

Journal of jvwr.net
• Virtual Worlds Research

ISSN: 1941-8477

Assembled 2019

December 2019

Volume 12 No. 3



Cover by tzs
Photo by Mateusz Wyszynski from Pixabay

Volume 12, Number 3

Assembled 2019

December 2019

Editor In Chief

Yesha Sivan

CUHK Business School
The Chinese University of Hong Kong, HK

Issue Editors

Angie Cox (Prime)

Trident University International, Cypress, CA, USA

Felipe Becker Nunes

Antonio Meneghetti College, Santa Maria, RS – Brazil

Miao Feng

NORC at the University of Chicago, USA

Jason Coley

Maria College, Albany, New York, USA

Coordinating Editor

Tzafnat Shpak

Cover image: Photo by Mateusz Wyszynski from Pixabay



The JVWR is an academic journal. As such, it is dedicated to the open exchange of information. For this reason, JVWR is freely available to individuals and institutions. Copies of this journal or articles in this journal may be distributed for research or educational purposes only free of charge and without permission. However, the JVWR does not grant permission for use of any content in advertisements or advertising supplements or in any manner that would imply an endorsement of any product or service. All uses beyond research or educational purposes require the written permission of the JVWR. Authors who publish in the Journal of Virtual Worlds Research will release their articles under the Creative Commons Attribution No Derivative Works 3.0 United States (cc-by-nd) license. The Journal of Virtual Worlds Research is funded by its sponsors and contributions from readers, with main sponsorship by i8 Ventures.



Volume 12, Number 3
Assembled 2019
December 2019

The Proto-Governance of Minecraft Servers

Louis Rolfes
Humboldt University of Berlin

Kathrin Passig
Berlin, Germany

Abstract

There is a widespread assumption that the times when self-regulating internet communities allowed users to experiment with new forms of societal organization are over. Today, many commercial platforms impose rules on ‘their’ communities and leave little room for users to organize themselves. And yet, there are still environments that allow freedom for communities to explore new forms of living together. One of these environments is the multiplayer online game Minecraft. In Minecraft, players, not the game company, manage their servers through traditional legal instruments and software plugins. This provides us with the rare opportunity to examine self-made rulesets without first having to disentangle them from the non-negotiable rules of the commercial platform. We carried out an exploratory qualitative analysis of a selection of rulesets and focus on two major aspects related to server governance: the interplay between traditional legal rules and algorithmic governance mechanisms and the forms of government that players establish. We found that written and encoded rules seem to complement but not replace each other. Minecraft servers are mostly ‘benevolent dictatorships,’ with some server rulesets indicating a willingness of staff to abide by power-limiting rules in similar ways as constitutional documents limiting the power of the monarch.

1. Introduction

Many commercial platforms use both traditional legal instruments and technical means to manage ‘their’ communities and leave little room for users to organize themselves. This has caused users as well as authors to assume that the ‘golden age’ of networked communities is over. However, this claim has been voiced as far back as twenty and even thirty years ago (Lessig, 1999, p. 64, 2006, p. 85). Since then, the number of internet users has gone up, and the cost of participation gone down. In absolute numbers, there are now more internet communities as well as a greater diversity of platforms, at least some of which do leave room for cultures of user experimentation.

The multiplayer online game Minecraft is one of these environments. Minecraft was released in 2011, and though Microsoft later bought the platform developer’s company Mojang, Microsoft so far has not interfered with the platform. By mid-2018, the game had around 91 million active players per month; the count was still increasing during that year (Haydn, 2018). The website minecraft-statistic.net/ listed around 8,000 servers and 300,000 players that were online in April 2019 ([link](#))¹.

Minecraft-server-list.com monitored more than 430.000 Minecraft servers since the list started in 2010 ([link](#)). The two largest servers on this list, MinoWars and Hypixel Network, each had around 18,000 concurrent players in April 2019 ([link](#)). As of April 2019, there are 20 servers with more than 1000 online users on that list, and around 130 servers with more than 100 online users. Anything above 20 counts as a reasonably large user base, but most of the Minecraft community lives on the long tail. These servers either have less than 20 concurrent users or they are created ad hoc by inviting friends to connect to a local computer. Those private servers are not counted in any lists and their rulesets, if any, are not visible from the outside. For hosted servers, the cost is typically € 5–10 per month for instances that will allow up to 10 players at a time. Player accounts are tied to the purchase of the game, the cost of which is currently € 19,99. The multiplayer version can only be played with a registered account.

The use of Minecraft in education has been discussed in many publications, (for an overview see Nebel, Schneider, & Rey, 2016), but little research has been done about the rules of the game (Krafft, Keegan, & Frey, 2019). This is regrettable as the rulesets of Minecraft servers constitute a special case and are therefore particularly worth investigating. Unlike in most other large-scale multiplayer games, in Minecraft, it is not the game publisher that establishes the rules. Game companies so far have been unwilling to give users a voice in what are traditionally internal company decisions. In 2005, Edward Castronova depicted a hypothetical world:

Imagine a world that has fairly clear and easily defended territorial boundaries, in which players have the ability to form governments with real powers. By design, different governments rule the different territories. Some governments are better than others; indeed, some territories are anarchic. [...] While one government may be abysmally bad, not all of them will be. If a bad government gives citizens the urge to migrate, they would only have to leave the territory, not the world. (Castronova, 2005, p. 217)

This world did not exist at the time of Castronova’s book, but it does now. Minecraft has clear and easily defended territorial boundaries in the form of different servers, whose rules are defined by Minecraft players that run their own servers. This provides us with the rare opportunity to examine players’ rulesets without first having to disentangle them from the non-negotiable rules of the game company that have been the main subject of research of current cyberlaw scholarship (see, for instance Grimmelmann, 2009; Jankowich, 2006; Lastowka & Hunter, 2004, p. 51; Fairfield 2008; Mayer-Schönberger & Crowley 2006).

