

Organizing Democracy

Power concentration and self-organizing bureaucratization
in the evolution of Wikipedia



Emiel Rijshouwer

ORGANIZING DEMOCRACY

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DE ORGANISATIE VAN EEN DEMOCRATISCHE ORGANISATIE

Machtsconcentratie en zelforganiserende bureaucratisering
in de evolutie van Wikipedia

Thesis

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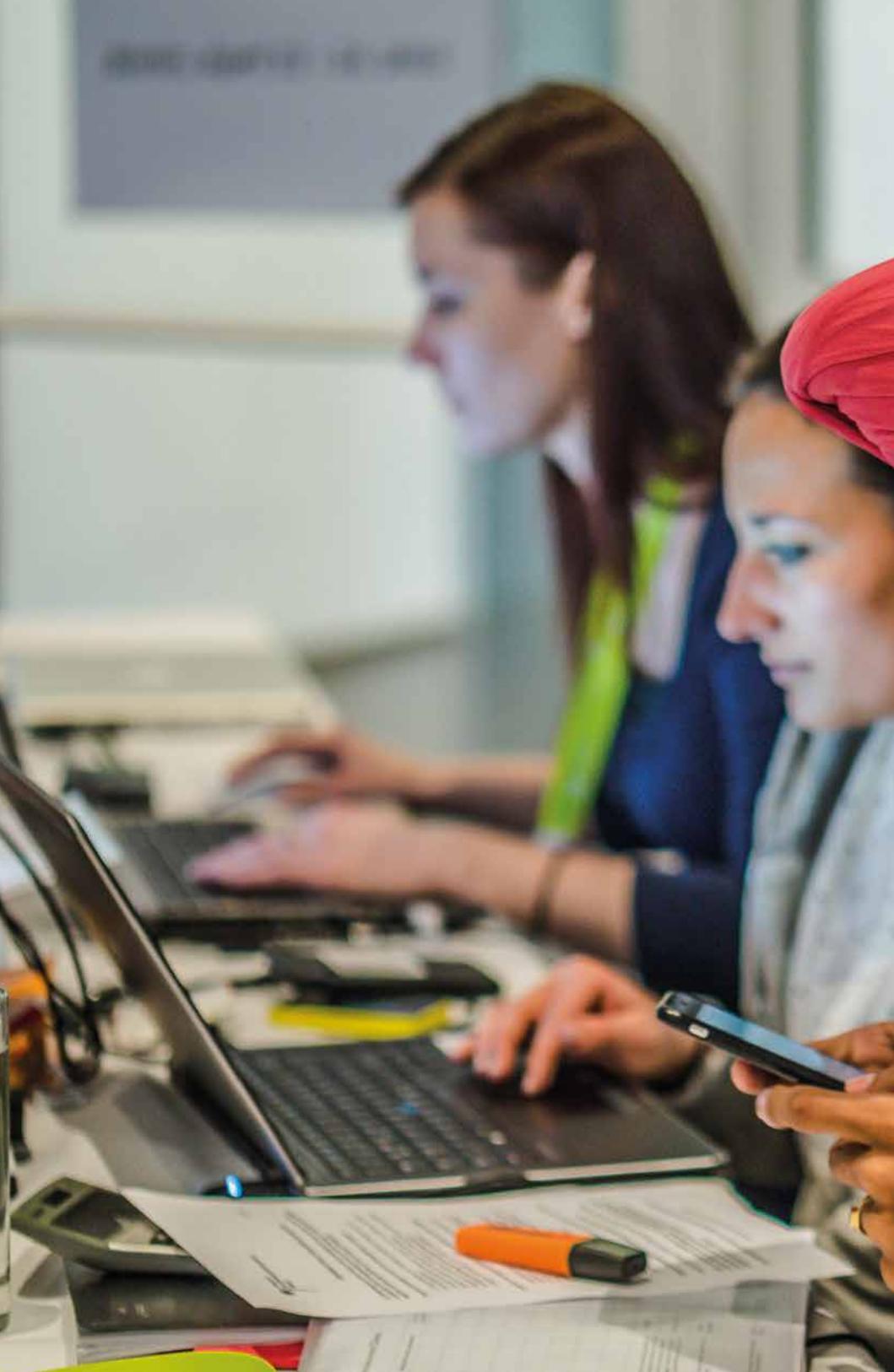
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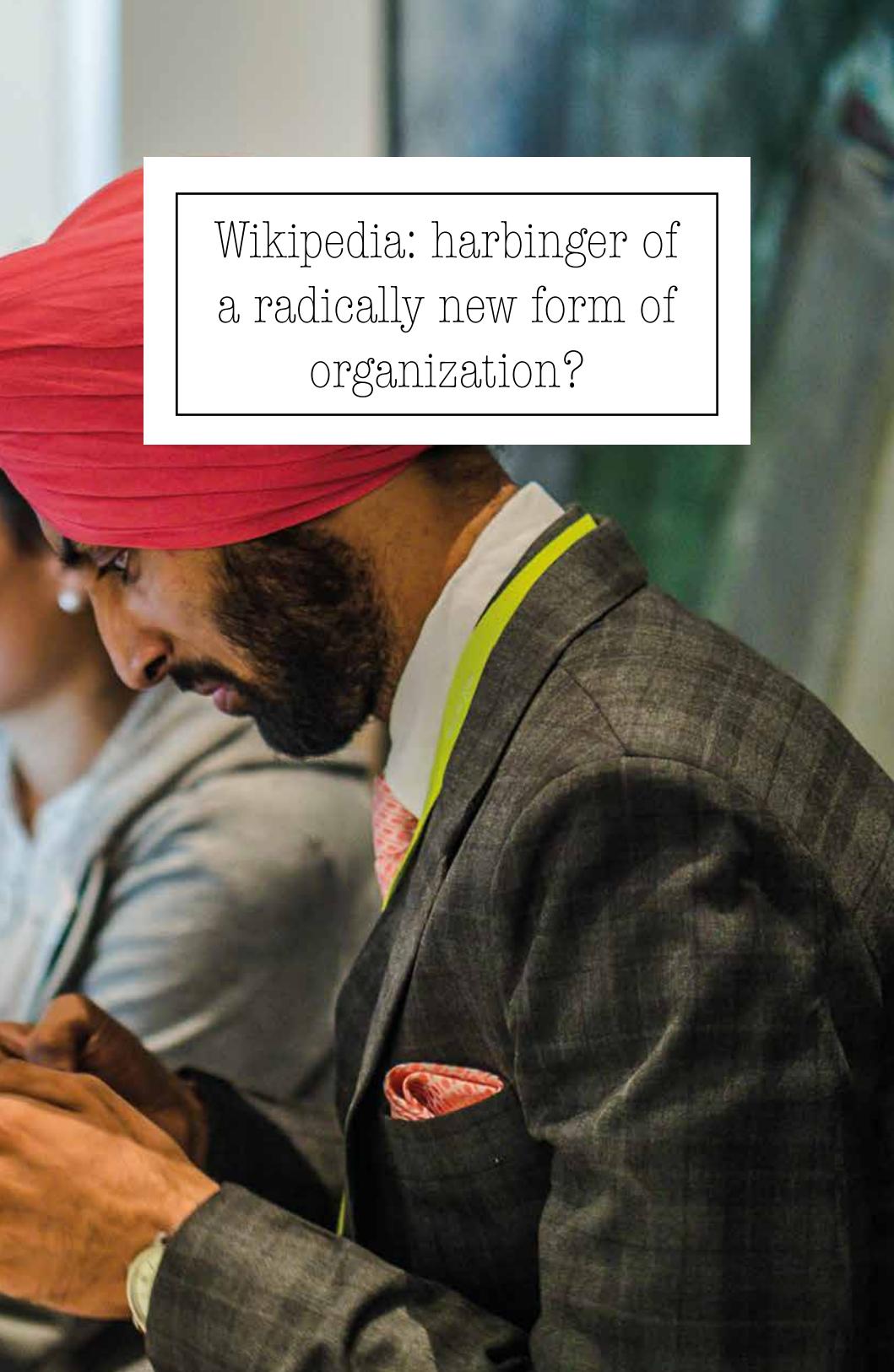
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Wikipedia: harbinger of
a radically new form of
organization?

Founded in 2001, the publicly editable online encyclopedia Wikipedia is likely to be the most exhaustive and up-to-date repository of knowledge in the world. More than an online encyclopedia, it is a platform based on the *wiki* approach that encourages volunteers to edit pages of the website according to their own discretion, without any central authority and without the need for special software.¹ In the past fifteen years, hundreds of thousands of volunteers around the world have contributed their time and expertise to the project,² and as a result Wikipedia is currently home to over 45 million articles. While Wikipedia started off in English, it is presently available in almost 300 languages. The Wikimedia Foundation (WMF), the organization that runs the sites, reports that every hour 15,000 edits are made and that over 10,000 articles are added each day (2016a, 2017a). Since 2007, “the free encyclopedia that anyone can edit,” as it describes itself, has consistently ranked in the top ten most visited websites of the world, despite being the only non-profit and primarily volunteer-based organization of this list.

Wikipedia’s massive success is as much in what it represents as a movement and platform as the information that it makes readily available. On the eve of its fifteenth anniversary, Wikipedia was awarded the Erasmus Prize by the Dutch Praemium Erasmianum Foundation based on Wikipedia being a community-based endeavor, “a shared project that involves tens of thousands of volunteers around the world who help shape this initiative.” (Praemium Erasmianum Foundation 2016:6). Many commentators and critics alike recognize Wikipedia as an exemplary model of an “open and self-organizing community”: it is “open” in the sense that anyone is, in principle, free to participate and “self-organizing” in the sense that neither market incentives nor formal commands are used to remunerate or direct participants to perform certain tasks.

¹ In the case of Wikipedia, the platform is server-side software that allows pages to be edited by any public user. No other software is needed on the user-side except for a web browser.

² Members of the jury and laureates of the Praemium Erasmianum qualify Wikipedia in similar terms (Praemium Erasmianum Foundation 2016).

Its achievements make Wikipedia widely recognized as a prolific example of what is considered a revolutionary change in how groups of people are organizing. As Justus Uitermark argues, the wiki way of working serves as an ideal of successful organization that he deems applicable far beyond its online origins (2015). Uitermark cites as examples citizens engaging in coordinating their own care provisions, arranging their own energy and food production, and creating employment opportunities (2015). In each of these cases, people voluntarily partake in the production of common goods and services, based on their own concerns and their personal expertise, with the apparent consequence that “power invested in rigid institutions will be distributed across communities capable of taking control over their own affairs” (Uitermark 2015:2303). Authors writing on new forms of organization indicate how complex and adaptive democratic organizations emerge from the volunteer engagement of a leaderless crowd (cf. Ball 2004, 2012; Benkler 2006, 2011a; Castells, 2012; Himanen 2001; Johnson 2001, Raymond 1999; Shirky 2008; Tapscott and Williams [2006] 2008).

Researchers commonly describe the accomplishments and the potential of such allegedly revolutionary organizations by contrasting them with archetypical classical organizations: the latter are portrayed as closed, rigid and hierarchical in order to emphasize the contrasting openness, spontaneity and self-motivated character of bottom-up organizations. As Kreiss, Finn and Turner aptly note, peer production is often defined in opposition to the bureaucratic structures that supposedly prefigure it (2011:244):

If peer production offers flexibility and egalitarian interpersonal relations, bureaucracies seem to many to confront workers with rigid, hierarchical social relations. If bureaucracies hoard wealth and power, peer production distributes it. If bureaucracies breed psychologically divided ‘organization men,’ peer production supports the whole person. Above all, peer production promises to liberate the individual subjects

of mass consumer culture by fashioning them into active producers.

Their point is that such a dichotomy is overly optimistic about the revolutionary potential of peer production. Following classical sociological theories it is conceivable – or downright inevitable – that such presumably revolutionary communities will eventually develop characteristics of the hierarchical and rigid bureaucracies that they are contrasted with. According to Robert Michels's theory of the “iron law of oligarchy,” even initially democratic organizations will eventually develop into oligarchies in which a small group holds control and power. According to Max Weber's theory of rational-legal domination, open and self-organizing communities necessarily develop into formal bureaucracies. Both theorists ultimately describe *bureaucratization* as an inevitable aspect of the maturation of initially open and self-organizing communities, and both point to the negative consequences of this tendency for the democratic potential of such organizations' constituents. Michels predicts that constituents of initially democratic movements will be dominated by self-interested elites, and Weber warns of the inhumane aspects of machine-like forms of organization.

There have been various studies describing Wikipedia as an oligarchy and as a bureaucracy, and various studies that argue the opposite. However, my concern is not whether this open and self-organizing community is an oligarchy or a bureaucracy *per se*, nor do I aspire to describe it so as to label it as such. Rather, I apply the sociological concepts of bureaucracy and oligarchy to investigate how and why such forms of organization manifest themselves during the evolution of an open and self-organizing community. In analyzing Wikipedia based on classical sociological theories, I assume that processes of oligarchization and bureaucratization will take place even within projects whose initial participants were recruited from online platforms based on an interest in leaderless and anti-bureaucratic

ways of working. Since Wikipedians³ are principally engaged in their own governance, they would participate in, as well as reflexively respond to tendencies and manifestations of, power concentration and bureaucratization. The objective of this dissertation is to identify and to analyze tendencies and contestations of oligarchization and bureaucratization among both the constituents and the organizers of Wikipedia. So rather than applying these as labels, I use the concepts of oligarchization and bureaucratization to produce a sociopolitical analysis of the development of Wikipedia's organizational forms and structures, which I consider to be the emergent and temporal resultants of the political struggles of stakeholders with various concerns.

This ethnographic study of Wikipedia has three objectives. First, it is meant to provide empirical insight in how and why tendencies of power concentration and bureaucratization play out in a principally anti-hierarchic and anti-bureaucratic open and self-organizing community, and to demonstrate what kind of organizational structures emerge from associated political struggles in ways that affect Wikipedians' autonomy over time. Second, my qualitative analysis contributes to the theorization of the organizational development of open and self-organizing communities in general – a class of organizations of which Wikipedia is considered to be an exemplary case. Finally, this study serves as a means to amend classical sociological theories on power concentration and bureaucratization, as these are lacking empirical detail regarding how tendencies of power concentration and bureaucratization emerge; how their attendant political tensions and potential problematic consequences evolve; and how a case, in theory, plays out in practice.

In the following chapter I elaborate the premise of *democratization* in terms that relate it to the contemporary case of Wikipedia, since

³ I use the term "Wikipedians" to refer to the members of the community of volunteer contributors, editors, and community managers on Wikipedia, which number in the tens of thousands. These contributors are distinguished from both passive readers of the site's articles as well as Wikipedia's formal leadership, which I refer to as "Wikimediens" in this study.

it is the presumed ideological basis of open and self-organizing communities. Subsequently, I describes the tendencies of *oligarchization* and *bureaucratization* according to certain strains of classical sociological theories to focus on how these organizational structures result from the development of organizations in general, even in those that principally aspire to minimize domination and to guarantee equality amongst constituents. Throughout this dissertation I refer to such organizations as “intentionally democratic” organizations. Subsequently I will provide an argument regarding why Michels’s theory of oligarchization and Weber’s theory of bureaucratization are essential perspectives in order to describe and to analyze the development of present-day online organizations. From both theorists I derive sensitizing concepts, which guide the analysis of three empirical case studies on the organizational development of Wikipedia – indisputably one of the world’s most paradigmatic open and self-organizing communities. The three empirical chapters of my study center on the *financial*, the *infrastructural*, and the *cultural* aspects of organizing Wikipedia. With each of these cases, I seek to answer the question of *how* and *why* oligarchization and bureaucratization play a role in the organization’s political endeavors to establish, develop and sustain the project, and to describe concomitant causes, conflicts and consequences.

I conclude that Wikipedia does not exhibit tendencies of oligarchization; and that it is subject to ongoing bureaucratization. Over time, Wikipedia does exhibit various instances of centralization of its governance. Partly, these are the emergent consequence of self-organizations, as those volunteers who are more strongly engaged in the project, gain more informal – and in some cases more formal – authority. Besides that, I found instances in which Wikipedia’s informal representatives and its formal supportive organization, the Wikimedia Foundation, demand or appropriate the discretion to intervene in the course of the project’s self-organization, with the intent to sustain the organization and to realize its ambitions. These tendencies of centralization and power concentration do not seem to be instigated by a self-concerned and conservative elite, and these do

not seem to be as deterministic as Michels portrays them, as these are, in various cases, successfully mitigated or counteracted by the platform's constituents. Wikipedia's continuous bureaucratization on the other hand, is hardly contested. Moreover it appears that bureaucratization is not a unilateral top-down measurement, but rather the consequence of Wikipedians' – i.e. both Wikipedia's constituents' and its formal representatives' – endeavors to effectively and sustainably organize their increasingly complex and large amount of work, as well as to safeguard Wikipedia's democratic character. With the introduction of the concept of "self-organizing bureaucratization," I contribute to the theorization of open and self-organizing communities in general. By this concept I grasp and explain tendencies of bureaucratization in endeavors to establish and maintain the democratic aspect of bottom-up organization: bureaucracy and technology play a crucial role in the organization of open and self-organizing communities as their presumed transparency, objectivity, predictability, reliability, and impersonality are broadly accepted and applied as legitimate means to meet the democratic objectives of striving for "equality for the law," and "minimization of domination." The theoretical amendment I wish to make to classical sociological theories on organizational evolution is that the reflexivity of both constituents and their formal representatives' regarding the development of their intentionally democratic organizations should be explicitly considered as a crucial factor in the development of such organizations.

KNOWLEDGE

GAPS

& BIASES

7

⑩ WILL KNOW
THE FIELD OF
UNDOCUMENTED
KNOWLEDGE

7

KNOWLEDGE IS GLOBAL:

WE MUST MOVE BEYOND
WESTERN WRITTEN KNOWLEDGE,
TOWARDS MULTIPLE AND DIVERSE
FORMS OF KNOWLEDGE (including oral & visual),
FROM MULTIPLE AND DIVERSE
PEOPLES AND PERSPECTIVES,
TO TRULY ACHIEVE THE SUM OF ALL
HUMAN KNOWLEDGE.

[Ex] This is the world's minority! [Ex] This is the world's majority!

[Ex] This is the world's minority!

[Ex] This is the world's majority!

7.
A

Creating an adaptive

7.

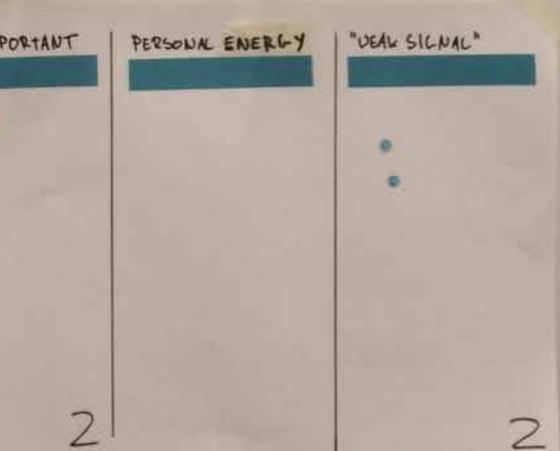
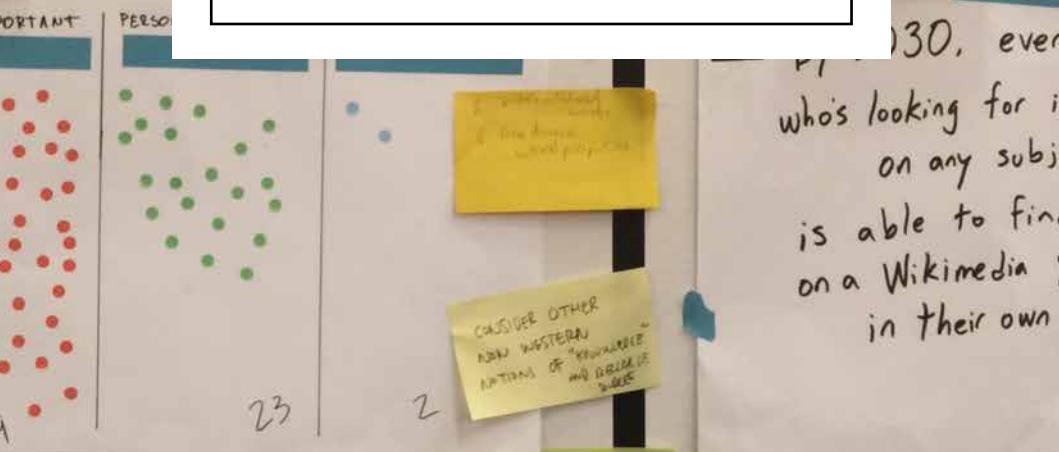
Infrastructure (technological, social etc.)

which will support the production
and preservation of diverse forms
of knowledge

THIS IS IMP

...

Democratic organization in the age of the wiki



تمكنت من تطوير وتحقيق المعرفة والتطور الذي ينادي بالطريق المثلث
من خلال مشاريع تجربة وتحقيق التطلعات وتحقيقه ستظل مسار

Advocates of contemporary open and self-organizing communities cite Wikipedia as an example to argue that recent innovations in information and communication technologies are politically and economically revolutionary: they allow people to voluntarily engage in the production of collective goods and services, leading to unprecedented outcomes. In contrast to classic top-down bureaucracies, which critics frame as impersonal, inefficient, ineffective and inert, distributed, bottom-up organizations are portrayed as democratic, socially engaged, creative, innovative and resilient. Shaw and Hill note that “[a] chorus of scholars have described networked collectives, including wikis, as *deeply democratic*” (2014:217; emphasis added); and Kreiss et al. refer to Bruns (2008) and Benkler (2006) in order to demonstrate that scholars commonly argue that “collaborative, networked projects...are *more democratic and egalitarian* than formal, hierarchically managed forms of information production” (2011:246; emphasis added).

One argument that is often used to underscore the significance of the proliferation of radically distributed organizations is the supposedly ongoing democratization of various means of communication and production. Revolutions in information and communication technologies are deemed to provide all who have access to the Internet the opportunity to individually or collectively engage in the production of services of their concern, without any dependency on commercial or governmental organizations. Therefore, an open and non-hierarchical outlet such as a wiki is seen as the technological extension of democracy itself. The technological innovations that are supposed to lie at the basis of this democratizing development are supposed to allow work to happen “stigmergically.” Stigmergy, according to Elliott, is a biological phenomenon by which constituents of a species contribute to the development of their environment by making incremental changes to it, which, in turn, triggers the self-selective participation of others (2016; cf. Heylighen 2015).

Since financial investments are low or nonexistent, self-organizing communities are considered to be tolerant to experiments

and failures, which supposedly would lower the threshold for participation and would therefore spur diversity and innovation. Participants in self-organizing communities possess a fair amount of autonomy, since they do not depend on someone or some organization to pay them a salary, they are not obliged to follow any orders, and they are not accountable to any superior. Additionally, the ease with which information is produced, distributed, stored, retrieved and shared makes it possible to devise structures in which any representative could be informed by any constituent in real-time, allowing presumably autonomous and creative, innovative and engaged community members to hold traditional representatives accountable.

The assumption that the widespread availability of technological means of production would spur an increased involvement and autonomy of citizens in the production of goods and services based on their personal and communal concerns makes advocates cite *democratization* as one of its essential promises. Democratization is considered a revolutionary aspect of open and self-organizing communities, as participants and employees in what are considered traditional organizations are supposed to lack autonomy and engagement. Self-organizing communities are *open* on principle and resist hierarchy, which means that there is no selection process to determine who can and who cannot participate, in contrast to traditional organizations which are presented as closed and centrally coordinated. Participants engage in the production of a specific good or service based on their own motivation and expertise, rather than executing a set task commissioned by an employer. The premise is that this grants them a fairer chance to exhibit their talents and creativity and to provide valuable contributions to satisfy their needs, without any involvement or steering of any central coordinator.

Kreiss et al. critique the “utopian orthodoxy” among scholars and journalists concerning online peer production, through which such innovative collaborative technologies like Wikipedia are heralded as harbingers of modes of governance and labor that are fundamentally more participatory and democratic (2011). While it

is the case that a large segment of scholars emphasize the democratic and emancipatory potential of online self-organization, recent years have seen extensive discussions detailing the contradictions and limitations of online peer production (cf. Cammaerts 2008; Duguid, 2006; Jenkins 2009). Despite the optimism of the utopian orthodoxy, more skeptical accounts suggest that such organizations and communities do not elude tendencies towards power concentration and bureaucratization (cf. Castells 2012; Ferraro and O'Mahony 2012; O'Neil 2014; Shaw 2012; Shaw and Hill 2014; Shirky 2008; Tapscott and Williams 2008). While such critiques are important to resist the overly optimistic techno-determinism of utopian orthodoxy, I argue here that theories grounded in the development of open and self-organizing communities from a sociopolitical point of view are underdeveloped. This study uses sociological methods of gathering details from the people involved in the progress of Wikipedia's development in order to propose empirically grounded theoretical insights of its development. In this chapter, I elaborate on Michels's and Weber's classical sociological theories that argue that democratic parties, movements and organizations eventually develop into oligarchies and bureaucracies. These classical theories provide a framework to analyze how the organization of Wikipedia evolved over time.

