

Is it a Small World? Developing Exclusion in New Commons Governance: Investigating Open Source and Wikipedia

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Abstract. Instead of enclosure or limiting deleterious overuse, we discuss novel digital settings that rely on exclusion mechanisms in their development. These digital artefacts present an additional dynamic challenge beyond new commons (Hess 2008) in that they have inextricably developed around particular governance models and that the governance model and structural characteristics define their use and further development. We focus on two such settings: Open Source Software and Wikipedia. We identify what new issues emerge when governance limits contributions to the digital commons and discuss the paradox of openness: i.e. how exclusion is needed to provide openness. The questions, concepts and frictions that arise in this space are essential for developing an understanding of digital resources as well as the organizations and industries that form around them.

Keywords: Small world, commons, governance, exclusion, Open Source Software, Wikipedia

1. INTRODUCTION

Ostrom (2002) works on governance provides account how to provide mechanisms of governance to limit deleterious overuse of (natural, or physical) resources. Lately these theories have also been applied to the collaboration (in the production of commons) especially in open and closed digital settings revealing a rich terrain to theorize on the variation in governance, particularly of the mechanisms of exclusion observed underpinning open social online collaborations.

These “new commons” are, already through the process of creation, developed and designed around particular governance models to which they are inextricably linked (Hess, 2008). The subsequent governance models reflect both the structure and ties between the common and the construed community that it identifies. While, as we will discuss later, commons governance models define the terms, norms and interactions that ensure that a common is available to its community. However, in doing so, these models also result in exclusionary behaviour. Thus, we ask, in the context of new online virtual commons that do not suffer from overuse how to theorize the social exclusion that is observed? How do new commons such as Wikipedia articles reconcile governance utilizing social exclusion from their stated goal of an open encyclopaedia? As the common in “new commons” is created through its social interactions and norms how can we relate these to extant commons discussions?

There are numerous mechanisms of interest that emerge through the virtualization of commons. We focus on a micro level mechanism we observe utilized in the governance of these “new commons”, namely exclusion. This novel context of the online communities of Open Source software and Wikipedia provide an empirical setting that is both a small world and new commons highlighting the inherent tension between openness, deleterious underuse and the (vigilant upkeep?) maintenance of performant structures. The focus of the inquiry in this paper will frame the mechanism of exclusion within the macro social structures organized around the common as they act against the abuse and underuse of maintained shared open resources.

“New commons” such as Open Source and Wikipedia have been exalted for their limitless openness in terms of accessibility. Indeed, virtual commons suggest that they are accessible, available and editable by anyone. However, these online artefacts, while purposefully open, accessible by design and virtual also structure a relatively small community demarcated by primarily by social ties. Thus, borrowing from sociology, we argue that their governance can in fact be conceptually accessed through the theoretical lens of a small world (Travers and Milgram, 1968; Uzzi and Spiro, 2005).

Stanley Milgram (Travers and Milgram, 1967) introduced the classic small world theory which has been subsequently developed and show how the structure of interpersonal networks impacts the performance and creativity of the group. The theory investigates the linkages and consequent measures of how all humans are closely linked within six degrees of separation and how we populate small worlds. This perspective has been applied to various contexts. Davis et al. (2003) demonstrate that these ties can influence societal structures forming, for example, a resilient corporate elite. Uzzi and Spiro (2005) continue this work by showing how innovation in one of these small worlds, that of Broadway musicals relies on dynamic configurations of Broadway experts across different productions. Fleming and Marx (2006) argue that these small worlds actually foster creativity as they identify the social structures of Silicon Valley.

Indeed, in contemporary studies and settings the small world phenomenon has been replicated in various online platforms such as Facebook (Daraghmi and Yuan, 2014) and Twitter (Himmelboim et al., 2017) as well as the physical structure of the internet (Vasquez et al. 2002). The impact of structure has been further studied at the individual, organizational and even technological level (Uzzi et al., 2007).

However, some online communities linked to open social production offer curious manifestations of small world phenomena across multiple levels of analysis. The phenomena exists concurrently at the individual, organizational and technological level. The linkages, and the small world governance thereof, are inextricably linked to the open technological artefact around which a potentially undefined population of actors is organized. In open online contexts the population is not excluded from meritocratic contribution by the geography of the physical world, remuneration of market exchange or organizational hierarchies.