¹ We use the Internet Archive (<https://archive.org/>) to cite websites. Our citations thus point to URLs with persistent content. This allows readers to access the original content of the websites even if it might have changed over time.

Essentially, all operators of publicly accessible Minecraft servers post at least some rules of conduct. One of the main reasons for this is that in multiplayer gaming, there has been a heightened awareness of conflicting interests right from the start, as described in a paper first presented in 1990:

There was much debate among the players as to the form that Habitat society should take. [...] The result was ambiguous: 50% said that Habitat murder was a crime and shouldn't be a part of the world, while the other 50% said it was an important part of the fun. (Morningstar & Farmer, 1990, p. 290)

Multiplayer gaming communities have been trying to resolve this conflict ever since. Committing in-game 'crime' for fun is usually referred to as 'griefing,' and most Minecraft rulesets mention it specifically. But griefing is only one of several areas of conflicting interests that are usually dealt with in server rulesets. Another, more specific to Minecraft, is the age range of players. Children aren't asked for proof of age when they sign up. As a consequence, Mojang cannot track users' ages, and while there is no reliable data on Minecraft user demographics, anecdotal evidence suggests that playing Minecraft was and is not an uncommon activity for children below the age of 10. Many servers aim to provide an environment which is suitable for a wide range of ages. This category of regulatory effort is a special case of potential conflicts between users from different cultures. Many Minecraft servers are frequented by users from more than one country. Rulesets aim to limit the potential conflicts resulting from a diverse user base. In addition, server owners establish rules to address resource problems. They need to "provide sufficient RAM, CPU, and network bandwidth for players" (Krafft et al., 2019, p. 22) so that they have an incentive to prohibit player behavior that causes lag. The Minecraft server Ravenkraft prohibits certain grinders that may produce lag. Grinders are traps that players use to kill monsters which drop precious items:

Certain grinders are prohibited - Grinders of these types are not allowed under any circumstances: Pigmen, Iron Golem, Endermen, Wither; Local entity count on other mob grinders should not exceed 300. These rules exist to reduce lag and balance the barter economy. [Emphasis omitted] ([link](#)).

We carried out a preliminary explorative analysis of 13 rulesets of a selection of publicly accessible Minecraft servers and explored two major issues. First, we investigated how server owners combine written server rules and software tools to constrain player behavior. The question of the relationship between code and written rules is a recurrent theme running through the literature on virtual world governance (Humphreys 2008, p. 154; Harbinja 2014, p. 7). While some suggest that code is increasingly assuming the function of law in cyberspace (Lessig 1999, 2006), others suggest that there are rules that cannot be coded at all and that are therefore defined in written rules (Bartle 2004; Jankowich 2006, p. 11). However, it often proves difficult to investigate this issue. This is because the functionality of code, in particular, code created by big game companies, is often opaque (cf. Lessig 2006, p. 139; Grimmelmann 2005, p. 1734). The owners of Minecraft servers, by contrast, make use of software plugins that they simply pull off the shelf. While not all of these plugins are open source software, their regulatory functions are evident and verifiable. It is therefore at least possible to comprehend the functionality of the different components of the code architecture of Minecraft servers (for the increased transparency of a componentized code architecture see Lessig 2006, p. 328). This suggests that Minecraft servers are a particularly promising case study to analyze the modes of interplay between code and written rules. Second, we are interested in the forms of government that players establish when they have the ability to do so. Castronova observes that the "typical governance model in synthetic worlds consists of isolated moments of oppressive tyranny embedded in widespread anarchy" (2005, p. 207). Game companies generally seek to maintain full control over community governance to protect their business models. Therefore, only few virtual communities developed systems of democratic governance (e.g., *A Tale in the Desert*, see Castronova 2005, p. 207). In Minecraft, by contrast, players, not large game companies, rule the

virtual world. We will examine if server owners establish similar forms of government as game companies or if they rather use their freedom for social experimentation to create more democratic regimes.

2. Basic Definitions

This part explains the terms and concepts ‘governance’ (1.), ‘constitutionalism’ (2.) and ‘forms of government’ (3.).

1. Governance. The meaning of the term governance is ambiguous, especially if it is used in the context of online communities (Karavas 2010, p. 154). There are different concepts of governance. While earlier concepts related more to the actor who regulates (the state, the state and civil actors, civil actors alone), more recent concepts focus on the structure of regulation itself (the interplay between rules, norms, laws and factual circumstances that constrain behavior) (Oermann et al. 2016, p. 3). In our analysis, we build on these more recent approaches and try to gain insights on the regulatory structures of Minecraft servers.