Because the literature on organizational evolution is vast and diverse, I have deliberately chosen to incorporate two of the most seminal, classical theoretical approaches into my analysis: I draw on Robert Michels to study power concentration; and I draw on Max Weber to study bureaucratization. I primarily focus on two representative works from the same period, Michels's *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*, first published in 1911; and Weber's final collection of essays, *Economy and Society*, published posthumously in 1922. Both works constitute a shift in sociology that accounted for the social, technological, industrial, and political shifts that mark the transition from the nineteenth to the twentieth century, and both do so within a German tradition just prior to the rise of fascism in that country.

As Weber was Michels's mentor, they constitute a “school” of their own, and further their influence on the interpretive methodologies of the field are formative. For a century, theories regarding power concentration and bureaucratization have related to and referred to these fundamental accounts. They each delineate with considerable precision forms of organization that emerge from parties and movements that aspire to establish democratic organizations. Each allows me to focus on one dimension of the question of how power concentration and bureaucratization might play a role in the evolution of an open and self-organizing community like Wikipedia, with a focus on the way these organizational developments effect the original non-hierarchical structure.

Organizing democracy: classical sociological theory

Long before the advent of online mass-collaboration tools, which today represent the potential for democratizing, distributed political action, Michels and Weber argued that bottom-up democratization is always a transient phenomenon. Both authors argue that movements in which constituents are given agency to participate in their own governance will eventually develop into “organizations.” According to both Michels and Weber, initiatives that advocate self-government by their constituents will inevitably develop formal and informal structures to achieve their specific goals. Further, they argue, formal or informal divisions of labor, in which representatives of the constituents are allowed (or allow themselves) a certain measure of discretion, confine constituents’ capacity to govern themselves. Based upon his study of the development of socialist parties and labor organizations, published as *Political Parties* in 1915,⁴ Michels draws the conclusion that any initially democratic movement eventually develops into an *oligarchy*; i.e. a bureaucratic organization

⁴ Michels' canonical study of socialist parties and trade unions was originally written in German – titled *Zur Soziologie des Parteiwesens in der modernen Demokratie* – in 2011 (Published by Klinkhardt in Leiden 1911). It was translated in Italian in 1912 and translated from Italian into English in 1915.

in which the rank and file are dominated by a conservative elite. Weber describes how bureaucratization follows from attempts to establish a democratic organization, as a “pure” or ideal-typical form of “legitimate domination.”

Despite the fact that both authors had comparable observations concerning organizational development, their analyses of this phenomenon eventually led to insurmountable differences of opinion between them. Weber, who considered the development of legitimate forms of domination as temporal and contingent outcomes of power struggles among the stakeholders involved (cf. Collins 1975; 1986a,b; Scuff 1981) did not endorse Michels’s fundamentally anarchistic conception of democracy, nor his deterministic conclusion regarding the formation of self-concerned and conservative elites in every organization. These two contrasting interpretations of organizational development provide the basis for the theoretical framework that I employ to analyze the evolution of Wikipedia, and, consequently, to theorize the evolution of open and other self-organizing communities in general. Rather than engaging in research and debates on whether open and self-organizing communities should be characterized as oligarchies or bureaucracies as such, this dissertation will make use of Michels’s and Weber’s theories in order to provide an inductive, qualitative, sociopolitical analysis of how *political* decisions and struggles of stakeholders contingently shape a democratic online organization and the autonomy of its constituents over time.

In the following sections I will discuss and contrast Michels’s and Weber’s classical sociological accounts of the evolution of those organizations that explicitly attempt to prevent or to minimize the development of structures of domination. I describe Michels’s identification of the main impulses that weaken such an endeavor, namely that technical necessities, the conservatism of leaders, and the apathy of the rank and file within intentionally democratic political parties necessarily lead to oligarchization. I draw on Weber’s argument that any attempt to establish a system of direct democracy, striving for “equality before the law” and rejecting the organizing of matters “from case to case” (Weber [1922, 1965] 2013:983) would

inherently imply structures of bureaucratization and of dominance. I conclude that 1) both scholars deem intentionally democratic organizations as unstable and transient, and conclude that these eventually develop into bureaucracies; that, 2) besides the fact that both theorists hold a different views on the causes, both point to the negative potential concerning the autonomy and the democratic ethos of such organizations' constituents; and that 3) Weber – contra Michels and those that proclaim that self-organizing communities are harbingers of radically new and democratic forms of organizations – argues that “organization” is inherently political, in the sense that it is a fundamentally contested phenomenon.

Self-government of the masses as utopia

Political Parties provides what Michels calls “a critical discussion of the problem of democracy” ([1915] 2001:5). The problem he encounters is the discrepancy between the ideological project of democracy and its realization in practice. According to his observations, endeavors on the part of political parties to provide citizens with systems, tools and opportunities to govern themselves inevitably result in those citizens losing their autonomy to the rule of a self-concerned group of representatives: “With the advance of organization democracy tends to decline” (Michels 2001:26). Based on an analysis of what he indicates as the “nature” of political parties, Michels argues that oligarchization is inherent to the very principle of organization, which he considers to be “not merely imposed from without, but spontaneously surges from within” (2001:6).

Michels studied tendencies of oligarchization within socialist and revolutionary political parties and labor unions in Italy, Germany, England, the United States, Belgium and the Netherlands, particularly around the turn of the nineteenth to the twentieth century. According to his observations, these parties were initially all democratic organizations, established in order to oppose the dominance of elites. He argues that once these democratic organizations matured and grew in size, all struggled to organize meetings, to distribute tasks and to make decisions that allow for collective action. Regarding

the then-current state of technology, Michels could not imagine how to organize increasingly large assemblies of stakeholders coming from all over the country, how a speaker could ever reach all of the audience, nor how to overcome these logistical insurmountables (2001:22). He cites the anarchist Proudhon, who stated that “one who declares direct action on this scale to be possible is a fool” (Michels 2001:21). He declares bureaucratic organization to be the only means to cope with the challenge of collective action, especially regarding the increasing number and complexity of concerns and duties within expanding political parties. Hence formal structures and systems of representation are devised in which delegates are appointed to “represent the mass and carry out its will” to guarantee an initially and intentionally egalitarian movement its sustainability (Michels 2001:22).

Having established that bureaucracy is inevitable, Michels sketches a common pattern in the development of such bureaucratic systems. When organizations are new and small, it is feasible to make decisions on the basis of consensus and to collaboratively adopt or discard strategies. However, when organizations grow, it becomes practically impossible to consult all constituents, resulting in a division between representatives and constituents. Hierarchy results, endemic to social life, but, according to Michels, enervating to ideals of revolutionary democracy. At first, delegates are subordinate to and under close scrutiny of the rank and file of which they are no more than an executive organ. However, over time, when their duties become enlarged and more complex, they are increasingly delegated to trained experts. Since constituents lack knowledge, time and resources to fully monitor complex decision-making processes, the specialist representatives develop a measure of discretion. According to Michels, this *division of labor* is a key factor that indicates the shift to a formal organization, which functions as a “rigorously defined and hierarchical bureaucracy” (2001:27).

Whereas Weber would indicate the appointment of office holders and the development of bureaucracies as rational procedural means to secure an end, Michels is convinced that this will inevitably lead representatives to exhibit conservative or even reactionary

tendencies. He finds that sustaining organizations as such becomes the key goal of these elites: not in order to ensure their stability in terms of performance (as we find in Weber), but because organizational preservation is a means to the end of securing their own interests, positions and privileges. “[T]he leaders, who were at first no more than the executive organs of the collective will, soon emancipate themselves from the mass and become independent of its control” (Michels 2001:25). Since the establishment of rigid bureaucracies, governed by conservative elites, appears to take place even in organizations endeavoring to avoid such tendencies, Michels concludes that this is an essential tendency of all human aggregates (2001:13). Because of the inevitability of this phenomenon, he famously names this phenomenon the “iron law of oligarchy.”

The logistical indispensability of a division of labor, the impossibility of control by the masses, and the conservative tendencies of representatives are all elements that undermine the democratic intentions of organizations. Michels argues that the final cause of an organization’s oligarchization is that the majority of people “voluntarily renounce” their right to self-govern because they are generally not interested in affairs of politics, governance or organization: “it appears probable that a small minority only will continue to avail itself of the right which the majority voluntarily renounces” (2001:38). He observes that constituents act passively, seemingly uninterested in exercising their democratic right, as if they are not really bothered by being governed and restricted by their leaders. Democracy, then, is impeded by logistical complexity and a kind of tendency towards complacency that is part of human psychology. Michels, however, omits any further discussion of how constituents themselves deal with and respond to tendencies of oligarchization. Hence, rather than taking Michel’s deterministic take on organizational development as a given, I will treat the various aspects of power concentration from his theory as indicators, what Blumer calls “sensitizing concepts,” to help me discern and describe relevant aspects of power concentration in the development of Wikipedia (cf. Blumer 1954).

Max Weber and “Political Parties”

In that Michels was a student of Weber, it is helpful to use Weber's work to contrast Michels and to contextualize Michels's approach. According to Lawrence Scuff (1981), Weber played a decisive role in the constitution of *Political Parties*. In early 1906, Weber complimented Michels by publishing one of his articles in the *Archiv für Sozialwissenschaft und Sozialpolitik*, an influential journal of which he was editor-in-chief. Scuff marks this as the starting point of a long and regular exchange of theories and ideas between the two on subjects as democracy, socialism and bureaucracy. Their correspondence lasted almost ten years up until the time of Michels's publication *Political Parties* in English (1915), "when political disagreements about the war and a messy dispute over Michels's publicist activities in Switzerland put an end to their friendship." (Scuff 1981:1269). Based on an analysis of their correspondence, Scuff concludes that Weber's directions and arguments had been decisive for how Michels endeavored to maintain a scientific approach in both the conduct of his research and the construction of his arguments (1981:1274). Weber assumed that the specific combination of political ideology and technical and structural aspects of political organization would lead to rigidity and conservatism. Scuff argues that the development of Michels' thesis that organization breeds oligarchy "marked a clear victory for Weberian science," since it was derived from a technical-structural rather than a moral analysis of the development of political parties (1981:1280).

The conclusions of *Political Parties* exhibit Michels's moralism and his personal frustrations concerning the ideal of direct democracy, so much so that Weber accused him of "too much preaching" (Scuff 1981:1278). Weber argued that Michels's analysis was in large part a consequence of his "deliberately naive reading of 'democracy' as a desirable moral vision rather than as a historically conditioned system" (Scuff 1981:1277). Weber disagrees with Michels's deterministic assertion that political power is always conservative and with his suggestion that the masses are passive and grateful for leadership. Weber further refuses to accept the thesis that representation as such

would be detrimental to the possibility of democratic rule. Weber concludes that his apprentice is too focused on understanding if and how the utopian ideal of direct democracy could be realized, rather than studying how – i.e., under which conditions and under what kind of domination – it is pursued and takes shape.

As a “syndicalist and renegade Marxist”, Michels became disillusioned with what he saw as the lack of revolutionary spirit within German socialist parties and labor movements (Scaff 1981:1269). From this period of contention between the two men, Weber concludes that “domination,” not democracy, is the essential theoretical issue concerning the evolution of organization. According to Scaff, Weber’s sociology of “legitimate domination,” which is explicated in his posthumously published *Economy and Society: An Outline of Interpretive Sociology* ([1922, 1968] 2013), could be considered a response to the ethical and deterministic perspective that Michels exhibited in *Political Parties*.⁵ In the following section I discuss Weber’s theory of the legitimization of authority, with a focus on one specific, pure type of legitimization, namely bureaucracy. I explore how the legitimizing force of bureaucracy is related to attempts to establish and to maintain forms of direct democracy.

Bureaucratization of democratic organization

Weber’s monumental work *Economy and Society* was a volume in *Grundriss der Socialökonomik [Outline of Social Economics]*, a prestigious encyclopedic compendium on the social sciences that he had been commissioned to edit in 1909 (John Love 2017). He invited various scholars to contribute to the project, with the ambition to have the series completed within two years. The venture resulted in an iconic treatise of the field, but overall was incomplete, as “some failed in their promises, others produced disappointing

⁵ Scaff explains that “[a] major part of Weber’s long-term project was to clarify the meaning of domination...avoiding the reification of ‘iron laws’ while at the same time replacing Michels’s older idealist vocabulary of popular sovereignty with the language of legal and traditional authority, purposive and value rationality, and charisma. Indeed, Michels’s perspective was redefined within Weber’s more complete schema in the concept of ‘direct democracy free from domination’” (1981:1282-3).

manuscripts, still others were dismayed as their contributions were outdated by the resulting delays” (Roth 2013:lxxiii). Since Weber was not convinced that he would find qualified authors to produce some of the missing volumes, he took on himself the task of writing the section on political economy.

When Weber died in 1920 of a lung infection, *Economy and Society* had not been finished. It was posthumously published by his wife Marianne Weber in 1922, with the first complete English translation not published until 1968. *Economy and Society* consists of two parts: *Conceptual Exposition* (1918-20), is an encyclopedic work of definitions, and forms the conceptual and theoretical foundation of the second half, *The Economy and the Arena of Normative and De Facto Powers* (1910-14), which consists of Weber’s empirically backed thoughts on subjects including politics, domination, economy, organization and religion. Various sections, especially in the first volume have never been finished or reviewed, which means that there are discrepancies between the two volumes. Since this dissertation is concerned with the evolution of intentionally democratic organizations, I focus on Weber’s conceptualization of direct democracy, so as to abstract out of it elements that I will apply to my study of Wikipedia.

Weber situates a theory of direct democracy in a methodological framework of the function of domination in sociopolitical analyses. Weber concludes that efforts to establish and maintain a democratic organization are inherently intertwined with considerations and tendencies concerning *domination*: “In Weber’s terminology even the most democratic organization is a *Herrschaftsverband*,” that is, an organization based on a certain form of domination (Roth 2013:civ). According to Weber, “domination” (*Herrschaft*) is about influencing one or more others to follow a specific command, rather than forcing them to do so, as would be the case with the concept of “power” (*Macht*). Weber indicates that, in the case of domination, subjects are influenced “in such a way that their conduct to a socially relevant degree occurs as if the ruled had made the content of the command the maxim of their conduct for its own sake” (2013:946). He stresses

that obedience to the manifested will of the ruler or rulers is always based on a certain interest or a belief in an authority's legitimacy, and therefore that in every organization attempts are made "to establish and to cultivate the belief in its legitimacy" (2013:212-3; cf. Titunik 2005:144). Weber discerns three "pure types" or legitimate domination: domination based on *rational grounds*, domination based on *traditional grounds*, and domination based on *charismatic grounds*. In the case of a legal-rational system of domination or a bureaucracy, obedience is owed to formally established impersonal authority; in cases of traditional authorities to a person who holds a traditionally sanctioned position of authority; and in cases of charismatic authority to trust in the heroism and the exemplary qualities of the charismatic leader.

Based on a comparative study of the developments in politics and the effects of increasing industrialization, Weber came to regard "rationalization" as a major, inevitable trend in world history (Weber 2013:lxiv; cf. Collins 1986a:61-79). By way of comprehensive historical empirical examples, he sought to indicate the increasing human inclination to comprehend and to model social life according to a logical, teleologically consistent order (Weber 1946:324). The ultimate form of rational organization, according to Weber, would be the bureaucracy, an administration based on well-established rational, calculable rules and procedures, with an impersonal system of super- and sub-ordination and based upon a staff of trained experts, which would supposedly rule out personal, and irrational forms of organization. Bureaucracies thrive on technology and knowledge and are understood to be discrete, continuous, efficient, predictable, reliable and fast, and to be technically superior to any other form of organization. The fact that the authority of a bureaucracy originates from intentionally objective and formalized procedures, laws and hierarchies makes it so that "[m]embers of the organization, insofar as they obey a person in authority, do not owe this obedience to him as an individual, but to the impersonal order" (Weber 2013:218). Superiors or people with authority are just as subject to this impersonal order. The ideal-typical legal-rational organization is

known for its objectivity and distributed power, which supposedly would safeguard it against the arbitrariness and the individual whims of delegates and leaders.

Impersonal bureaucracies are fundamentally different from traditional and charismatic organizations, which are led by the personal whims of single individuals and their staff or entourage. Within the pure type of “traditional authority,” Weber indicates, the master is not necessarily charismatic, nor is he selected based upon his competence. Rather, “[t]he masters are designated because of their traditional status” (Weber 2013:226). Authority, in this case, stems from inheritance, i.e. from local, religious, family and tribal ties, and from age-old customs and loyalties. Contrary to bureaucracies, organizations based on traditional authority do not have a rationally established hierarchy: there are no fixed positions with clearly defined tasks, there are no formal criteria for the appointment of staff and employees, and there is no fixed and frequent remuneration for the master’s entourage and servants. The traditional ruler appoints his staff, who are to him a purely personal instrument, from kinsmen who have proven to be loyal to him. Procedures, laws and regulations are not formally established, and neither are these systematically documented. These emerge *ad hoc* and their claims to validity are based on references to tradition and precedents (Weber 2013:227). Nevertheless, Weber argues, any form of domination needs to be legitimized by its subjects. In the case of traditional authority, he emphasizes that it is decisive that the members of the organization believe that authority is motivated by the good of all, that is, “as a joint right in the interest of all members and is thus not freely appropriated by the incumbent” (Weber 2013:231).

Charismatic leaders are never appointed or selected; they are recognized by and valued for the extraordinary, divine-like quality they seem to be endowed with. Charisma is not something anyone can claim to have, but it is a quality that subjects attribute to a charismatic leader. An organized subgroup of subjects that support the organization of the charismatic leader is called a “charismatic community” (Weber 2013:243). Its members should not be regarded

as a formal staff of officials. They are not appointed to dedicated positions, nor selected based on their technical competences. Their staff “constitutes a charismatic aristocracy composed of a select group of adherents who are united by discipleship and loyalty and chosen according to personal charismatic qualification” (Weber 2013:1119). Charismatic authority is sharply opposed to bureaucratic authority, foreign to rules and systematized procedures, as “[i]t repudiates any sort of involvement in the everyday routine world. It can only tolerate, with an attitude of complete emotional indifference, irregular, unsystematic acquisitive acts” (Weber 2013:244-5). Since the charismatic leader needs to constantly prove that his reign benefits his followers, both his personal position and the organization as a whole are fundamentally unstable. Charismatic domination is prominent and effective in exceptional situations, often in the early stages or during paradigmatic changes of organizations (Weber 2013:1121). Since they are volatile and tend to become untenable, Weber argues, charismatic organizations inevitably tend to “routinization;” i.e. they unavoidably tend to become “everyday-like” organizations in some way or another, which indefinitely affects their structure and characteristics.

One of the causes for routinization of charismatic organizations is the inclination of those involved to sustain the situation and to establish a more secure way for organizing resources as food, income, and the recruitment of new members. This process of routinization might go either the way of traditionalization or of bureaucratization. Routinization of charisma leads to significant shifts in domination within organizations. Unlike Michels, who considers organizational evolution and power concentration as deterministically related developments, Weber considers emerging forms of domination in organizational development as the contingent outcome of political struggles regarding various rationalizations or legitimizations of authority. Although Weber regarded rationalization as a dominant development, he did not consider it to be a single, homogenous trend, but a complex of factors, following contradictory logics and concerns, and thus providing the impetus for constant conflict and

development (Collins 1986:69). In the empirical sections of this dissertation I provide an analysis of how tendencies of rationalization and routinization play out in Wikipedia. I describe the process through which Wikipedia, as a representation of an initially “unorganized” organization, becomes institutionalized, and I do so in order to provide the means for a theorization of the evolution of open and self-organizing communities in general.

Scholars have reproached Weber because he, as a theorist of domination, has paid relatively little attention to the concept of democracy (Breuer 1998:1; Schroeder 1998:x; Thomas 1984:218; Titunik 2005:143). In his article “Weber and Direct Democracy,” J. J. R. Thomas explains Weber’s alleged lack of concern for *direct democracy* as a consequence of his endeavor to account for phenomena of *legitimate domination*, which are “always set against his understanding of *illegitimate* domination on the one hand and of the attempt to be free of *all* domination [direct democracy] on the other” (1984:218; cf. Titunik 2005; Breuer 1998). Stefan Breuer argues that, in a lecture in 1917, Weber did introduce a fourth type of legitimate domination, which derived its legitimacy “from the will of the ruled,” but that he soon left that path (1998:2). According to Breuer, Weber dropped this fourth type for reasons of consistency: an antiauthoritarian (“herrschaftsfremd”) concept would not fit in a theory concerned with pure types of domination, “based on orders and obedience.” Hence Breuer concludes that “the sociology of domination is not a useful instrument for a ‘history from below’” (1998:3). This may appear to be striking, since Weber describes how people like Martin Luther during the Reformation (2013:1196-1200), Robespierre during the French Revolution (2013:268), and the *popolo* (entrepreneurs and handicraft workers) in the Middle Ages in Italy (2013:1301-7), formed alternative religious, political and economical associations by challenging current governing institutions and their claims to legitimacy from the bottom-up. The point that Breuer intends to convey here, however, is that these phenomena, according to a Weberian analysis, are principally antithetical to domination:

This is the point at which a proper understanding of Weber's conception of democracy becomes possible. If there are three, and only three, types of legitimate domination, and if these are conceptualized entirely from the perspective of the rulers, then any movement which rests upon the will of the ruled is initially illegitimate, revolutionary: it challenges the legitimacy claim of the rulers. (1998:3)

Nevertheless, Weber does address the concept of direct democracy in his work, including in *Economy and Society* (2013:289-92, 948-52). He describes "herrschaftsfreie unmittelbare Demokratie" as the ultimate form of antiauthoritarian rule, which he indicates as the aspiration to establish an organization based on ideals of "equality" and a "minimization of domination."⁶ Weber concludes that such a situation can only be attained under specific conditions: in a situation where the group's size is limited and "where all the members know each other...and can be assembled at a single place." (2013:289). Weber lists various other rational preconditions: short terms of office; liability to recall at any time; the principle of rotation or of selection by lot in filling offices; strictly defined mandates; strict obligation to be accountable to the general assembly; and the obligation to submit unusual questions to the assembly (2013:289). For Weber, these are considered means to safeguard the autonomy and involvement of constituents in a direct democracy. Furthermore, Weber stresses that such a form of organization is only possible when tasks are relatively simple and stable, requiring no expertise (2013:290; 949). In practice, Breuer notes, this occurs as "an exceptional case" that comes about "only under very rare conditions," and even then only for a limited period of time (1998:6).

⁶ Important for my purposes, Thomas emphasizes the theoretical opposition between organized structures and (the ideal of) direct democracy: "Weber's later discussion of direct democracy insists that the accumulation of a minimum of powers into someone's hands is unavoidable, in which case the characteristic response of direct democracy is the attempt to reduce, restrict or minimize such powers" (1984:225).

In order to establish a situation in which all participants could be equally involved in their own governance, and which ensures a limit to the powers of any one actor requires, according to Weber's theory, at least a minimal form of organization or administration. Associations attempting to establish and to maintain direct democratic organizations, Weber concludes, will inevitably tend to establish forms of formal-rational organization, especially as they grow in size and complexity. The result is that representatives are elected or appointed, norms and mandates are circumscribed, principles are defined, by-laws are recorded, powers are discussed, agreements are made with regard to tenures, protocols are established to circulate information amongst constituents, et cetera. Similar to what Michels observes, Weber finds a general tendency of democratic movements towards formal organization and professionalization. Although Weber emphasizes that elected representatives or appointed functionaries are continuously engaged in maintaining a balance between being a master and a servant (2013:949), these positions violate the principle of direct democracy, as these inevitably imply a certain amount of discretion or power of command. Weber describes a paradoxical situation of growing democratic organizations: efforts to establish and sustain such democratic organizations beyond a limited group of stakeholders inevitably develop structures of dominance. Ideally, constituents would perform administrative tasks by rotation or by lot, but due to lack of time, money and experience these tasks are increasingly entrusted to specific status groups.⁷ As does Michels,

⁷ Weber elaborates on this tension and subsequent development as follows: "[W]here the group grows beyond a certain size or where the administrative function becomes too difficult to be satisfactorily taken care of by anyone whom rotation, the lot, or election may happen to designate a development from an undeveloped state of domination toward a strict hierarchical structure necessarily occurs, however carefully it may be trying to hide this fact. The conditions of administration of mass structures are radically different from those obtaining in small associations resting on neighborly and personal relationships. As soon as mass administration is involved, the meaning of democracy changes so radically, that it no longer makes sense for the sociologist to ascribe the term the same meaning as in the case discussed so far. The growing complexity of the administrative tasks and the sheer expansion of their scope increasingly result in the technical superiority of those who have had training and experience, and will thus inevitably favor the continuity of at

Weber concludes that a division of labor is the problem, as it “constitute[s] an obstacle to direct democracy” (Thomas 1984:229).