Recently, small world research has called for an extension of the analysis beyond measuring linkages, and the resulting structures, towards a more informed discussion of the role of well connected superconductors within the small world and investigation of the heterogeneity and variation in the weight of certain links - i.e. what are the links really? Research has been called on the mechanisms of how small world phenomenon works and the relationships between the micro behaviours, such as exclusion, on macro structures, such as open source or Wikipedia projects, as well as the weighted interactions between actors (Uzzi et al., 2007). These structures and interactions have developed and designed to sustain novel open online communities.

This work is organized as follows. First, we provide definitions and provide a limited overview of the relevant literatures on governance and online collaboration. Then we discuss in detail the extant literature on Open Source Software and Wikipedia from a small world perspective in order to argue for, and discuss the implications of, such a

conceptual framing. Finally, a discussion and conclusions will put forward avenues for future research.

2. VIRTUAL SOCIAL COMMONS

Kogut's (2012) study of corporate governance reflected on the financial crisis of 2008 and how the hidden network interconnections in the governance of the industry resulting in its systemic risk. The internet on the other hand, has been often claimed to be not as vulnerable and, despite the high connectivity, such a concentration of ties cannot, so called, bring down the system.

Instead, the internet's long-tail, which means providing a large user-base to find contributors with relevant interests is claimed to globally connect individual developers in a small world manner, who then may start virtual collaborations. There is a lot of variation both in terms of the context and the communities that form around virtual artefacts. The substantive value, and governance, of some of these collaborations is far from trivial and even forms the basis for some of the more valuable code upon which we rely daily. One good example of this would be the collaborative development of Linux operating system and its variants that currently run almost all of the digital infrastructure, critical to our societies, both virtual and physical.

We note that several types of governance are likely needed for different purposes in these situations, or that there is room for significant variation. Indeed, many virtual collaborations that are open for contributions invite ad-hoc, spot-type efforts characterized by low levels of involvement.

In other words, the phenomenon which enables such ad-hoc activity, namely the collaboration rules and global governance infrastructures provide a grounded context that relies on, and results in, persistent social structures. The types of rules around which these social structures are formed can be, for example, the process and style guides through which Wikipedia articles are edited. One interesting example of these different types of governance issues is how the trustworthiness of open projects such as Wikipedia persists despite concerted efforts to vandalise the platform.

Both Open Source and Wikipedia have often been used as an example of voluntary-based, decentralised knowledge production (Benkler, 2007) that shows the potential of social production enabled by the internet. Openness - in the different meanings of the word - is seen as one of the key enablers in creation of these links in the network and sustaining a longer term collaboration over a specific task, content, or project. However, as the structures develop around the open virtual artefacts, second order dynamics emerge that may in turn impact the governance of the virtual collaboration and allow it be assessed as a social community. Less is known about how these

systems actually work in terms of the rules that enable and sustain, and even break these collaborative ties.

In short, the open governance mechanisms by which these small world new commons are sustained matters not only to the communities involved, but those systems that rely on the communities. We ask in this article whether this is really the case or whether also exclusion mechanisms play key roles in these open collaborations. In what follows we investigate variation in governance and identify in detail this tension in terms of governance and open online community research and then focus on two specific collaboration contexts: Open Source Software and Wikipedia.

2.1 VARIATION IN GOVERNANCE

Significant variation in governance mechanisms and access to resources can be observed across both space and time. Today, different models can be found across geography when comparing who controls the corporation in the Anglo-American model (Davis and Mizruchi, 1999) and, for example, the Swedish model (Agnblad et al., 2001). These local persisting variations in governance have also been catalogued by Ostrom (2003) in terms of their implications for the governance of commons.

Governance models have also evolved over time as the value of the resource has evolved with respect to the relevant community. Boyle (2003) notes that during the Napoleonic War, the revision of existing governance models resulted in the enclosure of fields and was defended as a necessary method of increasing the efficiency of agricultural production, as this became vital to the war time economy.

The growing importance of information and digital commons has provoked academic reflection and numerous avenues of inquiry. However, as the economic and social value of new commons increases are their nominally open governance models sufficiently well understood? Are they adequate or should the governance of new commons be transformed now that their importance is significant to the common good? Should open commons undergo enclosure and abandon their open model now that critical infrastructure systems rely on less understood mechanisms of access? Unlike traditional physical commons where the governance, and the subject thereof, can be separated, how could “new commons” be changed or reformed?