2. Constitutionalism. The notion of ‘constitutionalism’ is no less ambiguous than the notion of governance. According to a traditional state-centered concept of constitutionalism, the term refers to a set of ideas and principles that form the basis of state constitutions (cf. Preuss 1996, p. 12). Different authors have different perceptions of constitutionalism and will emphasize different principles to describe its essence (cf. Backer 2009, p. 681). Hence, the term ‘constitutionalism’ lacks an ontological definition (Tsagourias 2007, p. 2). Grimm, for example, defines its characteristics as follows:

1. The constitution in the modern sense is a set of legal norms, not a philosophical construct. The norms emanate from a political decision rather than some pre-established truth.
2. The purpose of these norms is to regulate the establishment and exercise of public power as opposed to a mere modification of a pre-existing public power.
3. The regulation is comprehensive in the sense that no extraconstitutional bearers of public power and no extraconstitutional ways and means to exercise this power are recognized.
4. Constitutional law finds its origin with the people as the only legitimate source of power. The distinction between *pouvoir constituant* and *pouvoir constitué* is essential to the constitution.
5. Constitutional law is higher law. It enjoys primacy over all other laws and legal acts emanating from government. Acts incompatible with the constitution do not acquire legal force.
(Grimm 2016, pp. 363-364)

While constitutionalism traditionally referred to the state, there are now attempts to detach the concept from the state and transfer it to other areas. Our analysis builds on the concept of constitutionalism developed by Gunther Teubner. Teubner argues that constitutional issues in the strict sense may not only arise in the institutionalized political sector but also in other private sectors of society. Same as institutionalized politics, other societal sectors tend to grow which may result in excessive growth processes that spin out of control with potentially harmful effects on individuals and society (Teubner, 2011, p. 13). Teubner refers, for example to privacy invasions by private organizations (Teubner, 2012, p. 1) or restrictions of constitutional rights by private intermediaries like Google, Facebook or Amazon (Teubner, 2017, p. 196). As a counter-reaction, private sectors may develop their own civil constitutions which perform important constitutional functions, namely

the function of limiting excessive growth processes, with regard to the specific social sector. In this sense, civil constitutions resemble state constitutions without being identical, though. Teubner emphasizes the necessity to “generalize” and “respecify” the traditional notion of constitution to make it fit for use in the context of private orders. (2004, p. 15). Such civil constitutions emerge in three steps. First, the respective societal sector must come under sufficient external or internal pressure (Teubner & Beckers, 2013, p. 527). With regard to the economic sector, Teubner refers, for example to “consumer activism, consumer campaigns, boycotts, product criticism, eco-labeling, eco-investment, public interest litigation, and other demands for ecological sustainability” (Teubner, 2012, p. 91). Second, this pressure may force the sector to engage in an internal process of self-reflection, which, at best, leads to the autonomous creation of societal constitutions (Teubner & Beckers, 2013, pp. 533–535). In a third step, legal rules may emerge that stabilize societal constitutions (Teubner & Beckers, 2013, p. 537). The development process is, however, not straightforward. There is no guarantee that irritations from within or outside the societal sector will necessarily lead to the emergence of civil constitutions (Teubner, 2013, p. 536). In the course of our analysis, we apply Teubner’s concept to Minecraft servers and examine whether we can witness the emergence of Minecraft constitutions.

3. Government systems. To describe the governance regimes of Minecraft servers, we compare them to different types of government systems (democracy, dictatorship, constitutional monarchy) that we know from states. In this respect, our analysis relates to existing studies on the governance of online communities that adopted a similar approach (Castronova 2005, p. 207; Grimmelmann 2009; Mnookin 1996). In a democratic system, people can choose the rules that will govern them. A constitutional monarchy is a system in which constitutional provisions place limitations on the power of the ruler. In contrast, a dictatorship is a form of unlimited government. These simplistic definitions will certainly not satisfy political scientists and constitutional lawyers. However, they seem adequate for the purpose of this analysis which is to allow for an initial classification of the governance regimes that emerge on Minecraft servers.

3. Methodology

Our contribution analyzes 13 publicly accessible written rulesets of Minecraft servers to explore the two questions related to server governance that we described above. These include Ravenkraft, Wabbit Survival, PartyZone, ScoutWired, Meepcraft, Elitecraft, Christian Minecraft, Gameknight999, Massivecraft, Someawesomeminecraft, Minecraft CC, Cobra Craft Minecraft, and Matrix MC. We found these rulesets by searching for the terms ‘Minecraft,’ ‘server,’ and ‘rules’ on Google. The search was conducted in March 2019. Initially, we considered different methods for the selection of rulesets. We did not opt for a random selection as randomized samples make sense only if the results can be generalized to the whole original group, in our case, all Minecraft server rules. However, compared to over 100.000 Minecraft servers (MCStats, [link](#)) the number of 13 is statistically too small. The results could only be representative for all rulesets of Minecraft servers if server rules were homogenous which we did not expect. We would therefore have needed considerably larger samples. For such a large-scale survey we lacked resources. We also considered the use of Minecraft server lists (e.g., Minecraft Servers, [link](#)) to identify the most relevant Minecraft servers. However, we realized that they were not reliable as they often listed servers that did not exist anymore. Finally, for a lack of a better alternative, we selected rulesets that were readily available. This should be borne in mind when assessing the results of our study. It is difficult to extrapolate our results to other Minecraft servers. We rather aim to provide a first glimpse of the governance mechanisms of Minecraft servers and hope that future research will build on our research to complement the picture we have sought to draw.

To determine the interplay between written and encoded rules, we examined passages of written server rules that explicitly refer to software plugins. Server owners do not reveal which software tools they use except in the written rules and they do not explicitly mention all software plugins that run on their servers. This implies that written server rules only reflect the tip of the iceberg of the entire body of encoded regulations, which mainly operate under the surface. We were, therefore, not able to draw a comprehensive picture of the entire set of encoded rules and subsequently analyze their relationship with written rules. We could only examine the interplay between written rules and encoded rules explicitly mentioned in the written rules.