Weber describes the establishment of a schism between the organization’s constituents and their formal staff, based by the inability of both the laymen and their representatives to be able to understand and to control whether and how the technical experts they appointed serve their concerns. The officials hold powerful positions opposed to their democratic leaders and their constituents; the latter will always be in a position of a dilettante vis-à-vis the officials, who are qualified experts (Weber 2013:991). Based on these arguments and insights, Weber emphasizes that there appears to be a difference between the ideological concept of the *demos* governing itself and the practice of pursuing a democratic organization (2013:984-5). He concludes that direct democracy is an unstable and essentially transitory phenomenon.

One of the general points in *Economy and Society* is that “democratization by no means leads to the waning of domination” (Roth 2013:cvi). According to Weber, domination – most often in the form of bureaucratization – is an inevitable aspect of democracy. Although Michels describes the interconnectedness of bureaucratization and democratization as well, both conduct different analyses of this phenomenon: following Weber, bureaucratization is not necessarily detrimental to democratic organization (Roth 2013:cii). This position fundamentally differs from Michels, who considers every form of organization as essentially harmful to its constituents’ self-rule. If Weber does not go so far, he nevertheless acknowledges the paradox of endeavors to bureaucratically safeguard the democratic principles of equal rights of the governed and the minimization of the authority of officialdom (2013; cf. Collins 1975).

Weber lodges a harsh critique of bureaucracy becoming an end in itself rather than a means to ensure equality and to reduce

least some of the functionaries. Hence, there always exists the probability of the rise of a special, perennial structure for administrative purposes, which of necessity means for the exercise of rule.” (2013:951-2)

dominance. Whereas he values bureaucracies for their inherent efficiency, impartiality and predictability, he acknowledges that formalized rules and hierarchies and set tasks and responsibilities could have detrimental effects on the authority and the creativity of their constituents, principles which bureaucracies initially intend to safeguard. He warns that bureaucracies can evolve into systems based on rational calculation and control, as well as on teleological efficiency, considering workers as cogs in machines and limiting rather than enhancing individual human freedom and potential.

Weber is well-known for the concept of the “iron cage,” which is commonly understood as a metaphor for modern man suffering from systems of ongoing rationalization, anonymization, commodification and control ([1930] 2001). Peter Baehr however argues that Talcott Parsons made a cardinal mistake by translating *stahlhartes Gehäuse* from Weber’s *Die protestantische Ethik und der "Geist" des Kapitalismus* (1993) as “iron cage” (2001). Baehr states that “shell as hard as steel” would be a more appropriate translation to convey Weber’s conception of the phenomenon of people being caught in social structures of their own making. He argues that an iron cage implies an involuntary confinement of human agents by others. The shell made out of steel indicates a shelter which has not been imposed from the outside, but which is an integrated part of “a new kind of being,” the existence of which is particular to modernity (Baehr 2001:153; cf.:164). Baehr’s correction is salient; with the metaphor of the *stahlhartes Gehäuse*, Weber conveys an image of human beings actively or passively submitting themselves, their creativity, their spirits and their autonomy to serve as anonymous participants in machine-like bureaucracies, which is fundamentally different from being imprisoned by an external force.

Development, politics and ‘the dark side’ of democratic organization

Self-organizing communities mostly arise from the initiative of energetic individuals and their early followers. These “charismatic communities” do not have administrative hierarchies, formal positions or legal procedures, but derive their strength from high levels of trust between leaders and followers, which allows collaboration to emerge and to proceed spontaneously. This shows a resemblance to how the open and self-organizing communities are portrayed among those that strongly believe in their revolutionary character and their democratizing potential. As I have discussed, organizations based upon charisma are inherently unstable and transient in Weber’s theory. He argues that charisma gets routinized by developing into more classical, every day-like formal hierarchies and bureaucratic forms of organizing in order to secure the material interests and the continuation of the community and to provide the members of the administrative staff with a stable basis with regard to resources and a secure social position. Both Michels and Weber draw similar conclusions regarding the instability and transformation of intentionally democratic organizations: both argue that communities that aspire to minimize domination and to safeguard equality amongst constituents do not get around the tendency to develop formal structures in order to sustain themselves, especially once they grow in size and complexity.

Michels’s and Weber’s theories and discord have strongly informed this research in that they touch upon concerns regarding the democratic potential of open and self-organizing communities, which is the focus of my analysis of Wikipedia’s evolution. Whereas Michels concludes that the development of bureaucratic organization inevitably leads to oligarchization, a tendency he strongly opposes, Weber considers this a contingent result of political endeavors to minimize domination and to establish a situation of equality in an intentionally democratic organization (cf. Collins 1975, 1986a, 1986b). Nonetheless, Weber considers it plausible that specific

combinations of political ideology and bureaucracy can lead to the formation of a class of officials that would be uncontrollable by the masses and which would reduce their democratic potential. He foresaw modern man becoming harnessed in “shells hard as steel,” reducing them(selves) to subservient cogs in machine-like production processes, rather than autonomously expressing their creativity, innovativeness and entrepreneurship, as the utopian orthodoxy would suggest.

Michels and Weber developed their theories a century ago, at which time they could not foresee how innovations in information and communication technologies could provide opportunities for non-traditional and potentially more democratic forms of cooperation: online platforms for distributed and real-time mass communication such as Wikipedia would potentially provide solutions to the problem of bureaucratization that Michels and Weber deemed inevitable in endeavors to facilitate democratic organization. And yet, it is obvious that Wikipedia has, over time, experienced growth in size and complexity, just as the parties, the communities and the organizations that these prominent sociologists describe. Consequently, it has had to deal with challenges regarding coordination, cooperation, representation and associated counter-forces. Michels’s and Weber’s theories – specifically the aspects that deal with the transience, the politics and the ‘dark side’ of the evolution of initially egalitarian and anti-bureaucratic organizations – provide the means to focus on how and why “organization” developed in Wikipedia over time.

Despite the fact that Wikipedians explicitly state that Wikipedia is neither a cabal (Wikipedia 2009), nor a bureaucracy (Wikipedia 2017a), scholars find various indicators and explanations to apply one or both of these labels to it (cf. Butler, Joyce and Pike 2008; De Laat 2012; Jemielniak 2014; Joyce, Pike and Butler [2012] 2013; Konieczny 2009; O’Neil 2014; Reagle 2010). However, a structural political and evolutionary analysis of the presumably ever-changing power balances in this allegedly revolutionary organization is lacking. In all of the studies cited above, the Wikimedia Foundation, which

is the non-profit that is responsible for the fundraising, software development and server maintenance for Wikipedia and its sister projects, is consistently not taken into consideration, or else is underexposed or not perceived as a political player in the process of organizing the open and self-organizing community. The Wikimedia Foundation does fund and perform a lot of research for Wikipedia, its community and its sister projects, but in most of these research endeavors the WMF itself is not an object of consideration.

I do not attempt to prove that the Wikimedia Foundation or Wikipedia are oligarchies or bureaucracies as such. Instead, I demonstrate how and why processes of organization – i.e. of oligarchization and bureaucratization – determine how an open and self-organizing community like Wikipedia actually develops. By studying and contextualizing fundamental processes of organizing Wikipedia, I describe and analyze which forms of power concentration and bureaucratization emerge, under what circumstances, which conflicts and countervailing forces such effects entail, what compromises are taken, and how this process of development affects the position and the autonomy of constituents over time.

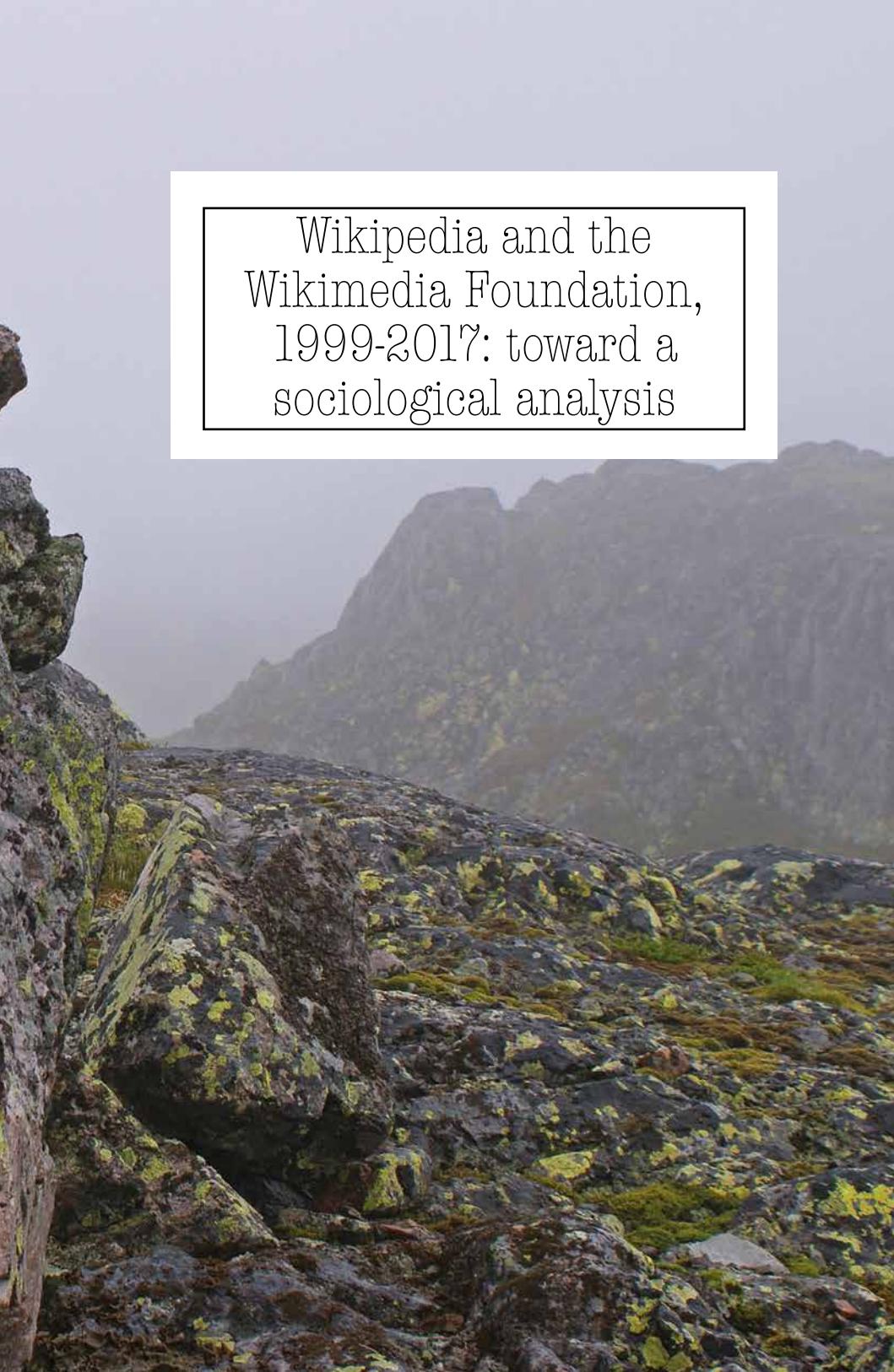
This study contributes to the social and political understanding of Wikipedia's evolution with empirical insights, which I intend to evidence the theoretical conceptualization of open and self-organizing communities in general, contributing to the refinement of classical sociological theories as a result. Concerning the latter, both theories discussed in this chapter require a critical approach. Weber already confronted Michels regarding the unsubstantiated determinism of his analysis. By failing to take the political aspect of organization into account, i.e. by omitting a description of the concerns and considerations involved, and of the context and the circumstances under which oligarchization actually takes place, and by presenting both constituents and elites as homogenous and apolitical groups, his claim of the inevitability of a universal constant must be considered untenable. Michels, as does Weber, identifies power struggles, instabilities and goal displacement and reification in intentionally democratic movements; however, as Collins puts

it, without “looking at the real complex of interest groups who are always on the scene and among whom power [shifts] over time” (1975:295). Weber’s theory is, to a certain extent, excessively indiscriminate as well.⁸ One of his most important points is that authority is a contingent assembly of three ideal typical forms of legitimate domination, yet he systematically omits an analysis of the mechanisms that bring these forms of domination about. According to Breuer, in Weber’s work “the multitude of motives to support the belief in legitimacy among the ruled are quite consciously ignored,” which means that it is hardly clear which specific forms of domination emerge under which specific circumstances (1998:3).

Despite these concerns, I argue that both theories provide the seminal concepts to study and explore the evolution of present-day online organizations. This research serves as a means not to disqualify these classical theories, but to amend them based on the outcomes of this contemporary ethnographic study. In the following section, I describe the methodology used in my endeavour to unravel and to analyze power concentration and bureaucratization, associated political struggles between reflexive stakeholders, and their consequences during Wikipedia’s establishment and maturation.

⁸ Collins suggests that Weber’s texts are nearly totalizing, to their detriment: “Weber’s writings are somewhat schizophrenic. It is not that he directly contradicts himself, or fails to handle each question thoroughly; but in his voluminous works, one can find almost anything one looks for” (1986a:11).





Wikipedia and the
Wikimedia Foundation,
1999-2017: toward a
sociological analysis

Despite the argument that the democratization of technology radically changes how organizations and communities work, we could expect these to become subject to tendencies to develop conservative and hierarchical bureaucratic structures once they grow in size and complexity. At the same time, it is plausible that those who have a belief or who have a specific interest in democratically organizing an open and self-organizing community will reflexively act as a countervailing power against tendencies towards conservatism, power concentration and rigidity. These assumptions would imply that conflicts would rise between various stakeholders with various beliefs, ideals and concerns. How these political struggles play out over time and in context-specific ways is the subject of this dissertation.

This study considers the organizational evolution of Wikipedia from a sociopolitical point of view. By “sociopolitical” I mean to indicate that I study the evolution (i.e. the establishment and subsequent changes) of an organization, that is, a social aggregation of various stakeholders, as a contingent product of enduring political struggles between all stakeholders involved. This study provides a detailed empirical analysis to assess how and why power concentration and bureaucratization emerge over time in this open and self-organizing community. It seeks to answer under which circumstances such consolidations happen, how these are legitimized, what kinds of disputes and struggles are involved, what kinds of institutional structures emerge as a result, and what consequences this all has for the democratic potential and autonomy of the online organization’s constituents.

The case

By the time Michels published his theory, he considered it logically impossible to assemble large groups of constituents and to have them communicate and collaborate effectively. Hence, he deemed it inevitable that representative bodies would be formed with formally delimited tasks and with a certain amount of

discretion, causing bureaucratization and centralization of power in intentionally democratic organizations. What Michels could not imagine has in fact become possible: innovations in information and communication technologies allow large and distributed groups of self-selected constituents to be equally and self-selectively involved in the production of goods and services of their concern. Computer networking technology undoes the argument that bureaucratic organization is necessary for logistical reasons alone.

Wikipedia is widely considered as an ideal-typical example of technologically enhanced platforms enabling distributed stakeholders to collaborate without any formal and bureaucratic representatives-structure, i.e. “where people are not directed by central authorities but cooperate voluntarily in communities and for the public good” (Uitermark 2015:2303). The web-based encyclopedia is developed and maintained by one of the world’s largest online communities and consistently ranks among the world’s most visited websites. A striking aspect of Wikipedia is that Wikipedians are not only invited to edit articles but are also allowed, to a certain extent, to participate in the governance of the organization. They participate in financial decisions, in the development of software and in the establishment and maintenance of policies and guidelines. This is somewhat different from the situation that Michels and Weber describe in their theories. Although Weber acknowledges and emphasizes that constituents play a decisive role in the legitimization of domination, he states that:

[N]ormally the rule over a considerable number of persons requires a staff, that is, a *special* group which can normally be trusted to execute the general policy as well as the specific commands. (2013:212)

Wikipedia’s parent foundation serves such a role. Although Wikipedia is “an impressive and inspiring example of self-organization,” (Uitermark 2015:2308) the uncoordinated work of hundreds of thousands of volunteers is indeed governed and

facilitated by a formal organization, the Wikimedia Foundation (WMF). The WMF was established in 2003 by Jimmy (Jimbo) Wales, who was one of Wikipedia's founders in 2001. It is charged with software development, server maintenance, fundraising, legal affairs and strategy development in order to support Wikipedia and other Wikimedia projects, which include Wikibooks, Wikidata, Wikimedia Commons, Wikinews, Wikiquote, Wikisource, Wikispecies, Wikiversity, and Wikivoyage. By 2017 there were 40 Wikimedia chapters, which are independent local organizations that support and promote Wikimedia projects in a specific geographical region. For the sake of clarity, I only study Wikimedia's endeavors related to Wikipedia.

Based in San Francisco, the WMF has a Board of ten Trustees, and in December 2017 it employed a staff of over 300 people. Three board members are elected by the Wikimedia community, two are selected by the chapters, one is reserved for its founder, Jimmy Wales, and four are experts appointed by the other members of the board (Wikimedia Foundation 2018). The WMF owns and maintains a complex and valuable infrastructure of servers and software, and in the funding campaign of fiscal year 2015-2016 it collected over USD 80 million resulting in over USD 90 million of net assets. The WMF, which presents itself as purely supportive to its volunteer community, inevitably needs to respond to mundane management challenges such as financial and legal matters and it also works to realize its grand ambition to provide everyone on the planet with free access to the sum of all human knowledge. Given these ambitions, challenges and concerns, and given the size and the scope of the organization, it would be naïve to consider it an apolitical supporting body. Hence the WMF forms an essential aspect of my analysis of the evolution of Wikipedia. I look at its members, both board and staff, as political actors in the establishment and the maintenance of Wikipedia, and I have specifically endeavored to scrutinize the organization's role in power concentration and bureaucratization during Wikipedia's evolution. Besides the plausibility of the emergence of political struggles between Wikipedia's constituents

and its formal representatives, Wikipedia's enormous and distributed body of constituents could not be considered a homogeneous and harmonious group either: the project's history is full of conflicts and controversies.

By virtue of its success and impact, the case of Wikipedia is certainly not representative of most open and self-organizing communities. On the contrary, most communities do not develop beyond their embryonic state (Healy and Schussman 2003). However, Wikipedia is widely recognized as a paradigmatic example and an icon of peer production. Therefore, it makes what Flyvbjerg calls “a most-likely case,” and the way in which Wikipedia and the Wikimedia Foundation are confronted with and deal with tendencies of power concentration and bureaucratization during subsequent stages in its evolution might be a model for the organizational evolution of open and self-organizing communities that are confronted with growth in size and complexity (2001:79-80). Pragmatic reasons to choose Wikipedia as a case study are that it is relatively mature, that it keeps track of every modification, that it has been the topic of various (popular-)scientific studies, and that it is an organization which actively engages in and publishes (mostly qualitative) research on itself, which makes it possible to chart in a relatively detailed fashion how it evolved through time.

In the following three chapters I will present a historical sociopolitical analysis of the financial (Chapter 4), infrastructural (Chapter 5), and cultural (Chapter 6) aspects of Wikipedians' and the Wikimedia Foundation's endeavors to establish and maintain an open and self-organizing community. The reason to structure the empirical sections as such is that technological innovations in the field of information and communication technologies are claimed to allow for radically new and democratic structures and cultures of organizing, which are fundamentally different from traditional, hierarchical, bureaucratic and rigid forms of organization. First of all, participants in these organizations are supposed to be provided the (technological) opportunity to become both the owners, as well as the producers and consumers of (the products of) their resources,

which would make them financially independent of employers and investors. I will investigate how Wikipedia's management of financial resources is organized in order to analyze how, over time, Wikipedia's resources are collected, administered, distributed, and allocated, and how Wikipedia's management of resources affects the autonomy of its constituents. Secondly, as the prosumer-logic holds that participants in new and democratic organizations are engaged in the production of goods and services of their own concern, they would be engaged in the development of their means of production – the software to edit Wikipedia. I will investigate how Wikipedia's technical infrastructure is composed, how it evolved over time, how constituents contribute to the construction of this infrastructure, and how it affects their autonomy. Thirdly, as the utopian orthodoxy holds that technological innovations provide opportunities for radically different ways of working – stigmergically and based on constituents' personal initiative and discretion – I will investigate how such a collaborative culture is established and maintained, and, given the diversity of backgrounds and concerns of Wikipedia's stakeholders, how it is contested, and how it evolves. For each of these aspects I will describe and analyze how and why tendencies of power concentration and bureaucratization manifest themselves.

Data and methods

As Wikipedia is relatively mature, and its infrastructure is technologically composed in such a way that every modification in its whole history is stored and retrievable, not to mention the substantial body of Wikipedia-research available, I had a significant amount of sources at my disposal that allowed me to chart how this open and self-organizing community evolved over time. I approached the study of the politics of Wikipedians' and the Wikimedia Foundation's endeavors to organize and to facilitate the open and self-organizing community from various angles. Data were collected and analyzed by applying a mixed-methods design, combining literature reviews, ethnographic analyses, interviews and

quantitative sources in order to describe how and why aspects of power concentration and bureaucratization evolved in Wikipedia.

I devised a mixed-methods approach to scientifically do justice to the vastness and the complexity of the evolution of both the online encyclopedia itself, its governing structures and principles, its editing infrastructure, its community, and its representative bodies. In the preliminary stage of my research, I oriented myself in Wikipedia's organizational evolution by studying canonical studies of Wikipedia by Jemielniak (2014), Lih ([2009] 2010), Reagle (2010), and Ayers, Matthews and Yates (2008). Secondly, I reviewed a vast amount of scholarly and non-scholarly work on Wikipedia and the Wikimedia Foundation, including a comprehensive critical reader edited by Lovink and Tkacz (2011); articles on Wikipedia's governance and bureaucratization by Butler et al. (2008), Forte, Larco and Bruckman (2009) and by Fuster Morell (2011); articles on Wikipedia's culture by Goldspink (2010), Hoffman and Mehra (2010) and by Kittur et al. (2007); articles on tools, algorithms and bots by Niederer and Van Dijck (2010) and by Geiger (2009); analyses on editor behavior and editor retention based on large database dumps by Suh et al. (2009), Halfaker, Kittur and Riedl (2011), Van Liere and Fung (2011), and Shaw and Hill (2014); analyses and surveys regarding editor retention; and a philosophical analysis of Wikipedia's openness by Tkacz (2015). And although these sources provide a broad and insightful perspective on Wikipedia and its organization, none of the authors of these works takes Wikimedia Foundation into account in a structural way. As a consequence they lack a substantial part of the political struggles that I would consider to be essential to understand the evolution of Wikipedia. Hence I took the structural role of the Wikimedia Foundation into account in all of my analyses. As part of this initial exploration of the subject-matter, I had conversations and conducted interviews with the board and staff members of the Dutch Wikimedia chapter, with whom I discussed the Wikimedia Foundations' practices, policies and interventions regarding financial, infrastructural and cultural organization, and how that affected the development and the autonomy editors and of this local chapter.

The combined study of literature, along with these conversations and interviews, gave me an indication of stages and developments which have been critical in the evolution of the Wikipedia's financial, infrastructural and cultural organization, and of the persons that were influential during these events.

After this explorative phase I engaged in the actual data collection concerning Wikipedia's organizational development, i.e. in more in-depth studies of the stages, developments and stakeholders in order to construct my sociopolitical account of how and why power concentration and bureaucratization play a role in Wikipedia's evolution. To start, I made a dedicated study of available online sources, making use of one of Wikipedia's essential characteristics, which is that every wiki-related page is publicly stored online. In the case of Wikipedia and the Wikimedia Foundation, these traces include all kinds of online contributions of Wikipedians and Wikimedians to Wikipedia's mailing lists; to its content, user, discussion and project pages; to IRC-channels and Telegram groups; to its elections and its voting procedures, to its statistics pages; to its meeting minutes and its financial reports; and to its strategy, governance and policy documents. The fact that most of these are open and archived and retrievable online makes it possible to perform online ethnographic research by the principle of "trace ethnography" (cf. Geiger and Ribes 2011). Trace ethnography concerns the study of traces that participants in distributed sociotechnical systems leave in logs.⁹ By this method of following documents and activities through all their stages – to both their origins and their ends – I have been able to immerse myself in Wikipedia's current and past events and to systematically work my way through the seemingly endless stream of hundreds of thousands of sources and links that I had at my disposal. Informed by my preliminary study and by

⁹ Geiger and Ribes argue that "[o]ne reason why documentary traces are so useful is that they are produced and circulated in a specific sociotechnical environment, embedded with local meaning. While it is tempting to think of such data as ancillary, kept simply because computer systems log data, they are often used by members themselves to render accountable a number of social and organizational practices." (2011:8). This means that "traces" are a valuable source of information for sociopolitical research.

the interviews and conversations I had, I made deliberate choices to study specific events that appeared to be significant in the light of the politics of Wikipedia's organizational development. Hyperlinks brought me to previous and following stages of documents and events, and via such links I learned about the stakeholders involved as well as about their motives and arguments. I followed traces until I got the impression that I could comprehensively reconstruct the causes, concerns, conflicts and consequences of the events of interest to my larger project.