To distinguish our setting, from other areas of inquiry within the commons stream of research we draw on the conceptualization of a key difference in that new commons and the linkages between individuals, artefacts and their organization are qualitatively different in information commons than in material, traditional commons such as leas and fisheries. The of linkages and their rules in the instance of new commons cannot be separated from the artefact itself (Hess, 2008). Indeed, information products are artefacts that are compiled from an amalgamation of inputs and outputs of various

types of resources as described by Boyle (2003), both new and used, by regular users and spot contributors. Furthermore, new commons do not suffer from deleterious overuse as do traditional commons problems. Instead they suffer from what is said to be the “tragedy of the anticommons” where insufficient use of an unlimited resource is a not insignificant governance issue (Heller and Eisenberg, 1998).

We put forward two such “new commons” for such consideration: Open Source and Wikipedia. More specifically, we refer to examples of new digital commons being created by the public release of software source code or content whereby independent developers can come together to work on a shared artifact.

These new commons were created in the overriding belief that with an increase of such software or content, economic and social value would be generated. The result is that some businesses have indeed engaged with open commons communities as a way to learn, develop and maintain their software or assets. However, how are we to understand and govern the private use of what are generally seen as public goods? Furthermore, it seems that much of the current understanding of these emergent open phenomenon is characterized by accessibility. However, what is to happen if and when this access to these digital resources is limited or questioned?

Virtual commons have often been framed in economic terms and the variation in access and rights have been linked to the closed or open, commercial or public nature of the activity or actor. There are, for example, practices by which Open Source code can be utilized for private commercial aims. However, there is much activity that is deleterious to the public good that does not benefit the actor but is undesirable in the development and upkeep of the commons. For example, the benefit of trolling public US presidential Wikipedia pages may not result in benefits that can be categorized, and thus excluded, in economic terms. However, the exclusion of such instances is not straightforward as “every potential increase of protection, however, also raises the cost of, or reduces access to, the raw material from which you might have built those products. (Boyle 2003: 43)”. Therefore, our investigation into the governance of these commons includes, but is not limited to, such distinctions and thus conceptualizes the interaction at the micro social level and access to, or exclusion from, the community/artefact/common.

The new commons have specific challenges compared to traditional, or at least, physical, commons. Subtractability or rivalrousness can be deleterious in the case of natural resource and thus governance is needed to limit or allocate its use (Ostrom, 2003). However, unlike physical resources digital resources are not scarce in a similar vein. Furthermore, the marginal cost of their diffusion is near zero. Still, the resources have a production costs that increasing subtractability of the digital resource might mitigate.

Common resource contexts need to manage the governance and to overcome the free-rider dilemma. Ostrom divides collective action problems into two groups: public domain problems and other common-pool resource problems (Ostrom 2003). First problems are characterized by the difficulty of exclusion and second by both the difficulty of exclusion and difficulty of subtraction.

Figure 1: Types of goods (Ostrom 2003)

		SUBTRACTABILITY	
		<i>Low</i>	<i>High</i>
EXCLUSION	<i>Difficult</i>	Public Goods Sunsets Common knowledge	Common-Pool Resources Irrigation Systems Libraries
	<i>Easy</i>	Roll or Club Goods Day-Care Centers Country Clubs	Private Goods Donuts Laptops

Subtractability in public good settings means that non-cooperative actions by one actor do not make a dramatic impact on others. In common-pool resource problems, however, aggressive withdrawals can generate high costs for everyone else (Ostrom 2003). This distinction in context implies a clear difference in strategy: In traditional common-pool resource situations members try to limit the amount of actors who can access the resource. In contrast, in public good situations the group tries to extend its membership base, because this will make it more probable that the good will be provided (Ostrom 2003). Unlike in traditional commons cases such as natural resources or libraries, there is no clear maximum sustainable limit for digital goods. Instead of limiting the use, the question is now how to strategize incentives that would promote use and increase adoption. Thus, the access question pondered by Ostrom (Ostrom and Schlager 1996) has become more complex.

“The tragedy of the commons only becomes a tragedy if the actors using the commons are “norm-free maximizers of immediate gains, who will not cooperate to overcome the common dilemmas they face” (Ostrom, 1999: 493). The common resource pool perspective recognizes human actors as capable of cooperating with each other and of establishing norms and social mechanisms to encourage and reinforce cooperative behavior” (O’Mahony 2003, 2007).

