id.* at 114–141.

[57] *Id.* at 136.

[58] Fidler, "The Internet, Human Rights, and U.S. Foreign Policy" (2012).

[59] Banks, "The Politics of Communications Technology" (2013).

[60] U.S. Constitution, Amend. I.

Reprogramming the World: Political Places

Written by P.J. Blount

[61] Sajo, *Constitutional Sentiments* (2011) 27.

[62] See generally, Rychlak, "Compassion, Hatred, and Free Expression" (2007) 407.

[63] Brate, *Technomanifestos* (2002) 29 and Betz & Stevens, *Cyberspace and the State* (2011) 18.

[64] See Held, *Democracy and the Global Order* (1995) 145–156 and Habermas, *The Postnational Constellation* (2001) 118.

[65] Resnick, "Politics on the Internet" (1998) 51.

[66] Tambini *et al*, *Codifying Cyberspace* (2008) 11.

[67] Brate, *Technomanifestos* (2002) 98.

[68] Lessig, *Code 2.0* (2006) 2.

[69] Leiner *et al*., "A Brief History of the Internet" (2012).

[70] *Id.*

[71] Brate, *Technomanifestos* (2002) 89–90.

[72] For instance see Bush, *Modern Arms and Free Men* (1968) 201, 223–4. See also Brate, *Technomanifestos* (2002) 48.

[73] Spar, "The Public Face of Cyberspace" (1999) 345.

[74] Bush, *Modern Arms and Free Men* (1968) 168.

[75] Brate, *Technomanifestos* (2002) 48, 33.

[76] Brate, *Technomanifestos* (2002) 192–93.

[77] Rawls, *A Theory of Justice* (1971) 224; Betz & Stevens, *Cyberspace and the State* (2011) 103; and Brate, *Technomanifestos* (2002) 104.

[78] Brate, *Technomanifestos* (2002) 185–87.

[79] *Id.* at 132–133.

[80] *Id.* at 208.

[81] *Id.* at 226, 227 and Lessig, *Code 2.0* (2006) 2.

[82] Lessig, *Code 2.0* (2006) 2 and Brate, *Technomanifestos* (2002) 224. See also Betz & Stevens, *Cyberspace and the State* (2011) 56.

[83] For example Elwell, Murphy, & Seitzinger, "Bitcoin" 1 (2013) (Bitcoin); DeNardis, *Global War for Internet Governance* (2014) 8 (Bitorrent); and Bearman, "The Untold Story of Silk Road" (2015) (The Silk Road).

[84] Betz & Stevens, *Cyberspace and the State* (2011) 16.

Reprogramming the World: Political Places

Written by P.J. Blount

- [85] Raymond, *The New Hacker's Dictionary* (1996) 233.
- [86] Brate, *Technomanifestos* (2002) 243.
- [87] Raymond, *The New Hacker's Dictionary* (1996) 234.
- [88] "A Tale of Many Hackers" (2015) 5.
- [89] Betz & Stevens, *Cyberspace and the State* (2011) 18 and Brate, *Technomanifestos* (2011) 243.
- [90] Kracht, "The Hacker Perspective" (2014) 26 and Brate, *Technomanifestos* (2002) 251–252.
- [91] Kracht, "The Hacker Perspective" (2014) 26 and Prisoner #6, "The 21st Century Hacker Manifesto" (2014–2015) 50–51.
- [92] Greenberg, *This Machine Kills Secrets* (2012) 94–134 and Assange *et al.*, *Cypherpunks* (2012) 21–22. See also Domscheit-Berg, *Inside WikiLeaks* (2011) 174–75.
- [93] Raymond, *The New Hacker's Dictionary* (1996) 140
- [94] Greenberg, *This Machine Kills Secrets* (2012). For other examples see *Id.* at 89–91, 122, 148, 150, 192–193, 227, 255; Domscheit-Berg, *Inside WikiLeaks* (2011) 4; Assange *et al.*, *Cypherpunks* (2012) 29, 70–1, 76; and Tambini *et al.*, *Codifying Cyberspace* (2008) 11.
- [95] Assange *et al.*, *Cypherpunks* (2012) 7 and McIntosh & Cates, "Hard Travelin'" (1998) 86.
- [96] *For instance*, Snowden, "Testimony before the Parliament of the European Union" (2014) 1.
- [97] Domscheit-Berg, *Inside WikiLeaks* (2011) 50.
- [98] Rawls, *A Theory of Justice* (1971) 197 and US Constitution, Amend. 1.
- [99] Greenberg, *This Machine Kills Secrets* (2012) 167, 150.
- [100] Harvey, *A Brief History of Neoliberalism* (2009) 159; Assange *et al.*, *Cypherpunks* (2012) 27; and Bearman, "The Untold Story of Silk Road" (2015).
- [101] Greenberg, *This Machine Kills Secrets* (2012) 176, 255.
- [102] Domscheit-Berg, *Inside WikiLeaks* (2011) 4.
- [103] Spar, "The Public Face of Cyberspace" (1999) 347. See also Tambini *et al.*, *Codifying Cyberspace* (2008) 11; Sunstein, *Republic. Com 2.0* (2007) 111–12; and Bearman, "The Untold Story of Silk Road" (2015).
- [104] Greenberg, *This Machine Kills Secrets* (2012) 115.
- [105] Lessig, *Code 2.0* (2006) 70.

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