Since one of the limitations of trace ethnography is "that it only can observe what the system or platform records," I triangulated, discussed and complemented all of my specific findings and insights via a large number of interviews and informal conversations with Wikipedians, with board and staff members of the Wikimedia Foundation, and with board and staff members of Wikimedia's chapters (Geiger and Ribes 2011:5). During the Wikimedia Conferences in 2016 and in 2017 in Berlin and during additional Wikipedia-related events, I spoke with a total of ninety-five Wikipedians and Wikimedians from all over the world. Additionally, I held interviews and I had meetings during both Wikimedia Conferences in Germany and The Netherlands and via Skype and Google Hangouts with forty-three committee, board and staff members, many of whom played an influential role in the establishment and the maintenance and the transitions of Wikipedia. These respondents were selected based on their formal or informal positions, and their active involvement or their specific knowledge or standpoints regarding the subjects of this dissertation. The fact that I got the opportunity to introduce myself during the opening ceremony of WMCON 2016 and that one of the organizers introduced me on the mailing list of WMCON 2017 helped me find respondents. In many cases, respondents referred me to or introduced me to other potential respondents once they got a sense of what my research was about. By this way of selecting and expanding the base of respondents I ran the risk of collecting my insights from a select group of talkative contributors, potentially engaging in conversations with me in an attempt to present Wikipedia

and the Wikimedia Foundation and their role in these projects in a specific way. Here I applied the method of triangulation as well: I used online sources to confirm or to challenge their statements.

In the interviews I inquired into how tendencies of oligarchization and bureaucratization manifested themselves during Wikipedia's evolution by being attentive to the development and the changes of power relations and of formal and impersonal structures concerning Wikipedia's organization. I have been specifically attentive to the causes, the legitimizations and the conflicts regarding these developments and changes, and I have taken the contexts, and those who have been involved in and affected by these developments and changes into account. In interviews and ethnographic investigations I have endeavored to unravel how and why *structures* have evolved in Wikipedia and how and why these changed over time; which concerns, arguments and legitimizations were involved; which developments were accepted and disputed; and how formal structures affected the capacity of Wikipedia's constituents to contribute to the production and the governance of "the encyclopedia that anyone can edit." One major or overarching frame to assess these developments, considerations and conflicts has been to inquire if any changes could be observed regarding those aspects of Wikipedia's production and governance that were left to the community's spontaneous engagement and autonomous common sense, compared to aspects that were considered to be in need of central and formal coordination. I made reports of the conversations I had and the interviews were recorded and transcribed. The quotations used in this dissertation have been presented to the respondents in context in order to verify whether they would give me permission to use their names.

In order to qualitatively and quantitatively inform my findings, I derived data from freely available sources on the websites of Wikipedia and Wikimedia. I have, for example, drawn upon the extensive body of research posted there, including surveys and user statistics, conducted by scholars, volunteer Wikipedians and the Wikimedia Foundation. I practiced participatory observation by attending conferences and partaking in workshops and training sessions and

by visiting local meeting spaces such as Lokal K in Cologne. All these sources and these conversations—those in which I was present and those of the traces I followed—made me experience Wikipedia and the Wikimedia Foundation in its “multi-layered, complex, heterogeneous, and at times contradictory” fashion (Coleman 2017:30).

During this process, I identified four chronologically distinct stages in the development of the project: a pre-Wikimedia stage, during which the community could be considered a charismatic community, with Wales as its charismatic leader (2000-2003); the early years of the Wikimedia Foundation, during which active Wikipedians and Wikimedians sought ways to deal with the project’s immense growth (2003-2007); the professionalization of the Wikimedia Foundation, with an emerging staff under the lead of a dedicated executive director (2007-2014); and the most recent stage, during which the WMF endeavors to formally (re-)organize participation (2014-2017). I used this chronology to structure my data and I used them to structure the sections of my dissertation: each of the following empirical chapters is composed of four sections for each of these evolutionary stages.

I used elements of Michels’s and Weber’s theories as indicators and “sensitizing concepts,” as articulated by Blumer (1954), to be attentive to, to systematize, to analyze, to interpret and to understand my open and qualitative encounters with the case of Wikipedia.¹⁰ In the remainder of this section, I describe the indicators of oligarchization and of bureaucratization that I derived from these classical sociological theories and then show how they apply to the study of Wikipedia and the WMF specifically.

Michels distinguishes three essential aspects of oligarchization: the establishment of a *detached ruling class* that monopolizes decision making; these conservative representatives’ tendency to *preserve the*

¹⁰ Blumer contrasts “sensitizing concepts,” as merely providing researchers with a “general sense of reference and guidance in approaching empirical instances” with “definitive concepts,” which he indicates as being based on “clear definition[s] in terms of attributes or fixed bench marks” (1954:7).

organization as such and to safeguard their interests, positions and privileges, rather than serving constituents' concerns; and the fact that only a *small subset of the constituents seems keen to be involved in political participation or self-governance*. Michels discerns three indicators of the formation of a detached ruling class: at first an initially informal division of labour is replaced by a *formal bureaucratic structure*, within which candidates with specific capacities regarding, for example, education, knowledge, experience, and oratory gifts, are appointed. Secondly, the *ruling class emancipates itself from the masses* by using or misusing its discretion to autonomously make decisions without consulting or by selectively informing their constituents. According to Michels, leaders selectively account for their actions by providing their constituents with reports and summaries, which are mostly, and in some cases purposely, brief and biased, and primarily submitted at times when decisions can hardly be reversed. Thirdly, with growing complexity and reduced transparency of the organization it becomes *increasingly difficult for the rank and file to exercise direct control over its representatives*, which are supposed to operate as *primi inter pares*, and to execute the will of their constituents.

While the ideal of pure democracy would demand that the representatives do nothing but serve the interests of their constituents, Michels points to the tendency of representatives of intentionally democratic organizations to develop into *conservative and self-protective elites*, striving for stability and using their discretion to preserve their organizations as such to *serve their own interests rather than serving constituents' concerns*. He argues that detached leaders then surround themselves with sympathizers and kindred spirits to "form a sort of cartel" (Michels 2001:67). Michels argues that they use their final say and veto power to discipline and "to control as strictly as possible the freedom of speech of those of their colleagues from whom they differ" (2001:105). A common argument to further consolidate their position is, according to Michels, that representatives assert that maintaining the organization involves great responsibilities, which makes them claim the capacity and the authority to establish, grow and maintain a professional and

centralized organization. They increase their authority, according to Michels, by acting with the greatest of *prudence* in order to *gain and maintain the trust of their constituents*. They do so by referring to democratic principles and to the wide audience and the greater purpose they serve, always understating their powers. Michels conceptualizes the inclination of conservative leaders to justify their positions in this way as a “*democratic guise*” (2001:13; emphasis added) or a specious “*democratic mask*” (2001:11; emphasis added).

Given the above, the indicators that I have used in order to unravel tendencies, contexts and causes of oligarchization include developments regarding the appointment of formally trained staff to perform specific (management) tasks; developments regarding representatives or elites centralizing and monopolizing decision-making, potentially by raising barriers to or by excluding Wikipedia’s community members from the decision-making process; tendencies of only selectively informing constituents regarding these processes; manifestations of conservativeness or the change-averseness of Wikipedia’s officials (that is, signals indicating a tendency to dedicate their energy and resources towards (interventions dedicated to) the stabilization and the maintenance of the organization as such, attempting to reform Wikipedia in such a way as in order to serve their own interests, and appealing to their responsibility to safeguard the organization and to maintain its democratic principles); and manifestations of the disinterest of Wikipedia’s constituents in their own governance.

Bureaucracies are attempts to establish rational and predictable forms of administrative organization. Weber indicates a *formal policy structure*, a *formal division of labor*, and *impersonalization* as essential aspects of bureaucratization. One of the principles to achieve a formal structure is via systematized processes, laws and procedures. Weber emphasizes that offices function according to general rules, which “are more or less stable, more or less exhaustive, and [which] can be learned” (2013:958). However, he finds various cases in which officials need specific skills and technical expertise in order to be able to comprehend and apply these processes, laws, and

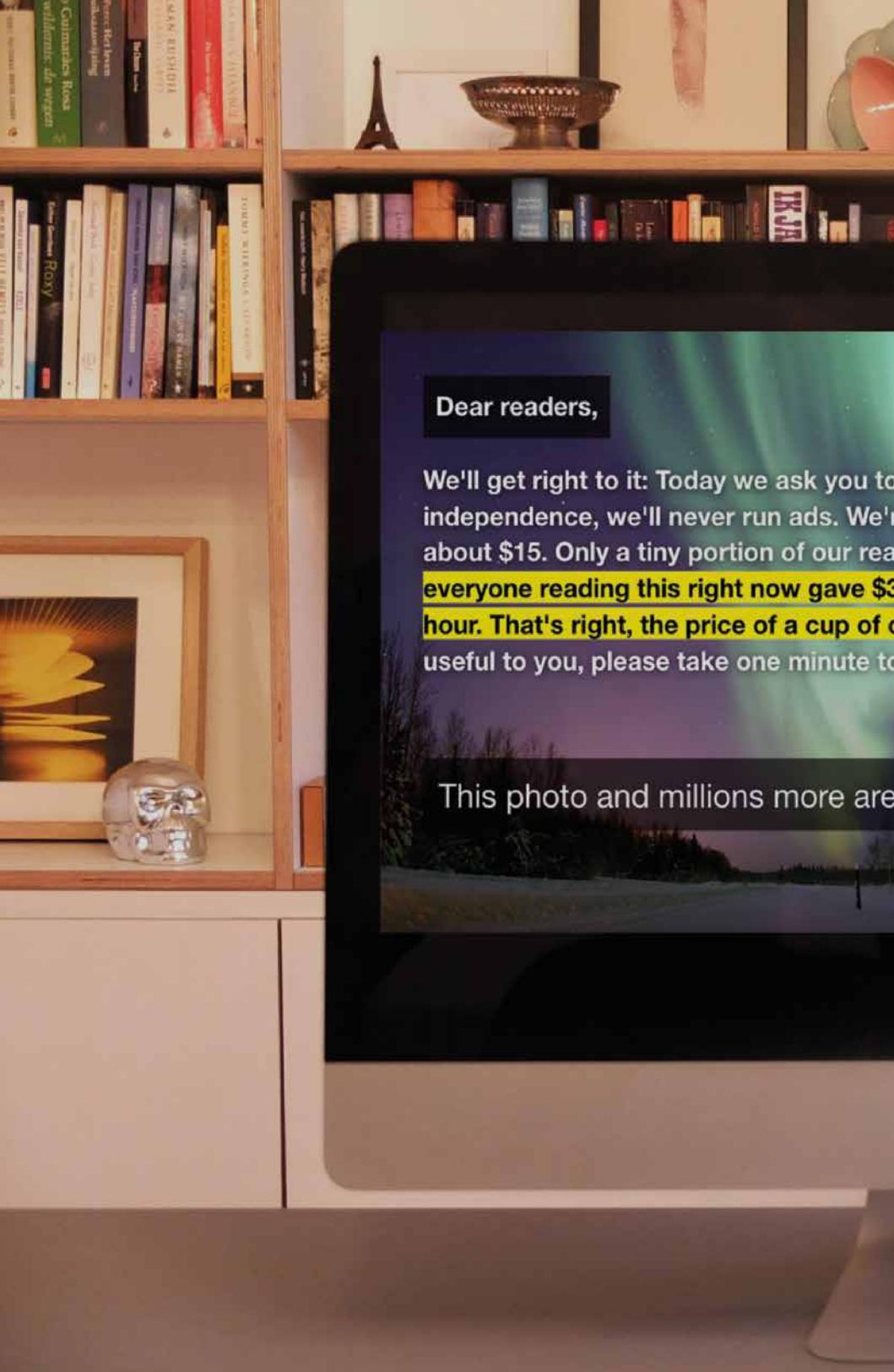
procedures. Hence, he describes the need for a staff of trained experts. Bureaucracies are established upon a *systematic division of labor*, i.e. upon hierarchical systems that indicate a staff's positions, mandates, duties and responsibilities. In bureaucracies, the dedication and devotion of participants ideally remains functional and impersonal in order to establish and to maintain a situation, and functions based on formal and seemingly objective agreements, rather than on some individual's personal whims:

When fully developed, bureaucracy...stands, in a specific sense, under the principle of *sine ira ac studio*. Bureaucracy develops the more perfectly, the more it is "dehumanized," the more completely it succeeds in eliminating from official business love, hatred, and all purely personal, irrational, and emotional elements which escape calculation. (Weber 2013:975)

Given this, the indicators and sensitizing concepts that I have used in order to unravel tendencies, contexts and causes of bureaucratization include developments regarding the contents, volume, amount, rigidity, strictness and the span of control of Wikipedia's policies, processes, rules and regulations; developments concerning the establishment of (measurable) goals and objectives and associated practices of legitimization and accountability as means to structure the organization; the proliferation of jargon concerning standardization, tools, measurements, automation, productivity, scaling and efficiency; developments regarding the relative amount and the mandate of Wikipedians with formal positions and the developments regarding the barriers to obtain such positions; and the changes in the balance between the informality and the formality of Wikipedia's production and governance, i.e. how personal motivations and concerns played a role in these processes, or whether these are pushed to the background over time. I have also endeavored to be attentive to Wikipedians' and Wikimedians' attempts to minimize domination and to realize equality amongst participants.

This is closely related to my primary focus on tendencies of power concentration and bureaucratization to emerge, and on how such emergences are legitimized or contested throughout the changing contexts in the stages of Wikipedia's evolution.

The following three chapters are accounts of my empirical analysis of the social and political aspects of the evolution of Wikipedia and the Wikimedia Foundation with regard to its financial, infrastructural and cultural organization.



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We'll get right to it: Today we ask you to support us. If you're not ready for independence, we'll never run ads. We're asking for just \$15 a month. **Everyone reading this right now gave \$300.** That's right, the price of a cup of coffee. It's a small amount, but it's useful to you, please take one minute to help us.

This photo and millions more are available to you.

Increasing formal confinement of Wikipedia's financial authority

To help Wikipedia. To protect our
are sustained by donations averaging
readers give. **Now is the time we ask. If**
3, our fundraiser would be done within an
coffee is all we need. If Wikipedia is
to keep it online and growing. Thank you.

available on Wikipedia.

The management of Wikipedia's financial resources is characterized by an omnipresent tension between representatives' responsibility or felt responsibility to manage resources effectively in order to provide sustainable and manageable conditions to operate Wikipedia on the one hand, and the autonomy and the self-organizing character of the community on the other. In the following section, I unravel the theoretical tensions that constitute the setting of this chapter. Subsequently, this chapter consists of four sections describing four different stages in the financial organization of Wikipedia: the initial phase of the establishment of the online encyclopedia, which serves as a potential business case for its founders' centrally coordinated for-profit enterprise (1999-2003); the early years of the Wikimedia Foundation, characterized by a relatively egalitarian, volunteer-driven non-profit establishing bureaucratic practices to manage and to sustain the organization financially (2003-2007); a third phase during which the WMF professionalizes, narrows its focus and centralizes the control over its skyrocketing resources (2007-2014); and recent processes of increasing rationalization of grant-making and accounting for the use of resources, including how the Wikimedia Foundation itself is held increasingly responsible for its financial conduct by the community (2014-2017). I describe the motives and the arguments for financial strategies, policies, practices and behaviors throughout various phases; how such motives and arguments have been presented, conceived, debated, contested and adapted; and how these have influenced the autonomy of Wikipedia's constituents.

I conclude that Wikipedia's and the Wikimedia Foundation's process of acquiring and distributing resources is characterized by consecutive periods and tendencies of centralization and decentralization. Through arguments of complexity, responsibility, accountability, continuity and sustainability, officials increasingly connect power over resources to the central organization, while the community reciprocally challenges these tendencies, in part by submitting their representatives to bureaucratic measures. I demonstrate that the decisions made related to managing resources

result in a process of increasing bureaucratization. This process of bureaucratization is partly the result of contextual factors that force Wikipedia and the Wikimedia Foundation to formalize its processes of financial conduct, but it is just as well a consequence of Wikipedia's stakeholders' and its formal and informal representatives' endeavors to make their work more manageable in the light of the project's extensive growth.

In general, bureaucracy serves as a means to legitimize how acquisition, distribution and spending of funds are organized. Furthermore, bureaucracy serves as a means by which representatives coordinate constituents to effectively contribute to the central organization's mission. Policies and practices to coordinate, control and account for Wikipedia's financial resources were not only a consequence of efforts of conservative officials to sustain the organization as such, as classical sociological theories suggest. Instead, bureaucratization is the ultimate consequence of endeavors on the part of all those engaged in the democratic organization of Wikipedia – staff as well as constituents. Those entrusted to support the open and self-organizing community consistently restrict its opportunities to spontaneously and ephemerally engage in acts of participation with unforeseen outcome. Based on anti-elitist sentiments, community members increasingly demanded that the board and staff of the WMF conform to bureaucratic principles in turn, in order to have them account for the financial aspects of their governance. To capture the constellation of phenomena that constitute the development of Wikipedia's financial organization I introduce the concept of "self-organizing bureaucratization."

Those who strongly believe in the democratizing potential of open and self-organizing communities maintain that the democratization of information and communication technologies has allowed for the proliferation of decentralized and nonmarket collaborative projects like Wikipedia (cf. Benkler 2005, 2006, 2011a; Himanen 2001; Shirky 2008, 2010; Tapscott and Williams 2008). These are considered to be precursors of radically free, democratic and humane forms of organizing, with allegedly passive consumers turning into

active producers or “prosumers.” The essence of such new models of organizing is that they allow for a shift of the ownership of and the power over resources from wealthy institutions to citizens (Benkler 2006:3-29). In theory, everybody with access to the Internet has the opportunity to join platforms and to assemble alliances in order to produce services for themselves and for their communities, corresponding with their passions, needs and concerns, and without any dependency on any commercial or governmental organizations.

Radical democratization and decentralization of the means of production in knowledge and information economies, however, do not necessarily breach the capital intensiveness of those economies. Wikipedia’s endeavour to collect and to distribute the sum of all human knowledge to each person on the planet does not only involve sophisticated servers to store data and to make content available to a large number of simultaneous user connections in real-time, but also includes significant investments to produce the original software on which such structures are built, as well as budgets for salaries, offices and supplies to support staff members and for legal and travel expenses. In all the essays on the new economy of people pursuing their passions for the social good, resources are hardly considered to be contested issues.

Classical sociological theories emphasize that it is common for organizations to become increasingly occupied with conservatively managing and safeguarding resources in order to sustain themselves, with increasing power concentration and bureaucratization as a consequence. Over time, Michels and Weber argue, organizations would become preoccupied with self-preservation at the expense of the autonomy of their constituents. Whereas new democratic organizations are commonly considered to be distributed, adaptive and lacking pre-conceived outcomes, these scholars use the metaphor of “machines” in order to demonstrate a maturing organization’s tendency towards conservative, controlled and predictable ways working. Weber argues that securing income needed to acquire materials for production, to provide funds for projects, and to pay salaries to staff members becomes an organization’s inclination

and permanent task, one commonly performed by establishing a formal-rational structure, which itself needs to be maintained. “[B]ureaucracy as a permanent structure,” Weber asserts, “is knit to the one presupposition of the availability of continuous revenues to maintain it” (2013:968). Michels deems it unavoidable that the organized acquisition and distribution of resources creates a class that is financially dependent on those entrusted with these tasks. He considers it likely that this class would act conservatively and uncritically towards its funders, reinforcing both their own and their funders’ positions:

Financial dependence...upon the leaders who represent the majority, enshackles the organization as with iron chains. The most tenaciously conservative members of the organization are, in fact, those who are most definitely dependent upon it.
(Michels 2001:75)

These theories make us sensitive to potential conservative tendencies and power concentration and bureaucratization that might play a role in the evolution of Wikipedia’s financial organization, and which might coincide and conflict with the assumption that open and self-organizing communities forestall radically democratic and distributed ways of organizing.

For the purposes of my study, the task is to understand in what way these tendencies unfold in the context of the essentially anti-hierarchic and anti-bureaucratic Wikipedia community. Following Michels’s and Weber’s theories, Wikipedia and the Wikimedia Foundation might, over time, be inclined to exhibit conservativeness, power concentration and bureaucratization to sustain the organization as such, thereby restricting the autonomy and leeway of its constituents. However, it is unlikely that these tendencies will unfold as deterministically and mechanically as Michels and Weber suppose they will. The democratizing potential of information and communication technologies and the idealism, the reflexivity and the discretionary power of all stakeholders involved in Wikipedia

might cause such tendencies to be critically reflected upon and challenged, and innovativeness and creativity might be deployed in order to propose and to establish alternatives, which themselves may be contested in return.

In the following sections, I discuss how the contingent processes of Wikipedia's acquisition and distribution of financial resources play out, and I show how these affect the autonomy of its constituents over time. Since financial policies and practices of Wikipedia and the Wikimedia Foundation only directly affect those who are engaged in the acquisition and distribution of funding and those who are dependent on funding (i.e. mostly staff, local affiliates and members of committees regarding the funding of affiliates) these actors, rather than volunteer editors in general, are taken into primary consideration in this chapter.

From startup to nonprofit (1999-2003)

Wikipedia is in fact the result of a failed commercial enterprise, which was turned into a non-profit, community-based organization. Initially, Wikipedia and its predecessor Nupedia were centrally coordinated assets of Jimmy Wales's for-profit Internet enterprise. Wales and his employee Larry Sanger sought ways to capitalize on the volunteer work of editors of their free online encyclopedia. Since they failed, partly because of the dot-com crisis of 2000-2001, which made it impossible to find investors, and partly because of resistance from the community to allow advertisements on the website, they felt obliged to divest and decentralize the project.

The idea for Nupedia was born when Wales and his associates Michael Davis and Tim Shell founded the for-profit enterprise called Bomis (derived from an acronym for Bitter Old Men in Suits), as they were looking to develop business cases to generate an income as Internet entrepreneurs. They first developed web portals with a specific feature, "rings," which provided visitors of a website with suggestions for related content (Lih 2010:23). Bomis generated income via advertisements and membership fees for premium content. In 1999,

Wales, who by then was the CEO of Bomis, established and funded Nupedia, a freely accessible, open-source online encyclopaedia, written and peer-reviewed by experts. The ambition to establish a free online collaborative encyclopaedia stemmed from Wales's fascination with the production and distribution of knowledge and his belief in the potential of the *free culture* and *open-source* movements. In early 2000, Wales employed Sanger, an acquaintance of the philosophy mailing list he frequented, to coordinate the project. The business plan was to make the platform profitable via display advertising.

Writing lemmas for Nupedia required conforming to a rigid bureaucratic process, consisting of a formal hierarchy and strict procedures. Wales and Sanger considered such a bureaucratic structure to be necessary in order to safeguard the quality of Nupedia's content. Sanger was in charge of recruiting editors based on their writing skills and their academic credentials and of coordinating the writing, reviewing and publishing process, which consisted of seven consecutive steps.¹¹ Sanger remembers that he could operate at the time without many constraints (2005:n.p.). Nevertheless, he was strongly inclined to seek Wales's approval, and in practice it was Wales, literally describing himself as Bomis's "final decision-making authority," who made decisions regarding Nupedia financial matters and who acted as the project's ultimate leader and final arbiter (2001a:n.p.). Nupedia therefore should be considered a centrally and hierarchically coordinated organization.

After a couple of months, Sanger and Wales started to feel the urgency to boost Nupedia's productivity in order to make the platform attractive to advertisers. With the help of Bomis's system administrator and an external programmer they attempted to make processes of publishing and reviewing easier (Sanger 2017). The results, however, were marginal, as during its first year only 15 articles had been published on Nupedia. By the end of 2000 Wales and Sanger figured that the cause of Nupedia's limited output might

¹¹ The seven stages of Nupedia's machine-like editing, reviewing and publishing process were, in chronological order: assignment; find a lead reviewer; lead review; open review; lead copyediting; open copyediting; and final approval and markup (Lih 2010:38).

be structural: Nupedia's barriers to participation and its strictly bureaucratic process could be detrimental to the motivation of volunteer-editors and reviewers to become and to stay engaged (Lih 2010). They investigated software innovations to allow "ordinary, uncredentialed people" to participate "*more easily*" (Sanger 2005:n.p.). According to Sanger, however, Wales would not allow for that, partly due to budgetary restrictions (*Ibid.*). At that point it did not occur to them to entrust volunteers with such a responsibility (*Ibid.*).

During their endeavours to increase Nupedia's productivity, Sanger and Wales were introduced to the *wiki* principle of allowing users to collaboratively edit a webpage based on their personal engagement and motivation, without the need for permission and for specific software. According to Sanger, Wales was inspired to experiment with the idea of constructing an online encyclopaedia the *wiki* way because it might solve Nupedia's issues regarding editor engagement and productivity, with hardly any costs involved (2005).¹²

On January 10, 2001 Wales installed UseModWiki software on Nupedia's web server (Lih 2010:61). However, many Nupedians were averse to the idea of abandoning the bureaucratic editing procedure, which they considered to be an essential means to guarantee quality. They were reluctant or refused to take part in a situation which would allow their articles to be edited at any time by anyone, believing that this would cause nothing but chaos. As a result, a parallel entity was established, and Wikipedia was born. As it had commercial objectives, the project was initially launched on wikipedia.com (the indication .com originally referring to "commercial," distinguished from the current .org extension, meaning "organization"). Within one month, 600 entries were created by self-selected enthusiasts.