O’Mahony and Ferraro (2007: 1082) note how open communities introduce simultaneous introduction of democratic bureaucratic practices to govern common resources. Each social mechanism limiting the impact of each other.

2.2. GOVERNANCE IN A SMALL WORLD

We propose that online new commons differ from physical commons in their limitlessness and wide accessibility, indeed, Heller and Eisenberg (1998) frame this as the “tragedy of the anticommons” - the under use of a scarce resource. However, we ask how these online communities are governed? Rather than a boundless world we frame this as a small world of social ties that generate in norms including mechanisms of enforcement.

A useful example of a definition (Baum et al., 2003) depicts a small world as locally clustered, dense sub-networks or cliques that are sparsely connected by a small number of ties that cut across the cliques, linking network members through a relatively small number of intermediaries. Indeed, this perspective introduces a tension to the common characterization of open online resources.

To this we discussion we add in the case of new virtual commons these small worlds become apparent when observing the delimited but open community that is organized around the design, development and maintenance of the common. Thus, in the case of “new commons” (Hess, 2008) this governance is inextricably linked to the common itself. We argue that this governance is congruent with the social small world that has designed, developed and maintains the open common as well as access to it.

The rules by which systems, such as corporations are to governed are often explicitly codified with significant variation between context and nations. However, we propose that variation in governance can be also understood through the governance network or community’s structure that has designed, developed and implemented the Open Source or Wikipedia entry, for example. In addition to community size and composition (Uzzi and Spiro, 2005) one of the relevant measures that determines access to the small world community is tie strength.

		SMALL WORLD (ties, network, central, structure)	
		<i>Weak ties</i>	<i>Strong ties</i>
EXCLUSION	<i>Difficult</i>	<i>Public Goods Sunsets, Common knowledge</i>	<i>Common-Pool Resources Irrigation Systems Libraries</i>
	<i>Easy</i>	<i>Roll or Club Goods Day-Care Centers Country Clubs</i>	<i>Private Goods Donuts Laptops</i>

Figure 2: Types of goods (Exclusion and Small World)

Returning to new commons, we thus argue that rather than subtractability, a trait less important in virtual commons, the relevant framing becomes not only access to the common itself but the access to the governance mechanisms that underpin it. This in turn is dependent on the ties by which this open access is maintained. For the purposes of this framing, we ask whether public goods and club resources may be characterized as being governed by weak ties relative to common pool resources or private goods (Figure 2). These, on the other hand, can be depicted as having stronger ties. It can even be argued a step further that in some new commons the small world derived governance is inextricably linked to the common itself to the point that gaining access to the new common is tantamount to gaining access to a small world structured with strong ties.

3.0 EXAMPLE NEW SOCIAL PRODUCTION: OPEN SOURCE SOFTWARE AND WIKIPEDIA

We select two digital contexts of new social production to highlight how the dynamics play out: Open Source Software (OSS) and Wikipedia. In OSS, individual software developers coordinate their activities to release open software systems and applications. These efforts are driven by open artifacts (i.e. version control tools, communication tools, codebase). Another well-known example are the not-for-profit encyclopedia efforts in Wikipedia, where the volunteer contributors have set-up and run a systematic review editing and review processes. Wikipedia article production relies on open infrastructure and idea that anybody can be a contributor.

Open Source Software (community-developed software licensed under OSI license) (Välimäki, 2005) projects allow for a number of ways to contribute to OS projects: coding, providing bug reports, documentation, answering user questions etc. However, there are several limitations on who can actually make source code contributions to the application. The meritocracy principle requires track record of the necessary technical skills to be able to contribute. The discussions and prioritization of the functionalities and bug fixes are carried out among developers, often in public developer email-lists.