To classify the governance regimes that emerged on Minecraft servers, we examined written server rules as to whether there are indications suggesting that players can participate in the process of rule-formation. In particular, we looked for provisions on the election of staff members which could be qualified as democratic elements. In addition, we analyzed if the rulesets contain provisions which suggest that server owner can exercise their power arbitrarily which would be indicative of an authoritarian regime. We searched, for example, for provisions allowing server owners so modify rules at discretion or to establish new rules at an ad hoc basis. Finally, we sought to identify power-limiting rules, i.e., rules that are binding on the staff. The existence of such rules may indicate that a governance regime akin to constitutional monarchy emerged on the respective Minecraft server.

4. Regulation by Written Rules, Regulation by Software Tools

The written rulesets of Minecraft servers do not contain all the rules that apply to players. As Minecraft servers constitute “digital institutions”, their rules are “partially encoded and enforced through software” (Krafft et al., 2019, p. 4). In addition to written rules, administrators revert to plugins created by amateur developers to constrain player behavior (Krafft et al., 2019, p. 22). Plugins are used to regulate any kind of player behavior:

There is a large collection of plugins that automate the deployment and maintenance of rules for peer monitoring, resource monitoring, rule enforcement, trade, vandalism, decision-making, information transmission, and communication, as well as plugins that define complete market and property rights institutions: systems of property rights, shops, social hierarchies, and group allegiances. (Krafft et al., 2019, p. 22)

Bukkit plugins ([link](#)), for example, allow administrators to automate cheating prevention (cf. NoCheatPlus plugin, [link](#)), to prevent players from swearing in chats (cf. NNSwearFilter plugin, [link](#)) or to avoid griefing (cf. GriefPrevention plugin, [link](#)). Krafft et al. argue that administrators rely more on software tools than on written rules to govern Minecraft servers (Krafft et al., 2019, p. 23). Plugins are regularly updated as developers constantly learn from mistakes of administrators and shortcomings of former plugin versions (Krafft et al., 2019, p. 23). If written server rules mention plugins, this happens largely in provisions prohibiting players to bypass algorithmic governance mechanisms. For instance, several Minecraft servers use plugins that automatically take measures against players who are away from keyboard (AFK). Some servers automatically kick players who are AFK. Others such as Wabbitface reward players based on playtime so that going AFK has a negative impact on the player’s rank:

AFKKing - As Wabbit Survival assigns ranks based on playtime, any form of AFKKing mechanics are against our server rules. This includes any form of AFK machine (Auto fish farm, pushing yourself with pistons), client modifications that prevent AFK kicking, or abuse of in-game glitches and bugs to bypass the AFK kick. ([link](#))

But players have found ways to circumvent such measures. They may employ “[b]ots, hacks, mods, mechanisms and such” that bypass automated anti-AFK systems ([link](#)). This is often explicitly prohibited under server rules. The PartyZone server rules state, for example, that “[y]ou are not

permitted to prevent the Creative server's anti-AFK measures by using something like an anti-AFK pool" ([link](#)). Many server rules also prohibit the circumvention of chat filters. Under the Gameknight999 server rules, "people try[ing] to defeat the anti-swearing software by replacing letters with numbers or symbols" run the risk of being "permanently banned" ([link](#)). The EliteCraft server rules exceptionally provide an explanation for the use of a chat filtering software. "As there are players from several countries on this server, some places may consider some words profane while others do not. For this reason we have a chat filter" ([link](#)). This reasoning points to a crucial difference between written and encoded rules. Different from written rules, which always leave room for human interpretation, software rules operate "without human discretion" and "specify completely the results of cases in advance" (Grimmelmann, 2005, p. 1732). The staff of EliteCraft has realized that the human interpretation of written speech restrictions is particularly difficult in a global community, in which players from all around the world may have different visions of what is permissible and what is not. Therefore, the staff outsources the task of filtering offensive speech to chat filtering software, which does not exercise any discretion. The definition of permissible speech necessarily depends on the context. The use of software that simply ignores the different visions of players from different countries does not solve this fundamental problem. While staff members do not have to get their hands dirty and face the difficult task of regulating speech in a global community, the use of a chat filter ultimately implies that developers impose their own vision of what is permissible speech on the entire community. This example shows that algorithmic governance tools may only apparently offer simple solutions for complex governance issues that arise in Minecraft communities.

In addition to AFK tools and chat filters, server rules regularly mention plugins against griefing (see, for instance, Christian Minecraft server rules, [link](#)). Administrators provide players with tools allowing them to defend themselves against grievers. Anti-griefing tools constitute a form of indirect algorithmic governance. A good way to think of this is to imagine that a state wants to reduce the need for police officers and decides to provide free bicycle locks to prevent thefts. In the case of Minecraft, anti-griefing plugins aim to reduce the need for staff members who prosecute grievers and who eliminate the damage caused by griefing:

VeteranCraft does not roll back griefs, or replace stolen items. We provide players with GriefPrevention, a self-operated protection plugin, to ensure the safety of their items and structures. This self-operated protection cuts back on the need for staff, and eliminates the need for roll backs. ([link](#))

If anti-griefing tools provided comprehensive protection against grievers, there would be no need for administrators to enforce written prohibitions of griefing in server rules. But same as the use of bicycle locks does not completely prevent bicycle theft, anti-griefing plugins are unlikely to provide full protection against grievers. Therefore, such tools may reduce the need for staff members who enforce written prohibitions of griefing, but they cannot entirely replace them. While this implies that staff members themselves must take action against grievers, they can again make use of other plugins that help them to carry out this task. Gameknight999 mentions, for instance, an inspection software that lets administrators inspect a broken building, to see who did the griefing. "It will show us [the administrators] who broke the blocks and when they did it. So please, don't destroy other people's creations, unless your goal is to be banned" ([link](#)).