¹² Sanger and Wales dispute who came up with the idea to introduce *wiki* technology to Nupedia and, as a consequence, who basically founded Wikipedia. According to Sanger, he himself was introduced to the *wiki* principle by a friend (Lih 2010:44). Wales disputes this version of Wikipedia's history by commenting on the contents of his own Wikipedia-page: "It is not correct to say that 'With Larry Sanger, Wales in 2001 founded...' I founded Wikipedia, Larry just worked for me. The idea for using a *wiki* originally came to me from an employee—Jeremy Rosenfeld" (Wales 2005a:n.p.).

Despite the fact that the production of the encyclopedia increased drastically, the enterprise remained unprofitable, with increasing content and traffic to Wikipedia requiring investments in servers and programmers, just when the 2001 dot-com crisis caused online ad sales to plummet. By that time, Sanger was laid off, primarily because Bomis lost a big client and with little income via Wikipedia Wales could not afford to pay his salary any longer.

To add to the financial challenges Bomis faced, community members expressed their aversion towards advertisements on Wikipedia, which they interpreted as indicators of the business profiting from their work as volunteers.¹³ To underscore how serious they were about this issue, editors of the Spanish Wikipedia threatened to make use of their right to “fork” Wikipedia and start their own branch. Sanger endeavored to convince them with Weberian arguments that generating revenues was essential in order to pay for the servers and the salary of a professional coordinator and staff needed in order to maintain and to sustain the platform. As far as he was concerned, it would be impossible to have the open and self-organizing community function and flourish without the competence and the central coordination and decision-making authority of experts. Responding to the opposition posed by the Spanish Wikipedia, Sanger argued that financial resources would be necessary to pay such an authority (“namely, me”) and to grow the project substantially in order to achieve the mission of realizing worldwide accessibility of free knowledge. His justification invokes issues of self-preservation as well as the idealization of the grand mission of the project:

It is my well-considered opinion, as well as the opinion of Jimmy Wales and of many of the older (and a few newer)

¹³ Opposition was ideologically based as well: “We knew that this [idea of advertisements on Wikipedia] would be extremely controversial, because so many of the people who are involved in open source and open content projects absolutely *hate* the idea of advertising on the web pages of free projects, even to support project organizers” (Sanger 2005:n.p.). Lih states that Wales’s hinting at adding advertisements “hit the community like a shock wave” (2010:9).

contributors to Wikipedia, that a full-time, paid employee (namely, me) has been absolutely essential in creating the success that Wikipedia is today. Wikipedia would not exist if I had not been paid to start and manage it. ...It is, frankly, *silly* to think that this sort of large-scale project could be properly managed without paid employees. (Sanger 2002a:n.p.)

Nevertheless, the editors of the Spanish Wikipedia applied their essential right and power as constituents by establishing the “Enciclopedia Libre Universal en Español” (Enyedy 2002; Tkacz 2011a,b; Tkacz 2015). This community-driven and ideologically inspired intervention could be considered a successful act of a countervailing power. It is one of the reasons that Wikipedia has remained an ad-free platform ever since (Tkacz 2011a:104,b:n.p.; 2015:175).

The fact that he had invested significantly in the online encyclopedia without generating any revenues made Wales decide to formally withdraw from the project and instead to establish a foundation to support and sustain Wikipedia as a non-profit. In an interview with Mayo Fuster Morell, Wales emphasized that the transformation from a centrally coordinated for-profit to a volunteer-driven non-profit was motivated by disappointing business prospects:

Wikipedia is a child of the dot.com crash. ...When Wikipedia began to grow if I would have been able to go and get some venture capital funding and have money to run it, then I would have thought very differently about these issues. ... This innovation of really pushing all of the decision making into the community was just because there was no one else to do it. (2011:328)

Therefore, the fact that Wikipedia is coordinated, governed and supported by a non-profit appears to follow from economic causes. On the one hand it is the consequence of a commercial enterprise that failed to generate a viable business; on the other hand, is a

consequence of a community of volunteers that abided by the ideals of the free-culture movement and that consequently opposed the idea of a commercial organization profiting from its work.

Based upon the above, I conclude that between 1999 and 2003, Bomis's business experiment lacked a formalized structure for managing its financial resources. During this period, Nupedia and Wikipedia were ultimately, at least financially, centrally coordinated, based on the individual whims of the CEO of a for-profit company. It was Wales who initiated the business experiment to generate revenue by a free and online encyclopedia, and it was he who decided not to fund proposals for technical improvements to engage more editors. Further, and despite the reluctance of Wikipedia's volunteers, it is Wales who approved the bypass of Nupedia's bureaucratic production process by prioritizing the wiki principle. Wales did not find nor provide the resources to extend Sanger's position as Wikipedia's coordinator, and instead decided to decentralize Wikipedia into a volunteer-driven non-profit as an attempt to sustain the project. However, it appears that Wikipedia's community served at that time as a powerful countervailing force, preventing the founders and funders of the commercial enterprise to profit from their volunteer efforts. In the following sections, I describe consequent stages in Wikimedia's financial evolution starting from its formatting in 2003.

Emergence of financial structures in the nascent non-profit (2003-2007)

Wales formally constituted the Wikimedia Foundation in June of 2003. Initially this was a legal transfer of assets, including domain names, copyrights and servers, from Bomis to the non-profit (Wales 2003a). The WMF was established as a charity in order to allow for funding by donors, who might then benefit from tax reductions. The ambition was to establish a financially independent organization to support Wikipedia. During Wikimedia's early years its financial governance bureaucratized as a result of endeavors by its stakeholders to formally and rationally account for their financial practices, and in

order to have others formally and rationally account for theirs. This period is characterized by disputes between those who emphasized the need for representatives with the discretion to financially sustain the project, and others who argued that the only support needed was administrative and infrastructural. Both “camps,” while seeking to legitimize their acts, proposals and positions, and while wanting to avoid the appearance of power concentration, contributed and committed themselves to the bureaucratization of the organization. This practice of bureaucratic *disciplining*, which develops organically rather than being imposed by a central authority, strengthened over time because it provided useful effects, i.e. as a means to meet external demands regarding accountability, to decrease the workload of volunteers, and to address internal concerns regarding quality and continuity.

Bureaucratic organization of accountability

During its first two years, from roughly 2003 to 2005, the Wikimedia Foundation was dependent on Bomis for financial support. While fundraisers helped to purchase the hardware needed to facilitate the website’s increasing traffic, “Bomis remained responsible for the cost of hosting and bandwidth” (Snow 2005:n.p.). In its first year, Bomis also bore responsibility regarding Wikimedia’s governance and expenditures, since the board of trustees of the non-profit initially consisted solely of Wales and his two Bomis partners. This governing power was only technically decentralized in June 2004 when two active community members, Angela Beesley and Florence Devouard (User:Anthere), were added to the board (Wikimedia 2004a).¹⁴ This formal body’s concern was to sustain wikipedia.org, which, by that time, suffered from severe performance issues due to increasing

¹⁴ It is unclear whether this decentralization of Wikimedia’s decision-making power was an ideological choice or a legal necessity. According to Bomis’s Wikipedia page (which refers to Lih 2009) these first steps toward decentralization happened “after Wikipedia community members complained that the board was composed of appointed individuals” (Wikipedia 2018). However, according to Devouard it was the intention to have community members partake in their own governance from the start (2017a). According to Mark (User:Delirium), the expansion of the board followed legal demands:

traffic to the website. The three active members of the board, Wales, Devourard and Beesley, intended to meet in person for the first time in France in order to discuss legal and organizational issues and to exchange ideas on how and when to raise funds. However, such an organizational ambition caused debates on the Foundation-l mailing list regarding the responsibilities and the mandate of the board members and the financial resources they should have at their disposal. These discussions were characterized by disagreements between those volunteers and board members who emphasized the necessity to grant representatives with the resources and the mandate to establish policies and structures to sustain the WMF financially (among whom were community members who personally donated for this purpose), and opposing community members who deemed such a situation highly undesirable because of its principal “unwikiness.” The latter were concerned that deferring responsibilities to representatives would nurture tendencies towards corruption and power concentration. Unthinkingly, they reproduce Michels’s reasoning that “the leaders, who [are] at first no more than the executive organs of the collective will, soon emancipate themselves from the mass and become independent of its control” (2001:25). Below, I reconstruct the main arguments of this particular, early discord. Although both parties fundamentally disagree on the principle of representation, both appear to find agreement in applying and adhering to impersonal and formal-rational procedures. Bureaucracy therefore serves as a common language for organizing trust and accountability here.

On June 19th 2004, unpaid volunteer Danny Wool (User:Danny) proposed that the WMF cover some of the travel and personal costs of the elected board members from the Foundation’s funds:

“We decided to have a board initially not because anyone thought it was a good idea, but because the State of Florida requires non-profits to have boards of trustees consisting of five or more people. For one reason or another, Jimbo decided it would be a good show of community participation and democratic fuzziness and whatnot if we elected two of these five members, and so we did” (2004a:n.p.).

I know that the Wikimedia is currently strapped for cash. However, I would like to propose that we cover certain key expenses for our elected board members relating to their participation in Wikimedia work. ...While every participant is doing their work on Wikipedia and the other projects voluntarily, Ant and Angela are expected to represent us, the users. We should make it as easy for them as possible. I hope you support my proposal. (2004:n.p.)

Wool's proposal was endorsed by most participants in the thread. Discussants, consisting presumably of Wikipedia volunteers who understood themselves as having a say in the decisions of the organization, argued that the community should invest in representatives who are taking on the challenge and the responsibility to safeguard the project's financial sustainability. Adding his support for this idea, Andrew Lih (User:Fuzheado) noted Wikipedia's financial vulnerability in light of its growing overhead costs:

[D]on't forget the bulk of Wikipedia is being supported by Jimbo/Bomis resources given for free. This cannot last in the long term. Colocation, bandwidth, electricity, hardware and labor are all donated by them because of their kindness, but this is not sustainable or robust. We need to plan right now while Wikipedia is in a state of financial and social health. (2004:n.p.)

Yet two out of the ten users participating in this discussion-board conversation strongly opposed Wool's proposal. In their posts, they concluded that the budget does not allow to compensate for board member's expenses, and that, considering the technical challenges Wikipedia faced, this should be the least of the WMF's priorities. They proposed formal procedures and controls in order and to discourage corruption and power concentration and to safeguard the community's trust in its representatives. They suggested that the board's meetings should be held online in order to save costs, and

to allow as many community members as possible could participate and they requested meeting minutes to be publicly shared to provide constituents with the means to hold participants accountable (Cheney 2004).

Though seemingly a minor conversation about the costs of travel expenses, this thread is an example of the way that participants were deeply aware of the ethical and philosophical implications of financially supporting representatives of an organization that identified itself as open, democratic, and non-hierarchical. Discussant Mark (User:Delirium) suggested that donations to Wikipedia were given based on the assumption that they were supporting a volunteer-driven project rather than paying for board members' travel. Mark argued that he would not oppose money being raised in a campaign dedicated to a specific purpose, but that this needed to be transparent: "People should know they're donating specifically to the 'Wikimedia board of trustees communication and travel fund' or something" (2004b:n.p.). Newly elected board member Devouard supported the idea of providing the utmost transparency in order to account for how money of donors is spent:

It is very important that people know how their money is spent. I deeply agree. And we know that donations were done to purchase *hardware*, because most donations were sent while wiki was broken, and we made a general call precisely to have new hardware, so no money donated to pay for server should be used for any other means. This is an essential point, and I really wish that no one have any doubts about that. (2004a:n.p.)

Devouard notes that Daniel Mayer (User:mav), Wikimedia's self-appointed financial specialist, was keeping a public record of Wikimedia's bank transactions, showing his commitment to transparency.

In an interview, Mayer recalled that he had been preoccupied with the establishment and the maintenance of Wikimedia's

financial organization since he became engaged in volunteer work for Wikipedia, as he cared to safeguard the project:

I became very passionate about the website and became very protective of it. ...And from a pragmatic perspective I wanted to make sure there was good governance, and there were good finances in order to support the website. ...We needed to buy new servers, we needed to improve the software; there was a whole bunch of things that needed to be done. I didn't want this project that I spent so much time on, that I cared so much about, to flounder and die because it did not have physical resources for it to flourish. (2017)

Mayer himself even purchased several domain names including wikimedia.org, which he donated to the WMF (2017). In a posting, he suggested that a “Wikimedia budget committee” should be established to engage volunteers in public and formalized decision-making processes regarding the allocation of Wikimedia’s resources” (2004a). Despite fundamental differences of opinion between those who prioritized the pragmatic covering of costs for infrastructural purposes, and those who emphasized the need for the discretion to structurally and strategically organize the WMF’s financial situation, most people involved seemed to be committed to the ideal of bureaucratically and transparently accounting for expenses. Each person engaged in the discussion regarding Wikimedia’s expenses endeavored to provide rational, mostly impersonal arguments, rather than exploiting hierarchy or exhibiting power to legitimize their positions regarding Wikimedia’s resource allocation.

In a 2004 post on which she commented on Wikipedia’s responsibilities and challenges, Devouard requested authority for the board to make decisions in order to develop and maintain the structures that she deemed needed to sustain the organization. At the same time, she claimed that the board members only act as the community’s representatives, based upon the community’s mandate (Devouard 2004b). This corresponds to Weber’s observation that

functionaries engaged in organizing democratic self-governance continuously experience the tension between being a master and a servant (2013:949). Michels deems it unavoidable that representatives will develop into an elite class, using its discretion to serve its own interests once they begin to engage in activities out of their constituents' sight and control. And that is exactly the core of the argument of Wikipedians that oppose the establishment of any form of representation, which they classify as principally "unwiki," since it would legally provide a small subset of Wikipedians with the authority over the project (Mark 2004a). Mark's argument that it is factually impossible to represent a community, and that it is, therefore, conceivable that representatives allow themselves – in good or in bad faith – the discretion to make decisions which have consequences for their constituents, does not seem to worry many participants in the discussion. As the principal defender of wiki-principles of democracy and egalitarianism, Mark was reproached by his opponents for his lack of trust in their representation.

Mayer, for example, argued that Mark drew the wrong conclusions by assuming that meetings would tend to become closed rather than public events, and that these would enhance the formation of cliques. He nuanced the top-down quality of the board's decision-making with the argument that any organization and any board has formal obligations and responsibilities which imply discretionary powers (2004b). Lih also downplayed Mark's worries by adding that those who had recently been engaged in discussing financial policies and practices always did so unselfishly, with the concerns of the community in mind: "The conversations [during a meeting of Wikipedians and Wikimedians in London] were never to hijack the decision-making as the 'cabal' of individuals who happened to be there. ...The question of 'What would the community think about this?' was ever-present" (2004a:n.p.).

From the posts to the mailing list, most discussants consider the application of principles of transparency and bureaucracy as an appropriate means to have checks and balances and to avoid the impression that decisions are made based on individual whims (cf.

Mayer 2004c; Zachte 2004). Wikipedia's stakeholders seem to be bureaucratically inclined to account for their conduct, and to have others do the same. I consider this as a form of self-disciplining. Mayer wrote that he planned "to publish information on *EVERYTHING* the foundation spends money," and that he had "already been working in this direction with the limited amount of information Jimbo has had time to spend me" (2004c:n.p.). Referring to the responsibility he experiences regarding his self-appointed engagement in Wikimedia's financial issues, he added that he deemed it necessary for the board to appoint a formal representative in a discretionary position to structurally administer the process of accounting and legitimization. Clearly, he considered formal reporting and authority essential accounting practices. He admits that, for his ambition toward bureaucratization, he was dependent on the "limited amount of information" he was provided with by the board's chair, who obviously maintained a relatively powerful position.

Formalization to meet external demands and internal concerns

Wales, Beesley and Devouard met each other for the first time in person in Paris on July 4, 2004. They agreed upon the necessity of making one person responsible and accountable for organizing financial matters (Wikimedia 2004b). Mayer was the first Wikipedian to be granted a formal position, that of Chief Financial Officer (Wikimedia Foundation 2004). His formal obligation was to set up a basic budgetary process and to provide the infrastructure to conduct fundraisers to raise money for servers that would increase the performance of the malfunctioning website. In his postings, Mayer appeared convinced that this formal decentralization, which provided him with access to Wikimedia's bank and its PayPal accounts without having to bother Wales for that every few weeks, would allow him to do his work of processing donations and of providing reports of the WMF's financial situation more structurally and efficiently (2004d). As a consequence, he remarked, both the community as well as external organizations would have the opportunity to check on the WMF's financial conduct more thoroughly.

At its start, the WMF had an internal propensity to develop formal positions and procedures, and became increasingly engaged in devising bureaucratic and hierarchic structures as a consequence of external demands. Devouard recalls how she, Beesley and Wales tried to expand funding by targeting larger organizations, since most of the donors of the early days were Wikipedians themselves, and how potential funders triggered the formalization of Wikimedia's financial organization:

I remember visiting New York over the weekend. ...Asking money from rich people [at a major funding organization] who just said: 'You first need to have a secretary and all this.' And I responded: 'But we just don't have the money to pay for this thing, so it is us going as volunteers.' ...They said: 'You should have a formal structure. You should have rules. You should have processes. ...We cannot give you €100,000,- if you have no structure and process. ...You need formal positions, ...strict reporting procedures and so on. ...So practically speaking, ...if we send to your bank account €100,000,- let's say, how are you going to spend it? For what? Did you do a budget? Who is going to be the person sending the cheques? And who is going to be the person checking on the person sending the cheque? Because it is quite a lot of money. And do you have an office? Oh, you have no office? And when do you send your bank report?' We don't have any of this. ...We returned with nothing from New York. ...They said: 'Just come back later when you are ready.' (Devouard 2017b)

Since the WMF initially did not have the formal structures in place to receive large donations from large organizations, it focused on online fundraisers, using banners on Wikipedia's website to target individual visitors. Despite being amateurish, these fundraisers became increasingly successful, especially because they involved a direct appeal to the site's visitors. However, with the small donations

coming in via the website the Wikimedia Foundation was confronted with a similar challenge as with the major funding organization in New York, whose staff demanded the WMF to establish formal procedures in order to be eligible to receive donations: it needed to have the systems in place to record the donations, to send the donors a receipt and thank-you email, and to produce reports to account for the receiving and the expenditure of these donations. Fundraising, then, was the impetus to formalizing bureaucratic structures related to finances.

Mayer was in charge of the formal aspects of receiving and handling and accounting for donations until, after two years, the Wikimedia Foundation decided to replace him with a paid professional. Already by May 2004 Devouard argued (as Sanger did before her) that most non-profit organizations, once they grow, employ paid experts, since relying on volunteers might raise issues concerning quality and continuity. She argued that professionalization would therefore be unavoidable:

When a financial officer is spending eight hours a day taking care of accounting, placing money wisely so to make the best of the resources, I think it is not a loss of money to pay him, and it is more useful to the actual mission than to have no idea of how much money is available, not having a decent budget which allow planification, or just letting bills accumulate to the point of having legal troubles. Of course, we can hope to rely on volunteers to do this as long as possible, but to be honest, I would not expect a volunteer to do that full time for a long time. (Devouard 2004b:n.p.)

Such a view accords with Michels and Weber, who both argue that rewarding functionaries with a compensation for their contributions is supposed to forestall oligarchization and reign by individual whims. They argue that it provides them with a pre-described position and a clear mandate, that it could help them to avoid

being manipulated and exploited, and that it allows for a frequent change of personnel, impeding the formation of an elite. Michels says that the introduction of payment in a democratic organization an indicator of bureaucratization and the centralization of power and he deems it plausible that this creates a class that is financially dependent on the ones entrusted with the distribution of salaries. Such a dependent class, Michels argues, is likely to act conservatively and uncritically towards its funders, reinforcing both their positions as staff and the position of their funders. Based on similar arguments, various Wikipedians expressed the fear that hiring a staff would be detrimental to the community, and hence to the project.

Mayer, however, supported the WMF's intentions to transfer his tasks and responsibilities to a trained professional, since his task had, over time, become too intensive and complex for a volunteer to adequately deal with. He himself makes a claim for hiring an Executive Director for the same reasons:

[W]e long ago reached the limit on what volunteers alone can accomplish. We have therefore been missing out on many different potential opportunities (for getting grants, very large donations and to reach our ultimate goals) simply because we have not had proper staffing. And a staff needs a person to manage them and the daily aspects of running the organization. Simply put, we are transitioning from the amateur football club model to a professional organization. Staff are an investment. (Mayer 2006:n.p.)

Thus, the increasing workload of volunteers, internal concerns regarding quality and continuity, and external demands regarding accountability, all encourage the formalization and professionalization Wikipedia's financial organization. The development of this increasingly bureaucratic organization emerged organically rather than being unilaterally imposed from the top-down by a central authority.

In this early period, between 2003 and until about 2007, Wikipedia faced massive growth in terms of the volume of content and visits to the website, causing an equal increase in the work required to maintain wikipedia.org, both content-wise, technically, financially and legally. Wikimedia's formal structure was, at that time, underdeveloped, which meant both professionals and volunteers were not able to keep up with the maintenance work, and therefore the site went down regularly. In one of the few scientific articles concerning the Wikimedia Foundation, Fuster Morell reports that during its period of exponential growth, active Wikipedians increasingly distrusted the management and governance of the WMF to spontaneous acts of self-organization:

Some of those interviewed described the foundation during this period as an informal ‘club’ making arbitrary decisions. Some claimed the foundation needed repairing and improvement by taking the professional path, though others did not share this view. With the community’s growth, demands increased along with the foundation’s work. In 2007, voices in favor of the ‘professionalisation’ of the foundation gained influence. (2011:330)

Fuster Morell’s use of the pejorative characterization by members of Wikipedia as an “informal club,” as well as their tendency to prefer professional over informal organization, is useful to my argument here. Such a description of what Wikipedians experienced during the early years of the Wikimedia Foundation, during which Wales played a leading and determining role, resembles what Weber considers the routinization of a charismatic community. Initially groups do not have administrative hierarchies, formal positions or legal procedures, but derive their strength from high levels of trust between leaders and followers, which allows collaboration to emerge spontaneously and organically. Weber deems such a charismatic organization as a transitory phenomenon and, as I demonstrated in this section concerning a transition period in Wikipedia’s progression, the

charismatic community increasingly tended to bureaucratize in order to formalize trust and accountability and to meet external demands and workload, continuity, and quality concerns. In the next section I describe the maturation and professionalization of Wikimedia's financial organization, which followed upon these emergent steps of bureaucratization.

Centralization and financial control (2007-2017)

Between 2007 and 2014, the Wikimedia Foundation transitioned from a relatively pragmatic, egalitarian, volunteer-driven charismatic community into a professional bureaucracy, with a growing staff of experts, clearly documented strategies and goals, and an increasingly extensive body of formal documents, policies and procedures to support the realizations of well-defined ambitions. The WMF's board of trustees and its newly appointed executive director took three measures to deal with the increasing growth and complexity of Wikipedia and of the WMF itself. During this phase they developed an professional and centrally coordinated organization in order to meet acute challenges and to sustain its resources, they centralized the fundraising process, and they narrowed the organization's strategy in order to make it operate more effectively. All three measures are described and analyzed in subsequent sub-sections. I trace this period by explicitly mapping the WMF's actions onto Weber's theory of bureaucratization in order to argue that monetary concerns are usually central to consolidation and the creation of hierarchy.

As an effect of the centralization and professionalization of the WMF, a substantial amount of Wikimedia's revenues were allocated to wages for Wikimedia's growing staff. Based on the archive of text-based conversations and my own interviews, I observed that at this time Wikimedians regularly came into conflict with active Wikipedians and with local affiliates. Whereas the former group, those employed by the Wikimedia Foundation, tended to legitimize the proliferation of bureaucratic policies and practices by referring to their increasing responsibilities regarding sustaining the project and

the organization, the latter, the volunteer contributors to Wikipedia, experienced this as a violation of their autonomy. Whereas those representing Wikimedia reinforce the authority of local affiliates (mainly for legal and financial reasons), Wikipedia's local organizations expect more leadership of their central organization.¹⁵ The executive director's technocratic efforts to cope with extensive growth, to sustain the organization's mission, and to provide the staff and local affiliates with conditions to operate more efficiently, contributed to the centralization and bureaucratization of the organization by the end of this period.

Professionalization to meet the challenges that come with the scaling of the organization

After Wikipedia's initial stages of development the number of editors and visitors to the website increased exponentially, and the number of chapters and local affiliates grew substantially, all of which affected the project's manageability. The WMF was confronted with continuously increasing demands regarding server capacity, technical support, language editions and user experience, and it needed to operate within an increasingly international environment consisting of a diversity of cultures as well as a diversity of financial and legal systems. The WMF was also dealing with increasing instances of vandalism, conflicts and harassment on its hosted content and targeting its community members. Despite its ambition to provide every human being on the planet with free access to the sum of all knowledge, the WMF began to confront the problem that it primarily reached and covered the more privileged inhabitants of the world.