Suggested edits are reviewed before being added to the mainline software. Additionally, OSS often follow versioning conventions where parts of the software testing are conducted by the early users and those that look for more stable systems opt for more mature versions of the software. This means also that those developers entrusted with the role of release managers evaluate whether the developing parts are ready enough to be included in the software release and which version. Thus in many projects, a situation results where the contributions mainly come from a cadre of experienced developers. Ultimately, if some of the contributors feel that the project is “hijacked” by these core developers a forked version of the code base may be initiated, risking the dilution of common development efforts (for a more thorough

explanation of OSS development dynamics, see Fitzgerald, 2006; Markus, 2007; Aksulu et al., 2010; von Krogh et al., 2012)

Wikipedia is a global online encyclopedia that hosts numerous different language editions. The Wikipedia content is organized into topical pages and the discussion about the content happens in Talk-pages among the different Wikipedia editors. The most high-quality content of the Wikipedia is listed as Featured Articles and the peer-review process of such content is called the Featured Article process. Content is hyperlinked, so readers can find more information about the related topics - this also means that the linkages between articles often require that authors of pages provide content to several different articles. Historical information is stored automatically on all the edits, discussions, groups and projects.

Early Wikipedia research often focused on individual sporadic and atomic spot contributions, but lately the research has also focused on prolonged engagement (Solomon and Wash, 2014). Wikipedia research shows how a majority of the edits come from a very small group of core developers - majority of the population seems to be merely “lurking”.

3.1. Open source activity and exclusion

Many early open source proponents often described open source software development as open and meritocratic process where almost anybody can take part. However, the majority of the contributions and project leadership decisions are conducted by a relatively small number of dedicated core developers (Crowston et al., 2003). Earlier research shows how several social and psychological aspects may play into this dynamic (von Krogh et al., 2012).

One of the key reasons for this that the level of skills and dedication needed to make useful contributions is for many projects really high. The contributions also become relatively visible when they are considered for inclusion to the project, so many novice developers may feel hesitant to expose their code to code review by the more experienced developers, even if it is very clear to everybody that this will likely improve the code - and more indirectly, developer - quality.

OSS motivation scholars find that often contributors are driven by a variety of different motivations (von Krogh et al, 2012). One of the often mentioned is the fun factor - OSS development is seen by many as “fun” - a creative, playful activity where code artist generates high-quality software. This stands in contrast how much of other software production is organised in society, but also begs the question of what happens when the tedious processes related for example to maintenance are not so much fun anymore?

3.2. Wikipedia activity and exclusion

Wikipedia also aims to benefit from the wisdom of the crowds (Surowiecki, 2004) by attracting large number of individual contributions. A lot of early research was put into identifying the contribution patterns of the users: the participation seems to follow power law, where a small percentage of the editors provide a large number of contributions.

However, as noted by Geiger and Ribes (2010): “the process of editing in Wikipedia is not a disconnected activity in which atomistic editors enforce their view of the world on others” (Geiger and Ribes, 2010). Instead it is made up of complex processes and interactions between people and technology, automated and not. Our focus is on the small world created by the governed linkages between individuals, the organization and technology that maintains stability and enables the collaboration of heterogeneous actors.

Earlier work discusses the routines used in the governance of Wikipedia in the different phases of Wikipedia development (Aaltonen and Lanzara, 2015). For example Aaltonen and Lanzara (2015) divides the stages of Wikipedia into 1. Early days, 2. Rapid growth, 3) Maturity in terms of how their governance capability has evolved.

When Wikipedia articles mature, the focus moves from the production of new articles into protecting the quality of the existing articles. This activity is often called vandal fighting - preventing edits that are deemed to be of lesser quality (Geiger and Ribes, 2010). Wikipedia language editions have established a number of institutions and practices to deal with this issues - the need to balance the new contributions and retaining the quality of the edits. This raises an interesting question about at what time an article becomes a good to protect.

4. DISCUSSION: PARADOX OF OPENNESS

What we notice in both of these contexts is what we label as paradox of openness: in order to produce and maintain the goods, exclusion mechanisms are mandatory. Only certain types of edits to the goods are allowed to maintain their usefulness. This governance dynamic at outset seems to run counter to the narrative of inclusion and “openness” of these artifacts and processes.

Focusing on these mechanisms in detail reveals a novel governance dynamic hiding in the rhetoric of radical openness, where the different mechanics and governance activities are taken to guarantee the quality and long-term usefulness of the produced artifacts. In what follows, we distill these exclusion mechanics in Wikipedia and open source by which contributions are not included into the open common.