Against this backdrop, written and encoded rules seem to complement but not replace each other. Written rules ensure that players do not bypass plugins such as AFK tools and chat filters. Plugins, such as inspection software, in turn, may help the staff to enforce written rules such as prohibitions of griefing. Anti-griefing plugins cannot replace such written prohibitions as they do not offer full protection against grievers. In addition, chat filters do not solve the complex issue of speech

regulation in a global community so that they do not constitute an adequate replacement for human staff members who interpret and enforce written speech restrictions.

5. Forms of Government

Minecraft servers are no democracies. Server owners and unelected staff members, not players, choose the rules that govern the community. But the rulesets of Minecraft servers often contain provisions that limit the power of the staff. Depending on the degree of the formalization of such rules, the forms of government of Minecraft servers resemble those of benevolent dictatorships or constitutional monarchies.

1. The lack of democracy. Castronova's observation that "one does not find much democracy at all in synthetic worlds" (Castronova, 2005, p. 207) also applies in the case of Minecraft servers. The server rules we looked at do not provide players with an opportunity to elect staff members who are in charge of community governance. Often, the rulers are not even known by name, and in most cases, server rules do not contain any provisions on the selection of the staff which suggests that server owners regularly determine staff members at their discretion. Where such provisions do exist, they consolidate the power of server owners to provide for community government according to their own desires.

Some server providers show themselves to be openly hostile to player participation in server governance. The rules of the servers Gameknight999, VeteranCraft, and Matrix MC explicitly discourage players from even asking if they can become staff members. While Gameknight999 kindly reminds players that such requests are unwelcome, saying, "Please do not ask to be staff" ([link](#)), the owners of Matrix MC go further and threaten players who dare to ask if they can become staff members with a ban: "No you cant [sic] be staff or have OP, asking could get you banned" ([link](#)).

If server rules contain provisions on the selection mechanism for staff members, server owners reserve the exclusive right to appoint staff members. The rules of VeteranCraft make it clear that the server is not a democracy and stipulate that "the executive staff hand pick players who exemplify good behavior and embody what they feel makes a good moderator" ([link](#)). Gameknight999's rules indicate that staff is "an invited position and we [the server owners] do it very rarely" ([link](#)).

Other servers display greater openness towards player participation in community governance. They provide the possibility to apply to become members of the staff. The Meepcraft server, for instance, enables users to post their application for staff membership status in a forum. The server rules explicitly encourage players to participate in the process of selecting new staff members as they exceptionally allow "unlimited posts on an application as long as it is deemed constructive to the application" ([link](#)). However, while the rule allows players to freely express their views on potential new staff members, administrators always have the final say on the appointment, and they are completely free to decide against the community's will. The power to govern the community therefore lies not in the hands of the community but in the hands of the server owner and unelected staff members.

2. Benevolent dictatorships and constitutional monarchies. The server rules generally grant wide powers to the unelected class of server owners and staff members. They regularly reserve the right to modify the rules at any time. The last sentence of the PartyZone server rules states, for instance, that "[t]he rules are susceptible to change without notification" ([link](#)). In a similar manner, the VeteranCraft server rules stipulate that Frelling, senior technician and member of the executive staff ([link](#)), has the power to create and modify the rules ([link](#)). Some server rules even provide that they are not exhaustive and that the staff may take action against users without any regulatory basis and thus fall short of meeting the requirement that the government must follow the law which is an

essential rule of law principle (Fuller, 1969, pp. 209–210). This is, for example, the case with the Matrix MC server rules which claim that they are “not exhaustive, if a staff member asks you not to do something, please listen and do as asked” ([link](#)). In principle, those provisions thus entitle server owners and staff members to govern Minecraft communities at their own discretion. In this vein, the forms of government of Minecraft servers resemble dictatorships.

a. Benevolent dictatorships. However, server owners and staff members often praise themselves not as vicious but as benevolent dictatorships. They promise that they will exercise their unlimited power for the good of the community and refrain from abusing their power. In the preamble of the Veterancraft server rules, for instance, the staff members “pride [themselves] on being fair and reasonable” and claim that “staff are [sic] not here to be Royalty or be above the other players, they are here to help keep order and help players” ([link](#)). ScoutWired proclaims that the staff does “not like having to implement penalties and sanctions on players” ([link](#)). Massivecraft also recognizes the problem of power abuse. However, the server rules do not impose restrictions on staff members but on users: “Never ask staff to abuse their powers or rank privileges” ([link](#)). In those cases, the staff makes non-binding commitments and is not bound by any rules that limit their power.

b. Constitutional monarchies. However, there are also some rulesets that place formal restrictions on the power of the staff. The form of government of servers whose rules contain such provisions is more akin to constitutional monarchies than to dictatorships. We do not mean to overstate this point. Server rules lack important constitutional features. For instance, different from a constitution, they do not constitute higher-ranking norms and are easily modifiable by server owners and staff members. But the willingness of the staff to abide by power-limiting rules is at least reminiscent of the monarch’s commitment to the Constitution.

The Cobra Craft Minecraft Server rules state, for example, that staff members are not above the law but might be held accountable for rule violations same as ordinary players: “If theres [sic] a staff member breaking these rules ban them or report them to the Owner or Co-Owner” ([link](#)). The rules of Someawesome Minecraft limit the power of the staff to modify server rules at discretion: “[Unique] or extenuating circumstances” must call for a change of the rules ([link](#)).