On June 12, 2006, Wales informed the community via a statement posted to the Foundation-l mailing list that the board of trustees had concluded that it would need a professional leader to meet these many challenges. In the announcement, he explicitly made a point to assure the community that the appointment of an executive

¹⁵ As just one example I encountered, Wikimedia Deutschland states in a report that "They [local affiliates] ask and wish for more guidance, leadership and guidelines in order to be able fulfil all of WMF's requirements" (2014:36).

director would not be experienced as a top-down measure, and he circumstantially acknowledged that his obligation was to find the right balance between professionalization of the organization and to respect the community's ability to organize and to govern itself:

We intend to hire a fulltime Executive Director following a very careful process of consulting with the community, building support globally, defining what the foundation needs, and a comprehensive search for a good candidate, both *within the existing community* and *outside the community*. It is my intention that we be very very careful in this process to preserve our fundamentally community-driven model, while at the same time adding professionalism to the organization in order to empower and defend the community model. (Wales 2006a:n.p.)

Apparently, and rather paradoxically, Wales intended to preserve, to defend, and to empower “the community model” by the instantiation of a structured and professional bureaucratic hierarchy.

Some community members questioned the necessity of an appointed outsider managing the community, suggesting that any professional's tasks should be limited as much as possible. One community member, Erik Zachte, argued, for example: “I would be less concerned if the final CEO would only supervise administrative tasks, like paying the bills and refreshing domain subscriptions, but then I find the term CEO odd, I call that an office manager” (2006:n.p.). Whereas Zachte appeared to put the open and self-organizing character of the community first, Wales reasoned in a posted response that the growth of the organization comes with increasing and increasingly complex financial, technical, and legal obligations. He explicitly advocated for openness and community engagement regarding the governance of Wikipedia and its sister projects, while at the same time he deemed it impossible to leave Wikimedia's formal responsibilities to the spontaneous engagement of the community:

I think you have completely failed to comprehend the seriousness of the issues facing the business side of the foundation. It is *not* just about paying the bills and refreshing domain subscriptions. We are growing inevitably into a major enterprise with a multi-million dollar annual budget. ...[W]e have to recognize that we can not operate like a college club, with a secretary to pay the bills, and we hope everything else turns out right somehow. (Wales 2006b:n.p.)

Devouard supported Wales's observation that the community should not be entrusted with the responsibility to cope with the challenges ahead. Devouard responded defensively to those arguing that the appointment of staff and an executive director would have a negative impact on the organization's openness and transparency, and that this would lead to an increasing distance between the WMF and the community. She strongly objected to accusations that the WMF was seeking external support without sufficiently consulting the community. In line with Weber's and Michels's observations that compensating people makes it possible to have them perform predefined tasks, she found it unavoidable for the Wikimedia Foundation to hire professional staff. According to her experience, she notes in one posted reply, she could not count on help from the community to perform tasks that she as a board member indicated are important, even when she explicitly asked:

We received a proposition from a big firm that I will not cite here. This was a little bit discussed amongst the community volunteers lawyers. For the past three weeks, I have been asking for a contract for that deal. I got none. None, none, none. It is not exactly as if I asked not for help. I did, but got nothing. (And this is why we need hiring.... believe me, if someone were writing these contracts on a volunteer basis, we would not need to hire people). ...I am not gonna blame you because you refuse to help me on something. That's fine.

You're a volunteer. But do not try to pretend we do not ask for help please. That's dishonest. (Devouard 2006:n.p.)

Apart from reasons of the reliability of (paid) human resources, Devouard was principally convinced that a formal organization should be in place for handling the financial resources of the open and self-organizing community, especially in order to gain the trust and to meet the expectations of external funding organizations (2017b).

In June 2007, Sue Gardner was appointed by the board of the Wikimedia Foundation as the organization's "consultant and special advisor" (Wikimedia Foundation 2007a). Her task was to move the WMF out of Florida to a place that was more attractive to potential employees, and to hire staff to meet the WMF's financial, technological, and legal challenges. According to Devouard, delegating the building of a professional organization to a formal executive changed the role of the board of trustees. Once a hands-on board actively engaged in Wikipedia's and Wikimedia's day-to-day operations, it became essentially engaged in strategy development and decision making on a more abstract level (2017b).

A few months after her appointment as consultant, in November 2007, Gardner was formally hired as the WMF's executive director (Wikimedia Foundation 2007b).¹⁶ As she detailed in an interview with me, she was convinced at the time that the Wikimedia Foundation ought to go beyond the model of an administrative body trying to execute the will of the community, and that it should be developed into a professional organization that could operate pro-actively and sustainably in a global and competitive tech-environment:

I saw my job as to come in and make the Wikimedia Foundation worthy of supporting Wikipedia, because Wikipedia was clearly going to be world-changing. And so it couldn't just have this sort of ordinary, little, tiny, hand-to-mouth-like shoestring operation behind it. ...It needed

¹⁶ Between June 2006 and January 2007, Brad Patrick served as interim executive director, tasked with finding a permanent executive director (Wikimedia 2016a).

to be technically solid, and fast, and responsive in ways that it wasn't. It needed product development, period. It needed competent communications staff that could represent an important educational property. ...I saw my role as to come in and build all of that. (Gardner 2017)

Gardner's philosophy and metaphors of structure and growth were fundamentally at odds with the non-hierarchical spirit among the early participants.

Financially speaking, one of the things that worried Gardner at the time was that a significant part of the budget was raised by donations of a small number of acquaintances of Wales (2017). Former board of trustees member and chair Jan-Bart de Vreede also concluded that Wikimedia had reached a point at which the practice of raising funds *ad hoc* and by volunteers did not scale according to the WMF's ambitions: "At a certain point you should leave fundraising to a group of dedicated full time professionals, rather than to volunteers who are not able to be fully dedicated to the challenge. ...The mission of the Wikimedia Foundation is that everyone on this planet should have access to information. This means that you should scale in order to reach areas that you do not reach. And that does not happen spontaneously" (De Vreede 2017). Another reason that Gardner advocated professionalization, besides concluding that the organization faced technical challenges and was in a relatively precarious financial situation, was that her staff was overburdened:

People were really stressed out; there were a lot of tears in the office, stuff like that. It was very very hard. ...[I]t was mismatch between what they were capable of and what they were responsible for. ...So...it was extremely obvious to me that we had to do a lot of hiring. We had to bring in a lot of skills we didn't have. We had to bring in a lot of staff hours that we just didn't have. And in order to do that, we were going to have to make a lot more money. ...The simple fact

that the organization had to grow was screamingly obvious. Everybody would have melted down, and quit, and died. It was unsustainable in every way. (2017)

Gardner draws the conclusion that growing the amount of paid positions, as well as making the money to support that, was needed in order to save her employees from burning out and to sustain the organization. She indicates that she struggled with finding the right balance between leading the organization and serving and the community. She wanted to be transparent and to publicly account for her conduct, and she intended to engage the community as much as possible. Yet, just as it was to Sanger, it was obvious to Gardner that she should be granted autonomy and discretion to bypass the community at times in order to meet challenges ahead: “If I had abdicated responsibility and said, ‘You decide,’ how would that have been useful to anybody? [They] wouldn’t have hired an executive director if they wanted to just vote” (2017). Since she was convinced that she should be able to make decisions based on her expertise and experience, she decided to consult the community only regarding subjects that, in her opinion, made sense to discuss and to decide upon publicly and collectively, and only in cases that such a consultation would have had any consequences.

The WMF’s first annual report of 2007-2008 shows that Gardner quickly introduced several bureaucratic measures for the sake of Wikipedia’s financial sustainability. The report cites the growth of the staff to a team of twenty experts; the establishment of Wikimedia’s first-dedicated fundraising team; the formulation of Wikimedia’s first-ever goals and revenue plan; and the first board-approved budget. Besides the background reasoning that these measures were taken to relieve pressure on the employees, to diversify and to sustain the funding of the project, and to meet the technical challenges ahead, Gardner argued that formal structures allowed the WMF to account “to financial donors” for the increasing expenditures of the non-profit, i.e. “to speak with clarity and confidence to our supporters in assuring them that their gifts will be used wisely” (Wikimedia

Foundation 2008:2). Apparently the WMF anticipated that donors would not entrust a non-formal organization with funding.

During Gardner's directorship, the Wikimedia Foundation invested in staff and in campaigns dedicated to fundraising, and with success. Since her appointment Wikimedia's revenues and net assets continuously increased. In 2007, Wikimedia generated USD 5 million in revenues while it had expenditures of USD 3.5 million. When Gardner resigned in 2014, revenues and expenditures were respectively USD 52 million and USD 46 million, with a total of USD 53 million of net assets (Figure 4.1). An assessment of the functional allocation of Wikimedia's expenditures shows that, over time, an increasing proportion of the budget was spent on Wikipedia's and Wikimedia's operations and on salaries and wages for its growing staff (Figure 4.2).¹⁷ I conclude that the consequence of scaling and of employing professionals to meet the organization's challenges is that an increasing part of the efforts of Wikimedia's growing staff went well beyond sustaining Wikipedia as a project, to focus on generating revenues to sustain itself. Such a development resembles Weber's observation that organizations will professionalize and bureaucratize once they grow, and that securing income becomes one of the main objectives of such a professional bureaucracy. To acquire funds for projects and to pay salaries to staff members becomes an organization's permanent task, with a consequence being that the bureaucratic measures to maintain the continuous availability of revenues develop into a permanent and decisive structure (Weber 2013:968).

¹⁷ Between 2007 and 2014 the number of staff increased from less than 10 to over 200. Operational costs are costs for computers, software and servers to host, support, maintain and improve Wikimedia's websites.

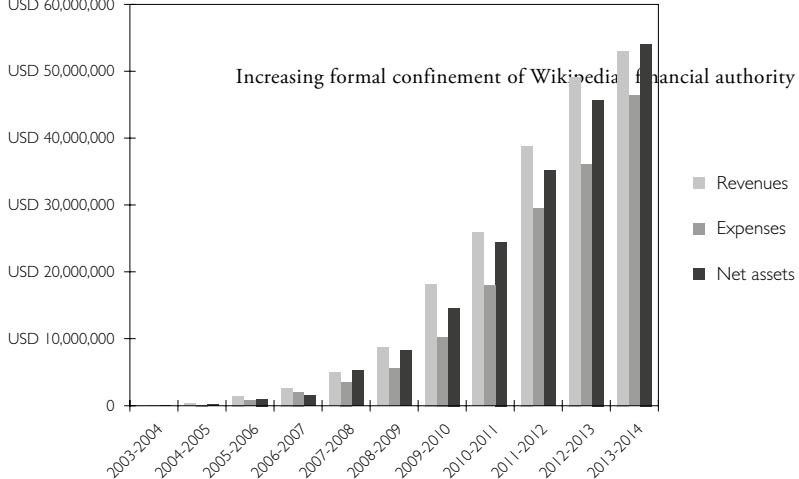


Figure 4.1. The Wikimedia Foundation's revenues, expenses and net assets between 2003 and 2014 (Wikipedia 2016a).

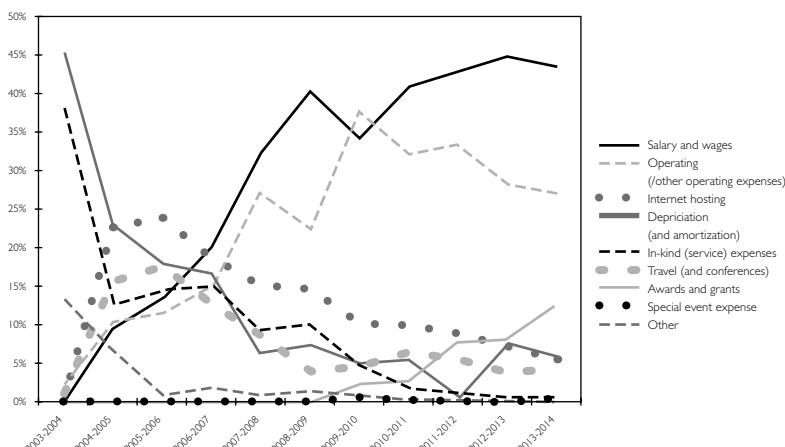


Figure 4.2. Functional allocation of expenses derived from Wikimedia's Financial Reports 2003-2015 (Wikimedia Foundation 2017b).

Centralization of financial control

One of the most striking instances of centralization and bureaucratization during Gardner's appointment is the fact that the collection and distribution of Wikipedia's funds is largely brought under the control of the Wikimedia Foundation. Until 2011, various affiliates collected their funding via donations solicited through the annual banner campaign on the website of Wikipedia and its sister projects (Figure 4.3). Depending on local circumstances and

on agreements with the WMF, chapters used part of the locally raised funds for their own purposes. The rest was transferred to the Foundation to be used for general purposes and to be distributed to affiliates with less fundraising capacities. This changed when, during the Wikimedia Conference in Haifa in 2011, the Wikimedia's board of trustees published an infamous message known as the "Haifa letter" stating that the option for chapters to raise funds directly in the annual fundraiser would be put to an end and that, except for Wikimedia UK, France, Germany and Switzerland, funding would be centrally organized and controlled (Wikimedia 2011a).¹⁸ This decision was materially and symbolically a consolidation of power and control of the project's resources.

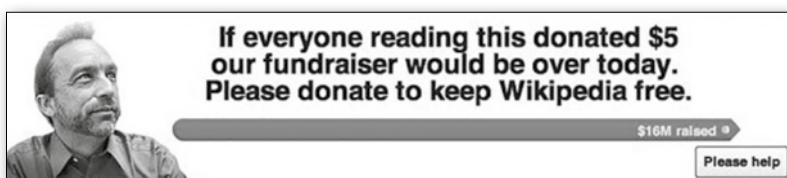


Figure 4.3. Banner used for Wikipedia's 2010 fundraising campaign featuring Jimmy Wales.

In 2003 and 2004 French-speaking and German-speaking Wikipedians were working on the establishment of local organizations, motivated in large part by legal and financial concerns. They wanted to be able to register Wikipedia in a specific language, to make sure that individual editors would not be held responsible for content on Wikipedia, and to be able to collect tax exempt donations (cf. Antoine 2003; Baur 2017; Devouard 2017b; Fuchs 2004; Ménard 2017). Initially, Wales was very reluctant about these developments. He was anxious about having no control of entities that operated and collected money under the Wikimedia brand name (cf. Wales 2003b;

¹⁸ These exceptions are made since these countries, except for Switzerland, are the Wikimedia Foundation's largest donor countries, and local tax benefits make both these countries and the Wikimedia Foundation profit most from this situation. Over time, when the French tax benefits proved to be less beneficial and during times of internal struggles within the UK organization the central Wikimedia Foundation took away their privilege to autonomously raise funds.

2004a). Despite his hesitations, chapters were in fact established as autonomous entities in order to meet local legal demands, and in order to prevent local issues from causing damage to the global project and to the central organization (Ménard 2017). This period is marked by ambivalence between localities advocating for autonomy, and the WMF providing this for legal reasons but which was anxious about losing control.

One of the arguments to centralize fundraising was that Wikimedia was concerned about its inability to control, and hence to account for, large sums of money raised and spent by affiliates. This, some members of the board claimed during a meeting, was causing the WMF to risk “the possibility of not meeting its fiduciary responsibility to donors ...which poses the risk of losing non-profit standing and/or damage to the Wikimedia/Wikipedia brand” (Wikimedia Foundation 2011a:n.p.). Several of the people I interviewed recalled that part of Wikimedia’s leadership considered chapters as liabilities (cf. Ménard 2017; Seddon 2017; De Vreede 2017). They reported that officials were uncomfortable with the situation that a substantial part of the WMF’s own funding came through several of the bigger European chapters, and that the allocation of the surplus funding was limited within those countries, rather than to be dedicated to achieving the global mission. Wikimedia Germany, for example, invested its surplus funding into the establishment of powerful professional – and to a certain extent countervailing – entity.

The WMF argued in the Haifa letter that it needed to intervene in the distributed processes of raising and spending donations, since these caused funds to be unevenly distributed amongst Wikimedia’s projects and local organizations, which they claimed did not accord with the WMF’s central goal of “providing free access to the sum of all human knowledge on a global scale” (Wikimedia 2011a:n.p.). As a result, the board attempted to devise a system of “movement-wide controls” to make sure that funds became more evenly distributed and that these were used according to its mission (*Ibid.*). One final argument was that a central organization raising funds with dedicated experts would be far more efficient than having various

different organizations, partly run by volunteers, all partaking in this endeavour.

Reactions around this time by the larger community were mixed, with various officials and representatives of local organizations supporting this aspect of centralization (cf. Van Dijk 2016; Grijzenhout 2016; Rientjes 2016). They subscribed to the argument that fundraising is done more efficiently by experts than by volunteers and, given its financial, technical and legal responsibilities, felt it reasonable that the WMF would be in control of how the money was acquired and how it was spent. Chapters, which by then were forbidden to directly raise funds via online banners, were offered the opportunity to apply for grants distributed via Wikimedia's headquarters in San Francisco. Critics of fundraising-centralization, however, considered it a move of the central organization to consolidate its position by curtailing the autonomy and the power of chapters. During this period, a moratorium was put in place that inhibited the formation of new chapters, "until the Board revisits the framework for fundraising and payment processing," which underscored such concerns (Wikimedia Foundation 2013:n.p.).

As a response to the centralization of the collection and distribution of Wikimedia's funds, a group of active chapters formed the Chapters Association to serve the common interests of local organizations within the Wikimedia movement and to act as a counterweight against the central WMF's power. The Chapters Association did not last because there was disagreement concerning the amount of centralization and professionalization of the association itself. Some chapters argued that a formal structure, formal positions and a budget would be needed, while others rejected such an approach on principle. The Wikimedia Foundation refused requests to fund the Chapters Association and instead demanded that all chapters be included in the association in order to become acknowledged as a representative body. In February 2013 Wikimedia's board explicitly stated that it did not consider the Chapters Association a legitimate governing partner. In the light of this failed attempt to establish a

counterweighing organization, the WMF asserted its central and financial powers.

Michels theorized that people with authority in intentionally democratic organizations are aware of the fact that they need to act with the greatest of prudence in order to maintain the trust of their constituents (2001:11,13), and in fact the WMF showed an attentiveness to the growing distrust of its participants. The Foundation took concerns regarding centralization into account and responded by devising a formal structure through which the community could actively partake in the allocation of funds by installing the Funds Dissemination Committee (FDC). This committee, consisting of appointed and elected community members, provides the WMF's board of trustees with recommendations regarding which percentage of their requested annual budget it thinks affiliates should be granted. Additionally, affiliates (including local chapters) have two opportunities each fiscal year to file a request for an Annual Plan Grant (APG). The FDC reviews the APG proposals, which are publicly available online, and, together with associated comments and questions from community members and additional formal information and analyses provided by Wikimedia's staff, it assesses each applicant's potential to contribute to the realization of the movement's goals (Wikimedia 2012). The FDC states that it objectively and transparently "trusts" applicants and "to ensure that the expenditure of movement resources has the highest possible impact" (Wikimedia 2012:n.p.). Other than the prosumer-logic holds, community members find that their allocation of resources is bound by conditions and ambitions of a central organization.

Despite its efforts to make sure that funds are granted and distributed based on formal procedures and community member assessments, rather than on anyone's individual whims, it is ultimately the Wikimedia Foundation that provides the budget, sets the conditions, provides the FDC with assessments of applicants and their proposals, and makes the final decisions regarding the distribution of funds. This process is intended to be transparent and open to anyone, yet a portion of the ultimate deliberation is not

public, nor is the decision-making process published (supposedly in order to safeguard the privacy of applicants) (Wyatt 2016). Although an attempt to decentralize the process of allocating resources, the grant program does not necessarily improve community members' sense of autonomy. Some do praise the fact that a group of community members, "rather than 'San Francisco,'" reviews funding requests. Other affiliates are more skeptical, and lament that they lost their autonomy to process donations and to decide upon their financial governance to the whims of a central and bureaucratic authority.¹⁹

In the end, it does not seem that the change in Wikipedia's and Wikimedia's financial governance structure achieved the goal of distributing the WMF's funds more evenly. Until 2016 no more than four percent of the total amount of money was granted to chapters from developing countries, and, according to those concerned with national chapters, Gardner's ambition to prioritize the funding of projects and chapters in the Global South has not substantially affected the budgets of those chapters already usurping the majority of the available funding (Grijzenhout 2016).²⁰ Anasuya Sengupta, Wikimedia's Chief Grant-making Officer between 2012 and 2015, concluded that the structural bias with regard to global access to funds had its roots in multiple factors, including the lack of a shared global strategy at the Foundation at the time and affiliates' argument that Europe was bringing in the lion's share of the money.

¹⁹ In an extensive consultation of 94 representatives of chapters, the Wikimedia Foundation, the Funds Dissemination Committee and the Affiliations Committee, performed by Wikimedia Germany, various local affiliates emphasized their increasing dependency on the central organization and expressed their anger and their fear about losing autonomy (Wikimedia Deutschland 2014). Exceptions included Wikimedia Poland and Indonesia. These organizations manage to stay independent of and do not need to report to the central Foundation because they get funded by respectively a beneficial local tax rule, and the Ford Foundation.

²⁰ Until Round 2 2015-2016 the FDC has reviewed 60 requests for funding of Annual Plans by chapters, of which only seven out of developing countries, as defined by the World Bank June 2017 list of Low-Income, Lower-Middle-Income, and Upper-Middle-Income Economies (Society for the Study of Reproduction 2017): two times Armenia, one time India, three times Serbia and one time Ukraine. These plans are granted four percent of the total amount of money granted to chapters (Wikimedia 2016b).

Nevertheless, it appears that the process of centralizing the acquisition and distribution of funding has had considerable impact on the *rationalization* of the WMF's and its affiliates' financial decisions. According to Joseph Seddon, who has been engaged in Wikimedia's fundraising since 2009, the establishment of the FDC has potentially been the largest governmental change within the movement ever, for it has provided structural attention to arguments for, and insight into, the use of resources acquired from fundraising (2017). Long-term Wikimedian Delphine Ménard provides a comparable conclusion. Although she feels that the initial motivation of the centralization of fundraising was an attempt to curtail the autonomy of the chapters, she considers it a benefit that the increasing rationalization of the acquisition and distribution of Wikimedia's funds caused local affiliates to develop a more concrete direction and a clearer sense of purpose in relation to the central WMF's mission (Ménard 2017).

The WMF narrows its focus to be more effective

In 2012, while still the ED of Wikimedia, Gardner published “Narrowing Focus,” her initiative to prioritize activities that were most central to the WMF’s mandate and mission. One of her justifications for narrowing the organization’s strategy was that she found that the WMF had become engaged in a too-broad array of projects and that it had done so in a relatively *ad hoc* manner, making it less effective at managing and accounting for the outcomes of such projects. Gardner signalled that staff members were overextended and at risk of burnout, which she interpreted as the result of the WMF being too closely and too actively involved in making various Wikimedia projects work. She argued for a structural and rational commitment to the WMF’s core principles, instead of continuing to initiate and to cater to the community’s emergent projects and processes, with all of their uncertain outcomes:

[The Wikimedia Foundation] needs to reduce emphasis on experimentation and discovery, and increase emphasis on execution and delivery; it needs to restrict itself to its own core work rather than pinch-hitting for others, and it needs

to shift from a focus on developing movement structures, to encouraging and supporting activities that directly advance the Wikimedia Foundation's mission. Based on what we know now about the Wikimedia movement and the work that needs to be done to achieve the mission, we believe the Wikimedia Foundation should understand its core responsibilities to be engineering and grant-making. (Gardner 2012:n.p.)

By explicitly framing the mission of the WMF as *engineering*, Gardner indicated that the Wikimedia Foundation would continue to invest in financial and human resources to keep improving its technological infrastructure to sustain Wikipedia and its sister projects, and to support the user experience of its readers and editors. With her reference to grant-making, Gardner indicated that the Wikimedia Foundation would focus its activities to raising and disseminating funds for projects that contributed to its mission, rather than taking as its task active involvement in the projects of local organizations.

Gardner was convinced that it would take central leadership and formalization in order to make non-profits operate as effectively as possible, as such organizations, according to her observation and her worry, tend to expand their mandates and programs away from a focus on being effective (2017). Besides that, she strongly believed that the consultation of the community would lead to nothing but conservative responses, which she considered detrimental to the acts of reform that she deemed essential (Gardner 2017). So rather than acting conservatively, as we would expect based on Michels's theory, Wikipedia's executive director deliberately aspired to bypass the conservative community in order to realize the movement's mission.

In "Narrowing Focus," Gardner emphasized that the WMF and the chapters are separate entities. Chapters are considered Wikimedia's independent partners, engaged in supporting editors and other content creators to contribute to Wikimedia's mission, ideally with as little involvement by the WMF as possible. When they are grantees, however, chapters are subject to more oversight:

[T]he Wikimedia Foundation does not want to be the decision-maker evaluating each organization's programs on a line-item basis, but we do have a fiduciary obligation to ensure that donated funds are spent consistent with our mission, and that participating organizations are subject to good governance. This means that our grant-making role is a hybrid role consisting of a strong administrative- and compliance-focused piece, and of a community engagement-piece to ensure fair and impact-oriented evaluation of proposed programs by the larger Wikimedia movement. (Gardner 2012:n.p.)