<u>Artifact</u>	<u>Challenge</u>	<u>Example exclusion mechanism</u>
<u>Open Source Software</u>		
<u>Email list</u>	Coordination of development activities	Meritocracy (individual authority based on earlier contributions)
<u>Code-level</u>	Bad code quality	Code review based on experience, access management to code edits
<u>Bug report</u>	Development direction	Used in agenda setting
<u>Release</u>	Prioritizing functionalities, determining maturity of functionality	Versioning, release management
<u>Level</u>	<u>Challenge</u>	<u>Exclusion mechanism</u>
<u>Wikipedia</u>		
<u>Article</u>	Contested topics in articles	Consensus, arbitration, voting
<u>Talk pages</u>	Trolling, flooding discussing	Admin rights, marshalling the discussion forums. Talk-page, article level or user bans, blocks.
<u>FA-process</u>	Showcasing premium articles	FA review process for articles
<u>Wikipedia-level</u>	Vandalism	IP address-based blocking (duration or indefinite)

Table 3: Typology of example exclusion mechanisms

We detail four different open artifacts and related forms of governance that rely on an exclusion mechanism in open source. These artifacts are the developer email list, editing the shared software source code, prioritizing the bug reports and the choices on what is excluded in the released version.

- Developer **mailing lists discussions** direct the road map of the development efforts among discussing development related questions. One of the main aims is the coordination of development activities. This discussion relies on the standing of the developers in the developer community (“meritocracy”), which is determined by earlier code contributions to the projects (or otherwise proven).
- Limiting the **direct code edits** to the mainline software to specified gatekeepers is another mechanism to manage the development efforts and to guarantee that the code contributions are of high enough level.

- Checking the **bug reports** and prioritizing them is a key activity to determine which bugs are seen as critical enough to be “worth fixing”. Usually this activity is also conducted by the core developers although there is variation between the different projects on how bug reports are organized and in the process that turns these reports into new code.
- **Release management** i.e. deciding which functionalities include in the different release versions prioritizes internally functionalities by determining how ready they are to be included in the software. Of course, users are still free to choose which version to take into use or even edit the functionalities (if they can and follow the license agreement).

In Wikipedia, we provide four examples of artifacts and related governance mechanisms. These are: Wikipedia article, Talk-pages, FA-process and Wikipedia level.

- Number of mechanisms have been developed to deal with the **contested topics in Wikipedia articles**. These mechanisms include for example consensus-building activities, arbitration and voting mechanisms.
- **Talk-pages** are the main area where the contents of the articles are discussed. Sometimes these pages are plagued by trolling and flooding behavior which require marshalling the forum. In extreme circumstances, also blocks and bans can be administered to specific users, pages or talk pages.
- The best content of of Wikipedia is showcased in **the FA-process**. This process also has a review phase to increase the quality of the article and linked other articles.
- For some users whose behavior is detrimental to the wikipedia, it is also possible to ban or **block users from editing** the wikipedia based on user’s IP-address.

5. CONCLUSION

We identify are some novel tensions that seem to be inherent in the context of online new commons. Firstly, we have introduced the paradox of openness: i.e. outlined how exclusion mechanisms are exercised in the context of new digital commons (Open Source Software and Wikipedia). This warrants further investigation and inquiry into the degree to which the rhetoric of openness is maintained and furthered through mechanisms of exclusion. Further framing of these mechanisms could also yield insights into the motives, contingencies or social structures through which they arise and are implemented. These explanations could add to context to current discussions that is limited to exclusion from platforms based on, for example, open versus private utilization of commons.

A second tension in new commons recognizes the ongoing discussion whether open global scale content-production internet communities are in fact small world phenomena. Discussing these mechanisms in detail reveals an interesting dynamic between the production and maintenance of digital commons. We have also anecdotally shown how these mechanisms are intrinsically tied to the different artifacts and what different exclusion mechanism and strategies are used to govern the commons.

The novelty of this line of inquiry becomes apparent in the context of the new commons wherein the governance and the common itself are inextricably linked (Hess, 2008) as has, for example, been demonstrated in the case of open source and wikipedia. However, we ask, given transitivity, that if the “new common” is also its inherent governance then the small world (ties, structure, etc.) that designs, develops and implements the governance is also inherent, or at least congruent, with the common itself. Further still, given the virtual online nature of these phenomena the separation between a physical artefact and those governing it becomes increasingly difficult. The discussion of the governance of commons thus could enter a context whereby the small world, its social structure and its ties, may well be the common. A fuller discussion could well illuminate insights into the governance of these societally increasingly impactful small worlds.

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