However, rules limiting the power of the staff most often concern the imposition of punishments. Cobra Craft codifies the constitutional principle of legality (*nulla poena sine lege*) according to which one cannot be punished for doing something that is not prohibited by law: “Don’t Ban [sic] players for no reason only ban people for breaking the rules” ([link](#)). Many server rules also establish a penalty system with the penalties being graded in accordance with the seriousness of the infringement. Such penalty systems aim to ensure the proportionality of punishments which is also a fundamental constitutional requirement (Ristroph, 2005, pp. 301–302). The ScoutWired server rules stipulate that “[e]ach Moderator/Op/Admin has been carefully trained and works in accordance to our User Management Matrix as part of our ScoutWired Service Level Agreement” ([link](#)). The User Management Matrix ([link](#)) sets out in detail how staff members will respond to rule violations. E.g., a breach of the prohibition of discrimination results in a first warning. In the case of a further infringement, staff members will warn the player once more before she will be banned, or in the case of a further violation of the rule, blocked. Griefing is considered a more serious offense. The staff will only issue one warning before the offender is kicked and, as a measure of last resort, banned. Ravenkraft established a comparable system of graded punishments which also takes into consideration the intentional or negligent nature of the infringement and encourages moderators to provide the reason for a ban:

The repercussions for breaking the rules depend on the rule broken and the conditions under which they are broken. Obvious disregard for theft (1), griefing (2) and cheating rules (4) will result in an instant ban. The difference between misunderstandings and intentional malice is made very obvious in the server logs and moderators are trained to

spot the difference. For rules 1 and 2, under the condition that malice was the intent, moderators are encourage [sic] to instaban with the reason stated in the ban. (“Perma-ban: Theft is not tolerated on this server.”) ([link](#)).

The rules of Minecraft CC also provide for different penalties depending on the severity of the infringement: “Permanent bans should only apply to hackers, or people who continually go out of their way to cause problems (IE; your last resort to punish someone)” ([link](#)). However, an interesting exception rule applies to VIP members. VIP members are those who make donations to Minecraft CC ([link](#)). They will receive lesser bans than ordinary players: Moderators should “not perma-ban VIP members. VIP members receive strikes (temp bans) instead. 1st Strike: Issue a 3 day temp ban. 2nd Strike: Second Strike carries a temp ban of 1 week. 3rd Strike: Is a permanent ban” [emphasis omitted], ([link](#)). The staff of Minecraft CC thus favors players who it deems particularly important for the community and who it does not wish to lose.

A further common feature of server rules is the option of ban appeals. A user is often granted the right to challenge ban decisions by staff members. Server rules thus provide a sort of legal protection against the imposition of punitive measures. The Meepcraft server rules additionally seek to ensure the independence of the appeal body: “If you feel you have been wrongly banned, feel free to file a ban appeal where a staff member other than the one who banned you will review the case” ([link](#)).

While those server rules already contain provisions that significantly restrict the power of the staff, Minecraft CC goes even further. Its rules contain a “Moderation Contract” whose aim is to ensure that “players know what moderators can or cannot do” and which contains extensive limitations of the power of the staff ([link](#)). The contract prohibits, inter alia, the abuse of powerful software tools that are only available to moderators such as “kicking” and “muting” and that might be used arbitrarily to punish players. Moderators that breach this rule are removed from the moderation team without warning (“This is a no tolerance policy” [emphasis omitted], [link](#)). The same paragraph also contains a “golden rule” that seeks to prevent the abuse of staff power: “If a regular player/vip/sponsor cannot do it, ask yourself if what you are about to do is related to moderation. If it is not then do not do it” ([link](#)).

3. Regulatory competition, power-limiting rules, and democracy. Minecraft server rules thus often contain provisions that limit the power of the staff in a comparable manner as a constitutional document circumscribes the power of the monarch. In the real world, citizens fought hard for this achievement and sometimes even paid with their lives. The powerful do not easily give up their power. Only if they come under sufficient pressure they may accept to abide by power-limiting rules (cf. Teubner 2012 who argues that societal sectors may only develop self-binding rules if they come under sufficient pressure).

So, what motivates server owners and staff members to impose restrictions upon themselves? One possible explanation is that market forces put pressure on server owners and staff members to create player-friendly rules. Since the 1990s scholars have argued that regulatory competition between providers of virtual communities will motivate them to offer rules that are responsive to user demands (Post & Johnson, 1996). According to this line of thought, effective regulatory competition emerges because users who disagree with the rules of a community can simply migrate to another community with more favorable rules or even grow their own community (Post & Johnson, 1996, pp. 1398–1399). For the specific case of Minecraft servers, Krafft et al. observe that the market approach seems to work (2019, p. 23). They argue that users can easily operate own servers and migrate from one server to another because switching costs are low: “no need to divest, low value contributions, and less role of coordination” (Krafft et al., 2019, p. 23). An effective regulatory competition between Minecraft servers may thus provide an explanation for the existence of power-limiting provisions in their rulesets. In addition, Frey et al. argue that while individual

Minecraft servers might be autocratic, as a collective of competitors, they are democratic because users can “vote with their feet” (2019, pp. 23–24). In a nutshell, regulatory competition may thus transform individual Minecraft servers into constitutional monarchies and transform the collective of Minecraft servers into a democracy.