Following a period of fairly *ad hoc* and hands-on engagement, Wikimedia's executive director attempts to focus employee attention and energy on financially supporting the community. By providing funds, the WMF aligns its autonomous affiliates more strictly to the execution of its central mission.

In response to Gardner's statement, the WMF instituted structures and procedures in order to have affiliates account for how their grant money is spent. Garfield Byrd, who served as Chief Finance & Administration at the Wikimedia Foundation between 2011 and 2015, recalled that protocols for grant-making were hardly developed by the time he was hired: "By then you had to talk to one person, and you gave them a proposal of maybe two to three pages, and if they liked it they funded it. It was very simple back in those days" (2017). In line with Michels's and Weber's description of developing organizations, Byrd's experience is that these start with a small group of people who are closely connected to each other and who are mutually aware of how their relatively limited budget is spent. Byrd narrates that when operations become more extended and more complex, and when more people become involved and staff is hired, it is not unusual that those engaged in the organization's financial matters from the start accidentally become responsible for increasing budgets, since they lack expertise and since there are not any formal systems of accountancy and control in place. Potentially

this would lead to inefficient, unauthorized, or outright illegitimate ways of spending resources.

Hence, he and his colleagues endeavoured to assist local organizations to develop and deploy what they consider standard accounting concepts, that is “separating duties” and “internal controls.” These bureaucratic measures provided the affiliates and the WMF with the controls and the means to assess potential risks. As Byrd put it: “When you create good structures, you eliminate temptation, and you don’t encourage good people to do bad things or make poor choices” (*Ibid.*). Such systems would also allow the WMF to account for how donors’ money is spent more accurately. Funders and those responsible for Wikipedia’s financial administration implicitly lack the confidence to entrust the community with the spending donor money without structures to account for how funds are directed, both in advance and afterwards. Although the central organization could not impose systems, structures, measures, processes and measurements on their formally independent affiliates, they could indirectly force them to comply with these with the threat of an affiliate losing its funding:

When I would write my report, they were recommendations, and so as recommendations they could ignore them. If they chose to ignore them, then my only recourse was as staff to the FDC to say: ‘They have ignored recommendations. I believe they have poor internal controls.’ Or, ‘they have an agenda that is not consistent with good fiscal practice,’ and then report that to the FDC and then hopefully they would take that into account in their deliberations. And in a couple of cases I basically had to strongly recommend against funding because an organization just was not ready for it. They did not have any of the structure that was needed for good governance for the kind of money they requested. (Byrd 2017)

Over time, conditions and structures were developed to encourage grantees to account more formally and transparently for how they

would spend funds, and for what the impact of their projects had been.

Despite the rhetoric that the Wikimedia Foundation regards its local counterparts as autonomous partners, most affiliates are dependent on the WMF for funding and for using its trademarks. From the *Chapters Dialogue* (Wikimedia Deutschland 2014), in which stakeholders were interviewed about the backgrounds and the consequences of the centralization of fundraising, affiliates argued that the fact that they increasingly have to account for their activities by applying metrics and by demonstrating impact makes them feel disciplined. In the following section regarding the most recent phase in Wikipedia's and Wikimedia's evolution I will provide an analysis of the development of the assessment practices of the WMF and the Funds Dissemination Committee, from which it appears that applicants model their programs according to pre-set standards in order to sustain their revenue streams.

Bureaucratization to align projects with the WMF's mission and to forestall power concentration (2014-2017)

Despite the initial reluctance, which I mentioned in the previous section, most of the Wikipedians and Wikimedians I interviewed and met did not voice many grievances regarding the centralization and bureaucratization of Wikimedia's dissemination of funds. During the Wikimedia Conference in 2016 in Berlin (WMCON 2016), debates on how to apply for grants and how to improve the efficiency and the accountability of projects were generally constructive rather than critical. Many members of local affiliates appeared to share the WMF's ideal of rational accountability, and they had a practical interest in how to sustain their funding. Wikipedia's community members' and their representatives' formal-rational practices of objectification and impersonalization appear to serve as means to forestall tendencies to power concentration. Despite the fact that the community is granted opportunities to participate in the financial conduct of the Wikimedia Foundation, the proliferation of means

of bureaucratic control increasingly limits grantees' autonomy and leeway. These means of control are primarily exerted through the grant process that began around 2014, and which reasserted the relationship of the WMF to the regional affiliates.

Optimization of grant-making

In the first years of the centralized grant-making process, applicants complained about the inordinate hassle regarding funding requests (Wikimedia Deutschland 2014:32). Initially, a complex application procedure was required to qualify for an annual budget (Annual Plan Grant). Several chapters hired professionals to file APG requests. Since then, various efforts have been made in order to make requesting grants easier and more accessible to a wider audience and in order to align affiliates' projects more closely with the WMF's strategy and objectives. First, the procedure of applying for grants was diversified in order to decrease the complexity and formality of the application procedure, and to increase the reach of the WMF.²¹ Second, numerous volunteers and staff were appointed to guide, support and monitor requests for funding, to make the dissemination of movement funds easier and more effective. Further efforts have been made to make policies, procedures and programs as open and transparent as possible and to make requests and reports as data-driven as possible with the objective to support decision-making processes and to account for the expenditure of funding as objectively as possible.

According to various respondents, application procedures have become less complicated and they reported that a substantial number of their requests were remunerated. Those applying for a grant "just" need to engage with Wikimedia's officials and to thoroughly follow the set procedures. As an example, one representative of a local affiliate legitimizes this development as follows:

²¹ Besides Annual Plan Grants Wikimedians can currently apply for funding for a less extensive annual plan, such as for a project, for a trip; or for organizing a conference (Wikimedia 2017a).

The only thing that the Wikimedia Foundation wants is projects to be successful. That's why there is a large team of staff members involved in grant-making. And there are a Affiliations Committee, a Grants Advisory Committee, and the Funds Dissemination Committee – all volunteers involved in establishing successful organizations, streamlining funding requests and distributing money in a fair and efficient way. (Matúšov 2016:n.p.)

Nevertheless, efforts by the WMF to ease and rationalize Wikimedia's grant-making processes by assessing grants-programs on their accessibility and effectiveness, and through tutorials, tools and personal support, all reveal a political agenda as well as a struggle. While these efforts are intended to provide all Wikipedians and Wikimedians with equitable access to movement funds (something which apparently does not emerge spontaneously), these are particularly meant to empower and enable community members to pursue projects that further the mission of the Wikimedia Foundation. As such, these efforts indicate the WMF's relatively powerful position in the process of allocating resources.

As an example of the way that the WMF implicitly directs the energies of its affiliates through grants, consider that two of the most prominent goals of the Foundation are to extend the readership and increase the number of contributors in developing countries, as well as to increase the gender diversity of the community. Katy Love, Wikimedia's Director of Resources, emphasizes that grant proposals are not rejected if these do not address these issues, and she acknowledges that she does not have the authority to actively steer projects in that direction. However, Love suggests that, given the millions of dollars the Foundation spends on grants, she and her team feel the obligation to play a proactive role in advancing the movement's goals, and do so by supporting programs and campaigns that highlight the most pressing challenges that were identified by both formal representatives as constituents of the Wikimedia movement. Grants program requirements actively support

volunteers' and affiliates' plans and efforts to address these issues and those community members who are engaged in committees deciding on grants actively endeavor to motivate grant requestors to pay attention to these themes:

We use soft tactics to encourage the advancement of the movement's goals. We see major benefits in having people in our grant-making committees represent the world at large, so it is important to us to have people who are living in the global south or who represent different genders. We have seen that increasing representation from these groups in decision making bodies means that grants applicants then are asked about their plans to increase and support diversity. A committee member might ask a grant applicant 'What are you doing about gender?,' and 'How does your project contribute to a more diverse and inclusive community?' And that is a powerful way [to encourage the advancement of the movement's goals]. (Katy Love 2017)

Rather than implementing measures from the top-down, the Wikimedia Foundation chooses to have community members align their projects and programs with the movement's central strategy via campaigns and advocates from the community.

The WMF also applies formal-rational measurements and controls to follow-up on this goal. Despite the controversy over the implementation of metrics and measurements, which causes that some community members to feel uncomfortable with being evaluated, Love is convinced that these are necessary to help the WMF and its committees to account for how donor money is spent. Wikimedia's Learning & Evaluation team, which was established as one of many initiatives to achieve this objective, deploys programs and procedures for "the *systematic collection* of information about program activities, characteristics, and outcomes" (Wikimedia 2017b:n.p.). It provides a repository of information and tools, which Wikipedians and Wikimedians can consult and apply in order to

plan, monitor, evaluate and account for their projects, in order to make informed decisions regarding the allocation of resources and to prove and improve their efficacy. The team encourages those requesting funds to check the proposals and evaluations of their peers to ensure that they are learning from each other's successes and failures in order to be more effective.

"Impact," the subject of one of the three main tracks of WMCON 2016, is considered an essential indicator to assess whether and how a project helps and manages to achieve the goals.²² Logic Models (Figure 4.4) serve as a means to measure and demonstrate impact. As one respondent explains, these models could be considered as tools to support representatives to operate their organizations in a relatively objective, machine-like fashion:

Actually these are very basic input—throughput—output evaluation models. So if the Foundation invests its money in something, it has an indication of what is going to come out of that. It is an instrument that provides insights and arguments, which can be used to decide if a proposal is likely to meet its criteria and ambitions. And afterwards it can be used as a reference: Have steps been taken as planned? Have goals been achieved as indicated? And what can be learnt and improved? (Huikeshoven 2016a).

²² "Impact is determined when one can: compare the condition(s) of a group before and after a program occurs and state that the program has changed the condition(s) of the group; measure the value added by a program compared to either an existing program or alternative practices" (Wikimedia 2017c:n.p.).

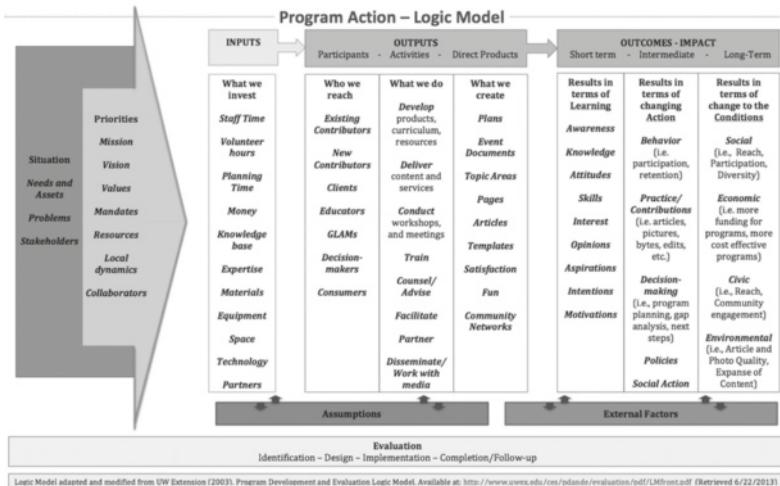


Figure 4.4. Logic Model (Wikimedia 2017d).

By the implementation of rational and impersonal metrics and formal protocols for monitoring, reporting and accounting, the Wikimedia Foundation not only enhanced its capacity to assess whether its investments are effectively contributing to the movement's strategy; these instruments allow the WMF to evaluate its constituents' expenditures and have them account for their performance with their future funding at stake. Thus, the Foundation's slowly but steadily expanding bureaucratic repository of formalized processes and measurements creates directions and constraints, however, apparently of a sort that most stakeholders feel comfortable with, or at least comply with and contribute to.

Wikimedia Netherlands' executive director described how the centralization and bureaucratization of funding and the emphasis on impact and evaluation affected her chapter. It has successfully applied for a grant for a project concerning the dissemination of images, documents and historical knowledge regarding the Dutch colonial past, which supports the WMF's ambition to extend the access to knowledge regarding developing countries:

The Foundation is inclined to say that the Foundation and the affiliates are separate entities. That is true; legally that is absolutely true. We have permission to use the brand name

Wikimedia and the Foundation does not engage in any of our internal affairs, unless it would be detrimental to the Wikimedia brand. However, we receive seventy percent of our funding from the Foundation, so that's something we are constantly aware of. The fact that we have introduced a program this year called 'The Netherlands and the World' – which aims to publish knowledge and information that is available in the Netherlands, but which could be relevant to Indonesia, South Africa, Suriname, and the Caribbean – has to do with the fact that the Wikimedia Foundation considers it problematic that it yearly distributes huge amounts of subsidies amongst the richest countries of the world. ...We might have come with a comparable proposal even if the Foundation had not provided these incentives, but...

The Foundation is very much inclined to learn what the revenue is of the money it invests in chapters; and not in terms of nice activities that are organized, but in number of participants, and improvement of content on Wikimedia projects. ... Before one just sent an e-mail to the Wikimedia Foundation. One attached an annual plan, and one indicated how much money one estimated to be needed for the coming year. ...That's all. That was really easy. But at a certain point it becomes impossible to justify that regarding the donors. So they said: 'From now on we are going to professionalize this whole financing process.' A request needs to include a proposal of what you want to do, and for what reason, and it needs an estimate of the revenues. And that's what we evaluate: we had this idea, in practice it turned out *blah blah blah*, the revenues have been this much and that is more or less than we thought. (Rientjes 2016)

Strikingly, it appears that the community itself develops tools to account for its "successes:"

There are the global metrics, the results that everyone should present, which are: the number of people involved; the number of articles improved or created; other types of donations, like images, sound, text; the number of bytes... However, the interesting thing is that the best tools to measure impact are not made by the Wikimedia Foundation, but by volunteers themselves (Rientjes 2016; cf. Wikimedia 2017e).

It appears that the centralization of funding and the stricter alignment of funding with the WMF's mission has caused the development of programs and projects that are more strongly inclined to increasing their reach and their impact.

In its early years the FDC cut various chapters' budget requests significantly with arguments expressing concerns regarding the lack of solid objectives; the inconsistency of SMART targets;²³ and the limited use of metrics and models in order to demonstrate their activities' impact and efficiency (FDC 2017a). However, the effect of demanding and applying standards and metrics to funding requests has had as an effect that, from the establishment of the FDC in 2012 to 2017, an increasing percentage of the requested amount of money has been granted: from seventy-nine percent in the fiscal year 2012-2013, with a decrease to seventy-five percent in 2013-2014, to ninety percent in the period from 2015 onwards (*Ibid.*). The FDC concludes that, over time, chapters' proposals have become more and more aligned with its standards and objectives (FDC 2016a). Thus, the development and deployment of evaluation tools and metrics, meant as means to have Wikimedians learn from each other's projects in order to align those projects with the central mission and to account for the use of donor money, caused an increasing standardization, alignment and self-disciplining, affecting one of open and self-organizing communities' essential characteristics: principal indeterminacy.

²³ SMART is an acronym of Specific, Measurable, Achievable, Relevant, and Time-bound. It is meant to serve as a set indicators to objectively communicate about management goals and objectives.

The Wikimedia Foundation is demanded to comply with its own bureaucratic norms

Formally, the FDC cannot decide upon the budget of the Wikimedia Foundation, but after affiliates' and community members' negative responses regarding "Haifa" the WMF submitted its own financial plans to be reviewed in the funds dissemination process. However, according to the FDC, these budgets lacked sufficient details in order for the FDC to be able to adequately evaluate them (FDC 2016b). The WMF argued that its abilities to be transparent regarding its budget-allocation were limited by legal and strategic concerns, which put the organization in an extraordinary position: while it increasingly demanded its constituents to provide transparency regarding the objectives and results of their projects in order to gain the trust to get these funded, it demanded to be trusted by its constituents, while only limitedly accounting for its own plans and expenditures. Recently, however, after a period of turmoil within the Wikimedia Foundation comprising of tendencies towards closure and secrecy, attempts have been made to have the WMF account for its financial conduct more openly and thoroughly.

In May 2014 Lila Tretikov was appointed as Gardner's successor. She was hired to spur innovation, as the board concluded that Wikimedia's technology was lagging behind—amongst others regarding increasing usage of mobile Internet—and that Wikipedia's page views decreased because of the fact that many users find Wikipedia-information via Google, rather than from visiting Wikipedia's website (De Vreede 2014) (Figure 4.5). The concern regarding the latter was that Wikipedia's readers would not be triggered to become editors. In 2015 it appeared that Tretikov had established a team, compiled a budget and managed to get a grant from the Knight Foundation to develop a search engine, the so-called "Knowledge Engine." She, however, did so without having informed the community nor even most of the staff and board of trustees. This indicates that she concluded that her specific ideas to accomplish specific targets should be kept secret from much

of the board, the staff and the community, which demonstrates a tendency towards oligarchization. Apparently, she estimated that her ambitions to innovate and to gain funds to sustain the organization would either not be honoured by the board and the community, or else would not be accomplished in the way she preferred. So, with the potential intent to support and to sustain the organization, Tretikov emancipated herself from the control of the board of trustees and of her constituents. When this information became public the anger from the community, much of the staff, and a part of the board was enormous (cf. Beutler 2016a,b; Lih and Wyatt 2016; White 2016). Not only were people furious that the executive director was keeping things secret from them, but they also assumed that this project would go forward at the expense of other projects, since the grant only covered for part of what was indicated as needed to build the Knowledge Engine.

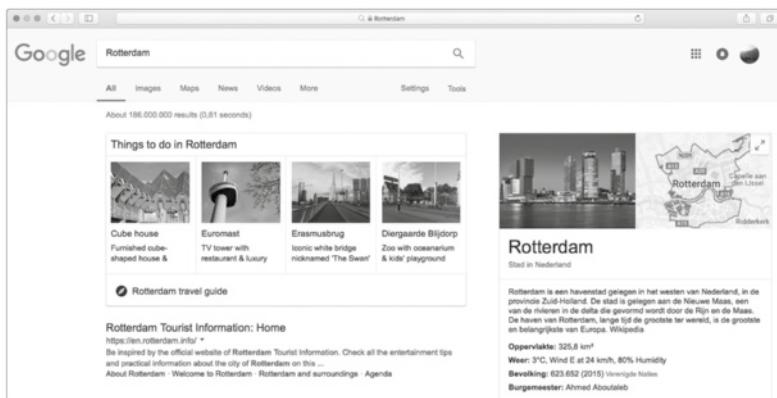


Figure 4.5. A Google search for “Rotterdam,” including in the results the “Google Knowledge Graph,” which consists of a box in the right corner that provides general information on the search topic, sourced partly from Wikipedia articles (screenshot November 24, 2018). Google’s use of the Knowledge Graph spurred Tretikov to try to develop the “Knowledge Engine,” which resulted in a controversy over her method of realizing and funding that project.

According to Michels and Weber it is essential for representatives of open and self-organizing communities to abide principles of

accountability in order to forestall allegations of misuse of power. When the case of the Knowledge Engine was revealed, Wikipedians and Wikimedians were deeply aggrieved by Tretikov's deliberate attempt to bypass the community, which they deemed a violation of one of the movement's ultimate values. The process of secretly collecting and allocating money caused an untenable situation and, in February 2016, Tretikov resigned (Tretikov 2016). Throughout Tretikov's two-year appointment, staff and stakeholders complained about a lack of financial and strategic planning, which, in their eyes, demonstrated a failure of accountability and created an unworkable situation (cf. Wyatt 2016).

In response to concerns with a lack of transparency and accountability regarding the allocation of its resources the Funds Dissemination Committee explicitly exhibited its constitutive, controlling, and countervailing power and, in November 2015, it demanded that the Wikimedia Foundation respect the same criteria and procedures as local affiliates were asked to follow when applying for a budget:

[T]he FDC recommends that the WMF submit its 2016-17 annual plan to the second round of the 2015-2016 Annual Plan Grant process. It should participate in both the community review and FDC review processes that all APG applicants go through, and seek detailed responses from the FDC on its annual plan. As part of this process, the FDC recommends that an external assessment is made of the various constituent parts of the WMF in order to gain external insights into improvements that could be made. In advance of this, it is essential to the FDC that the WMF share its full strategic plan with the community and seek wide community input into it.

By making this recommendation with a six-month target, the FDC is hoping to provide an opportunity for the WMF to demonstrate best-practices in annual and strategic planning in the movement, and also to show that the WMF is itself

capable of following the guidelines that it sets for its affiliates.
(FDC 2015:n.p.)²⁴

The FDC, a committee of community-representatives, felt empowered to discipline the WMF, by demanding it to comply with its own bureaucratic standards as a means to prove itself as a trustworthy body of a democratic, self-organizing community.

After Tretikov left, the interim and the new executive director of the Wikimedia Foundation, Katherine Maher, endeavored to be as open as possible about the organization's budget and financial planning. On WMCON 2016 she presented the 2016-2017 Annual Plan, according to the APG format. In the weeks prior, the community had been consulted for input, which was used to compose this document. During this session, Maher encouraged the audience to come up with ideas and suggestions and to state priorities (2016). Herewith she framed the WMF's financial plan as a collective effort in which the community was consulted, rather than that it was composed behind closed doors and that it was imposed upon the community from the top-down. The audience was not very responsive. When I asked the moderator after the session if he could provide an explanation for that, he underscored the power of the Foundation with regard to affiliates which are financially dependent on it. He emphasized that I joined a physical meeting of representatives of affiliate organizations with the most professional capacity to understand the WMF budgeting, and that they were the ones to also have the largest grant requests from it. He thought that these Wikimedians might fear that being open and transparent and critical in person and in public might influence their chances of being funded in a following round (other than Wikimedians in general and especially online, who generally do have no problem with criticizing the WMF) (Wyatt 2016:; 2018). In this case, openness is experienced as a means of central control.

²⁴ The Funds Dissemination Committee is not tasked with recommending funding for the Wikimedia Foundation. The committee only reviews and provides feedback on draft annual plans (Risker 2017).

By the end of the WMCON-session Maher stressed that she could not commit upfront to the suggestions of the audience since she and her staff might lack time and resources to address all of these. She actually emphasized the inherent aspect of strategic power in Wikimedia's planning and financial budgeting processes by claiming the authority and the discretion to act according to her and her staff's whims in order to direct and to govern the organization in ways they deem appropriate. Whereas the WMF explicitly asked the community for input, Maher argued that, the Foundation needed to be granted the mandate to operate as the organization's financial authority, because of its alleged responsibilities towards donors, and regarding the quality and the continuity of Wikipedia.

Public comments on the Wikimedia Foundation's most recent Annual Plan show that community and FDC members submit the Foundation to the same "value-for-money" rhetoric it demands from its constituents (cf. Peel 2017; FDC 2017b, c). However, although the WMF expresses its willingness to be transparent about its financial organization, it raises certain practical concerns. An FDC member who remarked that Wikimedia's SMART goals are not "measurable" was answered by Foundation's staff that, given the scope of the WMF's work, it would be "difficult to consolidate results across the whole movement into...metrics" (Villagomez 2017:n.p.). Staff of the Foundation, who consider a substantial part of their work as strategic and speculative, argue that, as a consequence, it would be complex and a burden to subject itself too strictly to formal procedures, metrics and measurements. In response to Anne Clin (User:Risker, FDC) (2017:n.p.), who accused the WMF of a serious lack of information in its Annual Plan (from which she concludes that "it would be difficult to justify even half the proposed budget" and the number of staff it employs), Maher claimed the discretion not to comply with bureaucratic measurements and not to spend valuable resources and time of her staff on providing overtly detailed reports: "We generally believe that the most significant, strategic, high-impact, or new activities are those that should receive the greatest attention in annual plan reporting, rather than detailed explanations

of day-to-day work that is already largely familiar to the community and Board” (*Ibid.*). The WMF’s arguments of unworkable and time and resource consuming bureaucratic constraints show similarities with the concerns that affiliates initially raised when fundraising was centralized and formalized: accounting for activities and expenditures and their impact is experienced as time-consuming and as a violation of their autonomy.

In the above sections I demonstrated a proliferation of bureaucratization that is meant to allow the Wikimedia Foundation to align projects with the movement’s mission and to allow the community to forestall power concentration. As such, Wikipedia’s increasing mutual confinement regarding its financial practice indicates how bureaucracy serves as a means to comfort both parties’ mutual distrust. Wikimedia’s recent global movement strategy project serves this same purpose. In 2017 the Wikimedia Foundation invested a substantial amount of financial and human resources in a yearlong process, by which as many affiliates and community members as possible were consulted in order to collaboratively craft the movement’s strategy for the next fifteen years. It is explicitly stated that the Wikimedia Foundation’s strategy is a result of a collaborative effort rather than a top-down measure. As such this co-created strategy is meant to serve as a means of the WMF to legitimize its budgets and its authority for the years to come.