However, the benchmark used by Krafft et al. is the cryptocurrency market, and while the monetary value of a Minecraft building is indeed low, the time investment and non-material value to the builder can be very high. Many authors have demonstrated in regard to other virtual worlds that users seeking to move to another community will encounter significant barriers such as the potential loss of virtual assets (your character, the weapons you have acquired or the buildings you have created) or social relationships with other users. Lawrence Lessig, when describing the early 1990s community of LambdaMOO, compared this option to leaving the Soviet Union: “[Members] have the right to exit, but in the sense that Soviet citizens had the right to exit—namely, with none of the assets they had built in their particular world” (Lessig, 2006, p. 289). Since Minecraft does not offer a widely available option to transfer buildings between multiplayer worlds and the problem of exporting social relationships remains unsolved, the only factual difference between Minecraft and Lessig’s LambdaMOO example seems to be the larger number of easily discoverable, competing servers.

4. Embryonic Minecraft constitutions. Gunther Teubner’s theory of societal constitutionalism that we described above offers another possible explanation for the emergence of rules that limit the power of Minecraft server providers. In the case of Minecraft servers, competitive pressures could have successfully incited autocratic providers to engage in a process of self-reflection and develop self-limiting rules. But societal constitutionalism additionally draws our attention to other potential stimulators of self-constitutionalization processes than regulatory competition. We may, for example, think of user protests in chat forums. The development of Minecraft constitutions is, however, still at an embryonic stage. Legal rules which stabilize the limitations on the power of providers are still lacking. At this stage, providers can still modify the self-imposed restrictions at will.

The history of online communities, however, does not suggest that it is only a matter of time until these stabilizing rules are introduced. A more common development scenario is that interest in a platform or community already starts to wane at a time when sophisticated political structures are yet to be established. While the relationship might be causal (i.e., users leave a platform because of political deficits), more parsimonious explanations are available. Gaming, as well as social software in general, is still in its early stages of development, and the underlying technology has been changing significantly on short timescales. Aesthetically as well as technically, obsolescence happens quickly, and the life cycles of social systems built on these platforms are short.

Even outside of gaming, there are few examples of complex online governance systems. Those projects that do have them are maintaining a precarious balance since users react sensitively to political systems perceived as overly complex. The threshold for this dissuasive effect is probably quite low:

In all the time I've done server reviews, I've found that the most successful servers tend to have less than 10 rules. Any more than that, and players tend to get very confused over what's allowed and what's not allowed. Most will leave your server in favor of somewhere else that's less restrictive. I've been on a server with 45 rules. Their player turnaround was about 40 minutes. [...] In short: The goal when choosing what rules to add to your server should be: ‘Keep it simple’, don't overload or burden the player with rules that other rules you have already cover. Try to let the ‘natural’ rules of the game and plugins you've added do the job of automatically providing the rules. ([link](#))

Instead of being a result of political naiveté, the lack of more elaborate constitutions on Minecraft servers may be – at least in some cases – the result of a conscious decision in favor of a ruleset that is perceived as putting less of a burden on users.

6. Conclusion

Owners of Minecraft servers constrain user behavior through written rules and software tools that complement each other. Though operated and governed by the players instead of a gaming company, these servers are no democracies. This is consistent with others' observations of the political structures of networked communities. The governance regimes of Minecraft mostly resemble 'benevolent dictatorships,' with some server rulesets indicating a willingness of staff to abide by power-limiting rules in similar ways as constitutional documents limiting the power of the monarch. Since the powerful do not usually give up power without having come under some pressure first and since there are many Minecraft servers that users can choose from, regulatory competition is an obvious candidate for this motivating factor. But even in the absence of accessible exit options, server owners may agree to self-limitations if they come under sufficient pressure, e.g., in the case of user protests against the staff's policies.

In future work, a more quantitative approach would be useful. If regulatory competition is a relevant factor in the success of individual Minecraft servers, it is to be expected that servers with particularly 'naïve' or unpopular rulesets might be short-lived and thus underrepresented in the available material. The Internet Archive provides a rich repository of the rulesets of servers that no longer exist, as well as previous versions of the rulesets of successful servers. An evaluation of this trove of material might allow researchers to edge closer to an answer to the question whether regulatory competition is, in fact, an important factor in decisions for or against a specific Minecraft server and if so, what exactly it is that users are voting for with their feet. Yet another avenue of research might involve the relative importance of algorithmic and other forms of governance in the users' assessment. The manifestations of governance that are relevant to users might be not so much the written rulesets but the rules encoded in software plugins, since the plugins are standardized, easily compared and, from the point of view of users, less prone to inconsistent interpretation and misuse of power.

Minecraft will remain a rich source for research into the political structures of networked communities and the theory of regulatory competition for several years to come. The game's plugin system allows for a collaborative evolution of governance principles and provides comparatively accessible and historically traceable material for further research. Knowledge gained from the study of Minecraft can shed light on developments in less transparent areas of online governance that nonetheless may have more of an impact outside the gaming realm.

References

- Backer, L. C. (2009). From constitution to constitutionalism: A global framework for legitimate public power systems. *Penn State Law Review*, 113(3), 671-732.
- Bartle, R. (2004, August 18). Law is code [Blog post]. Retrieved December 8, 2019, from https://web.archive.org/web/20191208220105/https://terranovalogs.com/terra_nova/2004/08/law_is_code.html
- Castronova, E. (2005). *Synthetic worlds: The business and culture of online games*. Chicago and London: University of Chicago Press. doi:10.7208/chicago/9780226096315.001.0001

- Fairfield, J. (2008). Anti-social contracts. The contractual governance of virtual worlds. *Mc Gill Law Journal* 53, 427–476.
- Fuller, L. (1969). *The morality of law*. New Haven: Yale University Press.
- Grimm, D. (2016). *Constitutionalism. Past, present, and future*. Oxford: Oxford University Press. doi:10.1093/acprof:oso/9780198766124.001.0001
- Grimmelmann, J. (2005). Regulation by software. *The Yale Law Journal*, 114(7), 1719–1758.
- Grimmelmann, J. (2009). Virtual world feudalism. *Yale Law Journal Pocket Part*, 118, 126–130.
- Haydn, T. (2018). Minecraft exceeds 90m monthly active users. Retrieved December 8, 2019, from <http://web.archive.org/web/20191208220335/https://www.gamesindustry.biz/articles/2018-10-02-minecraft-exceeds-90-million-monthly-active-users>
- Harbinja, E. (2014). Virtual worlds players - consumer or citizens? *Internet Policy Review*, 3(4), 1–12. doi:10.14763/2014.4.329
- Humphreys, S. (2008). Ruling the virtual world. Governance in massively multiplayer online games. *European Journal of Cultural Studies*, 11(2), 147–169. doi: 10.1177/1367549407088329
- Jankowich, A. E. (2006). EULaw: The complex web of corporate rule-making in virtual worlds. *Tulane Journal of Technology and Intellectual Property*, 8(1), 1–59.
- Karavas, V. (2010). Governance of virtual worlds and the quest for a digital constitution. In C. B. Graber (Ed.), *Governance of digital game environments and cultural diversity: Transdisciplinary enquiries* (pp. 153–169). Cheltenham & Northampton: Edward Elgar.
- Krafft, P., Keegan, B., & Frey, S. (2019). Designing for participation and change in digital constitutions. Retrieved December 8, 2019, from <http://web.archive.org/web/20191208220505/https://arxiv.org/abs/1902.08728>
- Lastowka, F. G. & Hunter, D. (2004). The laws of the virtual worlds. *California Law Review*, 92(1), 1–73. doi:10.15779/Z386H7P
- Lessig, L. (1999). *Code and other laws of cyberspace*. New York: Basic Books.
- Lessig, L. (2006). *Code version 2*. New York: Basic Books.
- Mayer-Schönberger, V. & Crowley, J. (2006). Napster's second life? The regulatory challenges of virtual worlds. *Northwestern University Law Review*, 100(4), 1775–1826.
- Mnookin, J. L. (1996): Virtual(ly) law: The emergence of law in LambdaMOO. *Journal of Computer-Mediated Communication*, 2(1). doi:10.1111/j.1083-6101.1996.tb00185.x
- Morningstar, C., & Farmer, F. R. (1990). The lessons of Lucasfilm's Habitat. In M. Benedikt (Ed.), *Cyberspace: First steps* (pp. 273–302). Cambridge (MA): MIT Press.
- Oermann, M., Lose, M., Schmidt, J. & Johnsen, K. (2016). *Approaching social media governance*. (HIIG Discussion Paper Series 05). Retrieved December 8, 2019, from http://web.archive.org/web/20191208220634/https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2498552
- Nebel, S., Schneider, S., & Rey, G. D. (2016). Mining learning and crafting scientific experiments: A literature review on the use of minecraft in education and research. *Educational Technology & Society*, 19(2), 355–366.
- Post, D. G., & Johnson, D. R. (1996). Law and borders - The rise of law in cyberspace. *Stanford Law Review*, 48(5), 1367–1402.

- Preuss, U. (1996): The political meaning of constitutionalism. In R. Bellamy (Ed.), *Constitutionalism, democracy and sovereignty: American and European perspectives* (pp.11-27). Aldershot: Avebury.
- Reidenberg, J. R. (1998). Lex informatica: The formulation of information policy rules through technology. *Texas Law Review*, 76(3), 553–584.
- Ristroph, A. (2005). Proportionality as a principle of limited government. *Duke Law Journal*, 55(2), 263–331.
- Teubner, G. (2004). Societal constitutionalism: Alternatives to state-centred constitutional theory. In C. Joerges, I. Sand, & G. Teubner (Eds.), *Transnational governance and constitutionalism* (pp. 3-28). Oxford: Hart Publishing. doi:10.5040/9781472563002.ch-001
- Teubner, G. (2011). A constitutional moment? The logics of ‘hitting the bottom’. In G. Teubner, A. Febbrajo, & P. F. Kjaer (Eds.), *The financial crisis in constitutional perspective: The dark side of functional differentiation* (pp. 9-51). Oxford: Hart Publishing. doi:10.5040/9781472560971.ch-001
- Teubner, G. (2012). *Constitutional fragments: Societal constitutionalism and globalization*. Oxford: Oxford University Press. doi:10.1093/acprof.oso/9780199644674.001.0001
- Teubner, G. (2017). Horizontal effects of constitutional rights in the internet: A legal case on the digital constitution. *Italian Law Journal*, 3(1), 193-205. doi:10.23815/2421-2156.ITALJ
- Teubner, G., & Beckers, A. (2013). Expanding constitutionalism. *Indiana Journal of Global Legal Studies*, 20(2), 523–550. doi:10.2979/indjglolegstu.20.2.523
- Tsagourias, N. (2007): Introduction - Constitutionalism. A theoretical roadmap. In N. Tsagourias (Ed.), *Transnational constitutionalism: International and european models* (pp.1-13). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511495076.002