Conclusion

The one aspect that advocates of open and self-organizing communities specifically praise is its democratizing potential based on the assumption that the proliferation of information and communication technologies would cause the radical distribution of the ownership of resources and means of production. However, based on Michels’s and Weber’s theories on oligarchization and bureaucratization it is plausible that the bottom-up democratization that is ascribed to online organizations is a transient phenomenon. Both Michels and Weber conclude that the ideal of direct democracy is

impossible to obtain in groups beyond a certain size, since in practice certain measures of authority or domination seem to be needed to safeguard democratic principles of “minimization of domination” and “equality before the law.” Both scholars argue that once money is involved in intentionally self-organizing and democratic movements, formal-rational organization, conservativeness, and dependencies, and hence imbalanced power relations will inevitably emerge. Weber concludes that attempts to minimize such powers by trying to eliminate the arbitrary disposition of superiors over their subordinates unavoidably introduce new forms of status, power and arbitrariness (2013:1000). In this chapter it is described how, in the evolution of Wikipedia's inherently political practice of financial governance, forms of power concentration and bureaucratization have developed, under which circumstances and for what reasons, and with what consequences for the autonomy of the constituents.

One predominant tension that appears from this empirical study is that all formal and informal representatives engaged in Wikipedia's financial organization feel that they need to balance between acting as a leader and being the community's servant: on the one hand they deem it necessary to operate professionally and effectively and with a certain amount of discretion regarding the ambitions and the challenges of financially supporting and sustaining the project and the organization, while at the same time they feel principally responsible for being supportive to and respectful of the community's autonomy and its self-organizing character.

From this social and political analysis, it appears that the phenomena of power concentration and of bureaucratization that Michels and Weber describe manifested themselves in the management of Wikipedia's financial resources. Power concentration and bureaucratization appear to be the consequences of Wikipedia's stakeholders' strategies to respond to a wide variety of internal and external challenges. Through understating their powers and by referring to democratic principles, officials and representatives regularly demand discretion to operate more autonomously. They often argue that various internal and external challenges and

responsibilities could and should not be left to the community's self-organization. In several cases, in which representatives tended to allow themselves the discretion to operate beyond the control of the community, constituents appear to effectively counteract such tendencies of oligarchization. Both Wikipedia's officials and representatives and their constituents appear to 'meet' each other in their belief in and compliance to bureaucratic principles: all engaged in discussions and decisions concerning the allocation of budget go to great lengths to formally account for their plans and their conduct and to legitimize their authority and discretion by means of rationally, transparently and impersonally disclosing their acts and arguments. Bureaucratization appears to function as a means to devise an as objective and impersonal system as possible for stakeholders to legitimize their practices and their authority; to develop and to align financial practices with the central organization's mission; and to legitimize and to counter tendencies of oligarchization.

Whereas the utopian orthodoxy holds that traditional organizations, characterized as hierarchical and rigid bureaucracies, are fundamentally different from open and self-organizing communities, which emerge from the bottom-up and which are characterized by spontaneity, voluntariness, equality and democratic self-governance, I conclude that bureaucracy and self-organization are closely related. Weber demonstrates that processes intended to sustain democratic (self-)governance unavoidably develop structures of dominance and that every form of domination requires a minimum level of voluntary compliance, that is a belief in its legitimacy (2013:213). In the inherently democratic and anti-hierarchic context of Wikipedia and the Wikimedia Foundation, formal-rational, objective, transparent and impersonal principles serve as means to support the legitimization of representation, discretion and authority. The ultimate form of rational organization, according to Weber, would be the bureaucracy; an administration based on well-established rational rules and procedures and with a staff of trained experts that would supposedly rule out traditional, irrational forms of organization. Bureaucracies thrive on technology and knowledge

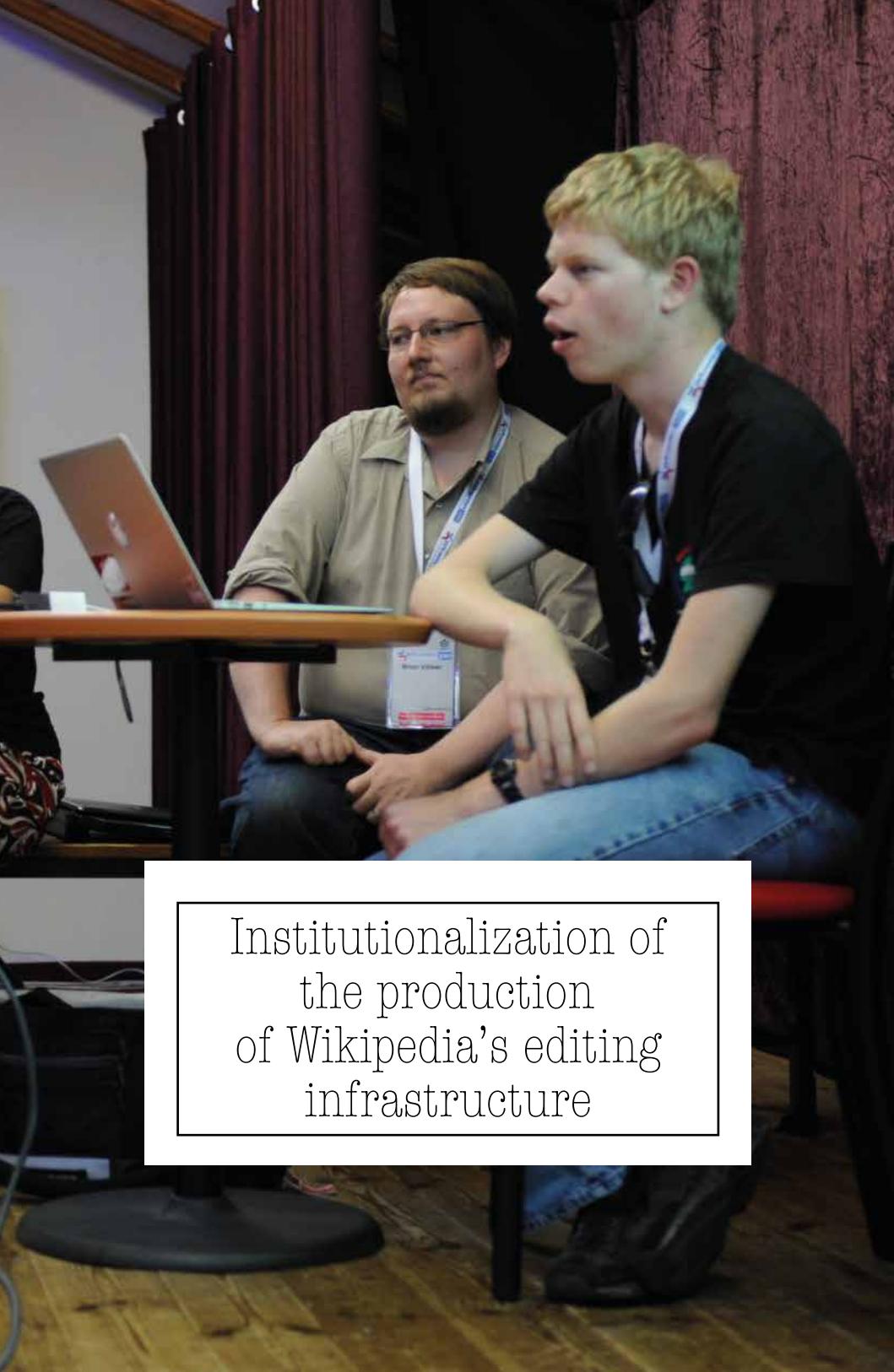
and are understood to be discrete, continuous, efficient, predictable, reliable and fast and to be technically superior to any other form of organization. Hence that Wikipedians' attempts to organize self-organization by bureaucratic means perfectly make sense. In Weberian terms, Wikipedians and Wikimedians endeavor, with regard to the movement's financial organization, to derive authority from abstract, well-established, well-defined and well-documented principles and practices, rather than from subjective individual authority. As this bureaucratization is not imposed from the top-down, but rather is a product from both constituents' and their representatives' endeavors, I have described here as "self-organizing bureaucratization."

I would argue that the tendencies towards power concentration and bureaucratization that Michels and Weber describe should not be considered as unilateral and deterministic phenomena. This empirical research demonstrates that Wikipedia's constituents prove to be an effective countervailing power to tendencies of oligarchization. Further, it demonstrates that bureaucratization is not the product of conservative elites' tendencies alone, but rather it appears that Wikipedia's constituents voluntarily contribute to the organization's bureaucratization. Not only do official functionaries gradually but increasingly tend to use bureaucratic measures to manage outcomes of Wikipedia's financial organization, but, based on anti-elitist sentiments, community members increasingly subject themselves to bureaucratic principles in order to legitimize what they do, and they demand their peers and the board and staff of the WMF to conform to standards of transparency and bureaucracy as well in order to countervail tendencies and allegations of oligarchization. Rather than a deterministic aspect of "organization" being imposed from the top-down, bureaucratization appears to be an evolutionary and contingent product of legitimization and mutual disciplining. Both act without any power to actually demand full compliance.

From Wikipedians' and Wikimedians' reciprocal strategies of democratic disciplining it becomes apparent that those engaged in financially sustaining the Wikimedia movement tend to basically distrust the fundamental aspect of self-organization defined as

spontaneous, self-selective and autonomous engagement with indeterminate outcomes. As one of the consequences of Wikipedians' and Wikimedians' (self-)submission to formal-rational means of accounting and democratic disciplining, projects funded by the Wikimedia Foundation have, over time, become increasingly aligned with the WMF's mission and its objectives.





Institutionalization of
the production
of Wikipedia's editing
infrastructure

This chapter concerns power concentration and bureaucratization in the development of Wikipedia's editing infrastructure, i.e. Wikipedians' and Wikimedians' endeavors to craft the software that allows for the collaborative collection and the global distribution of free knowledge. Just as Wikipedians engage in editing encyclopedic content based on their personal insights and interest, wiki software is principally the product of the autonomous and meritocratic engagement of software developers. Based on Michels's and Weber's theories it is plausible that the community's spontaneous and self-selected commitment to Wikipedia's software development would be a transient phenomenon. Both scholars argue that organizations' growth in size and complexity generally coincides with tendencies of power concentration and bureaucratization, in order to safeguard their continuity. The platform that supports the editing of Wikipedia has, over time, become increasingly complex and critical in nature, as the numbers of editors and visitors has, over time, increased exponentially and as any change or failure on wikipedia.org literally affects thousands of users. I consider Wikipedia's infrastructural production process a political struggle, characterized by an omnipresent tension between the open and self-organizing community members' moral opposition to power concentration and bureaucratization on the one hand, and the those who feel or who are responsible to centrally and bureaucratically secure the platform's sustainability on the other. This chapter provides a sociopolitical analysis of how power concentration and bureaucratization play a role in this political process. It appears that the development of Wikipedia's editing infrastructure was initially a collaborative effort of autonomous and self-selected Wikipedians who were attracted to the project for its adherence to open source software ideals, and that, gradually, Wikipedia's software development became one of the essential occupations of the central Wikimedia Foundation and that Wikipedians' potential to engage in the production of their editing infrastructure declined significantly over time.

In the following section I describe the theoretical background of the tension between the "hacker ethic" in software development,

and classic conceptions of organizational development. I argue that the hacker ethic is central to the democratic and non-hierarchical structure that defined Wikipedia in the beginning, and that the organizational development that took hold remains intrinsically at odds with this ethic. In the empirical sections that follow, I elaborate stages in the evolution of Wikipedia's software development process, analyzing first the initial phase (1999-2003) during which self-selected volunteers adjusted existing wiki software to suit Nupedia's and Wikipedia's needs. Modifications and complete rewritings of this software resulted in "MediaWiki," open source software that has been used since in order to run Wikipedia and countless other wikis. I then analyze the subsequent period (2003-2007) which was characterized by the formalization of positions and protocols, which both volunteers and board members deemed necessary to deal with the project's growth. I then consider a middle phase (2007-2014) of the WMF's professionalization and centralization characterized by the Wikimedia Foundation hiring an extensive team of software developers. This phase includes Wikimedia's top-down efforts to develop a more intuitive ("WYSIWYG") editing environment ("VisualEditor"), and to improve the user experience regarding how images and videos are presented in Wikipedia ("Media Viewer") in order to increase editor engagement. Finally, I analyze the most recent phase (2014-2017), which I consider to be a response to the community's unwelcoming attitude regarding the WMF's alleged unilateral software implementations. During this final period, the Wikimedia Foundation actively endeavored to develop and to partake in formal-rational structures to organize constituents' participation in the development of new software features. Following these empirical sections I focus on how one specific software platform called ToolServer, which is used to host algorithms that optimize the work of Wikipedia editors, became centralized (2005-2017). Throughout, my focus is on the rationale for software development, i.e. how adjustments have been presented, conceived, debated and adapted, how and why power concentration

and bureaucratization played a role in these processes, and how this influenced the autonomy of Wikipedia's constituents.

I conclude that the mission-critical aspects of the evolution of Wikipedia's software development process have developed from open and self-organized endeavors into centrally coordinated professional and strategic operations. The original openness and distributed nature of Wikipedia's software development has, over time, been sacrificed to the desire of representatives and officials to be in control of realizing the movement's stated mission to reach and engage as large and diverse a crowd of readers and editors as possible. Attempts by the Wikimedia Foundation to use its discretion to implement centrally devised software were met with the community's countervailing powers. As a consequence, the WMF engages in the development of formal-rational structures in order to actively organize community support for and acceptance of adjustments to its core infrastructure.

In an interview on the occasion of Wikipedia's tenth anniversary, Ward Cunningham, the developer of the first wiki, argued that wikis fundamentally differ from hierarchical and centrally devised software development trajectories, in which goals and tasks are preconceived from the start:

[C]omputer programs and encyclopaedias are of a scale that you have to make it a collaborative effort. ...There is this style of working together where we'll agree ahead a time that you'll do this part and I'll do this part and if you don't hold up your end to the deal, then I am going to take you to court, or something like that. ...But this only works for things where you know where you're going in the end. ...The computer is much better if you let it become what it wants to be, or the best that you can make it. And that has a sort of sense of faith, you know. You have to believe that it's going to come out, even though you can't say what it is. ([2011] 2014:10:49)

The point here is that the wiki-way of developing software implies a different method of collaborative development, in part because it

has no preconceived outcomes, and it is not based on the model of an employer and an employee. Since wikis and wiki software are stigmergically developed and improved by self-selected volunteers, based on their own concerns, motivation and expertise, wikis are expected to have a much broader scope of outcomes, and to cover the user's needs much more adequately. Cunningham argues that it takes a sense of trust and faith in the process, rather than control over the eventual outcomes, in order to achieve and maintain those benefits.

Wikipedia runs on MediaWiki software, which was specifically developed for Wikipedia by self-selected volunteer developers. MediaWiki is a Free and Open Source Software (FOSS) product, licensed under GNU General Public License (GPL). This means that anyone is allowed to use, copy, modify and distribute this software, as long as he or she provides others with these privileges and conditions as well. This essentially makes it a democratic tool. Many of the first Wikipedians were FOSS-enthusiasts and hackers that were drawn to the project by posts to mailing lists and online forums and articles in magazines concerned with FOSS development. In his preface to *The Hacker Ethic*, philosopher Pekka Himanen recalls being fascinated by the observation that the fundamental ICT-related technological innovations such as the Internet, the personal computer and operating software "were actually developed not by enterprises or governments but were created primarily by some enthusiastic individuals who just started to realize their ideas with other like-minded individuals working in a free rhythm" (2001:viii). As the advocates of the utopian orthodoxy Himanen contrasts this presumably new way of working – typified as being democratic, open, egalitarian, self-governing, innovative, and driven by passion and creativity – with classic, hierarchical, rigid, and bureaucratic models of organization. In the alleged post-bureaucratic world of collaborative software development, self-selected experts work based on their personal motivation, rather than being assigned tasks by a superior and in order to earn money, and with the essential desire to create something useful and valuable for their own community based

on the ethical conviction that the fruits of their work be publicly shared.

Ideally, and ideologically, wiki-software would stem from the stigmergy and apolitical engagement of self-selected volunteers, engaged in supporting and empowering their peers. However, following Michels's and Weber's theories, endeavors to facilitate democratic, spontaneous and self-selected participation of constituents might paradoxically involve the development of an authority or authorities with discretionary powers, potentially leading to bureaucratization and the formation of conservative elites. Michels and Weber argue that it is common in developing organizations for volunteers to lack the time, money, motivation and expertise to perform or to supervise the management of technical resources, which makes it so that such tasks are increasingly entrusted to self-selected and appointed experts. As a consequence, constituents and their formal representatives have difficulty supervising these experts. The experts gain an increasing amount of discretion and hold powerful positions opposed to their "masters," i.e., the rank and file or an organization's governing institution. According to Weber, these non-expert members of the organization will always be "in the position of a dilettante facing the expert" (2013:991).

As far as Weber is concerned, the development of bureaucratic authority is not necessarily detrimental to "meaningful political democratization" (2013:cii), whereas Michels considers every form of organization as essentially harmful to constituents' opportunity to organize and to govern themselves. Michels indicates the appointment of officials as the "artificial creation of an *elite*," that emancipates itself from the control of the rank and file "and become[s] independent of its control" (Michels 2001:25). According to Michels, the practices of these elites do not necessarily coincide with the democratic movement's original purpose, since, as he argues, they appear to be inclined to sustain the organization and their own positions as such. Michels concludes that every form of organization eventually breeds an oligarchy. Weber warns that bureaucracies can evolve into machine-like systems based on rational calculation and control, and

on teleological efficiency, limiting rather than enhancing individual freedom and human potential.

The central question of this chapter is how and why processes of organization, i.e. of oligarchization and bureaucratization, manifested themselves in the historical development of Wikipedia's editing infrastructure, and how these affected the autonomy of the constituents of the open and self-organizing community.

Hacking wiki-software (1999-2003)

Nupedia's articles were discussed and edited via e-mail until Bomis launched Nupedia's first content management system, for which Sanger coded some of the HTML himself. During Wikipedia's early years, a limited number of pioneering volunteers were engaged in continuous efforts to tailor existing wiki software to the needs of the website, which faced the challenge of accommodating an exponentially growing number of visitors and editors. There were no formal structures in place, and by abiding to the hacker-principle of stigmergic contribution and participation, self-selected developers created what was later named MediaWiki, a Free and Open Source wiki engine. This phase in Wikipedia's infrastructural development is characterized by a high degree of mutual trust. Contributors were, for example, easily provided with root access to Wikipedia's systems. The most actively engaged developers, who were blamed for undemocratically dominating Wikipedia's software development process, dismiss critique by pointing to the open and self-organizing character of the platform, which principally allowed anyone to participate.

Magnus Manske, a biochemist who regularly volunteered in the development of software and tools for the online encyclopedia since its start, recalls that Nupedia's software was commissioned as a one-off, without any maintenance or support. He regularly made adjustments to Nupedia and Wikipedia at the request of Wales and Sanger, who, "as 'benevolent dictator' and 'editor in chief,' respectively, had a significant voice in these matters" (Manske

2017a:n.p.). However, volunteer-contributions to Wikipedia's predecessor's editing infrastructure happened on an individual and *ad hoc* basis, and without any guiding structures in place.

In 2001, Sanger and Wales decided to install UseModWiki software on Nupedia's website in order to lower the barrier for people to contribute to their ailing free-knowledge project. Since it was Free and Open Source Software, it not only allowed users to edit webpages at their own discretion, but also allowed users to adjust and alter the software itself. Since Wikipedia's founding, a finite number of self-selected volunteers has been engaged in pragmatic acts of adjusting the existing editing software, with the main goal of tailoring it to Wikipedia's needs by helping to fix bugs, by porting it to new languages, by improving its usability, stability and efficiency, and by adding features. After half a year, Manske, a student by that time, endeavored to re-write UseModWiki specifically to enable it to "develop Wikipedia-specific features that couldn't be provided by a generic wiki engine" and to have it adequately handle Wikipedia's continuously growing amount of edits and page views (MediaWiki 2018; cf. Manske 2017b:n.p.; Wikipedia 2017b:n.p.).

The unique aspect of Manske's UseModWiki-adaptation was that it facilitated the transformation from the storage of files to the storage of information in a database, which was essential in order to adequately manage the amount of edits and pageviews of the growing number of Wikipedia articles. In practice, Manske's endeavors appeared to negatively influence the performance of Wikipedia's website. Jan Hidders, a postdoctoral scholar in data sciences, volunteered to re-write the access code to improve the efficiency of storing and retrieving information from the database. Despite improvements, the ceaseless traffic on Wikipedia's website and its limited server capacity continued to cause performance issues. These inspired another actively engaged Wikipedian named Lee Daniel Crocker to set out to recode Wikipedia's software (Wikipedia 2017b). After the establishment of the Wikimedia Foundation, this software was renamed "MediaWiki," which is still in place today and operates Wikipedia and most Wikimedia projects, as well as

many other wikis. With the help from many volunteer developers, including Brion Vibber and Tim Starling (both currently among the longest-serving staff members of the Wikimedia Foundation), MediaWiki evolved into widely used, Free and Open Source, server-based software, specifically developed to serve websites that are visited millions of times per day.

During the early years of MediaWiki, many incremental improvements and additions were made to the software in a wiki-like fashion, especially via discussion boards. In an ongoing online conversation between self-selected and pragmatic enthusiasts, experts and others concerned, issues were raised and debated, solutions were proposed, developed, shared, tested, discussed and implemented, and, if necessary, iteratively improved again. Manske explains that he applied the FOSS-principle of arguing for specific solutions by actually building them. Hidders remembers that Vibber once said to him, “It’s not a democracy, it’s a *do-ocracy*” (2016; emphasis by the author). This notion was meant to explain that the person *doing* things is the informal authority in charge:

If you are the one investing time to improve the code, or to write the code for certain features, others can ask you questions or make suggestions to do things differently, but if you are the one working on that matter at that time, you are the one in charge. It’s as simple as that. Because if you don’t do it, nobody else is going to do it. (*Ibid.*)

Prominent developers recall that they experienced a sense of autonomy, ownership and trust by that time, since they were easily trusted with root access to the server and the software repository, which allowed them to download software and to install new patches, and with the ability to wipe out all the data (Hidders 2016; Möller 2017). However this did not release them from an obligation to get approval from significant team members:

There was always a little bit of nudging involved. You had to know the right persons and you had hang out in the right places. There is the ability to write the code, but also the social component to persuade them, nudge them, sometimes repeatedly. (Möller 2017)

This self-organizing software development process resulted in an informal division of labor with informal authorities.

In 2003, the Wikitech-1 mailing list included a discussion about just how democratic this situation actually was. One participant in particular felt that decisions were made without consulting and engaging the community, and without formal procedures to legitimize decisions regarding software changes (cf. Murata 2003a,b,c). Established participants responded that Wikipedia's software was developed the wiki way, allowing for transparency and openness to self-selected participation (Möller 2003a; Vibber 2003a; Wegrzanowski 2003). They argued that: a) discussions and decisions were made on publicly accessible pages and mailing lists, which were open to anyone and which were stored so that these remained accessible to anyone; b) if anyone had anything to contribute, he or she were free to do so;²⁵ that c) it should not be expected that the majority of the community would be interested, let alone be involved in each of these processes; and that d), according the wiki principle, it was not uncommon to first publish ideas and adjustments and to collect responses and to make improvements afterwards, rather than to consult anyone upfront. Wegrzanowski argued that it would be unnecessary to organize community consultations for uncontroversial decisions, while emphasizing that controversial proposals only got implemented by consensus: "There were some exceptions, ...but usually we try to make everyone either agree or at least not strongly oppose change" (2003). Inherent in this discussion

²⁵ Vibber provides a striking summary of this point: "Democracy is a two-way street, and the way to get involved is, well, to get involved. :) ...Pick a task, find an itch to scratch, and get working on it" (2003a:n.p.).

is a democratically based method of collaborative volunteer software development, which is the foundation of Wikipedia.

Early on, while volunteer developers acted as informal authorities, Wales operated as the final arbiter regarding substantial infrastructural developments and changes (Wales 2003c). Despite the fact that many adjustments were made by volunteer developers, he had the formal authority to make final decisions regarding whom to grant access to the code repository. And although Wikipedia's developers felt they could operate in relative autonomy, they deemed the presence of a central authority an essential condition for the project to be successful, as he was expected to set the goals and to enforce decisions in order to effectively and coherently align all distributed contributions.

In line with Michels's and Weber's arguments that even fundamental egalitarian organizations develop forms of representation and administration and discretion, a small subset of MediaWiki developers self-selectively and meritocratically gained influence and authority. The informal hierarchy and division of labor that emerged from the spontaneous engagement of volunteers in this democracy were, according to Hidders, based on competence and time: "If someone indicated that he or she was willing and able to work on a specific project, and when he or she actually started doing it, then there was no one stopping them, at least when they were not producing rubbish" (2016). Developers who invested more time in the project became more familiar with the code, and with how the code was constructed, which made them gain more influence and authority (*Ibid.*). Other than their critics, these prominent developers, who were advocates for and practitioners of the wiki ideal, seemed comfortable with the fact that self-organization did not necessarily lead to the equal involvement of all constituents. In the following section I will analyze how those who were actively engaged in the development of MediaWiki tended to develop formal positions and protocols in order to sustain the most important aspects of Wikipedia's infrastructure.

Formalization of developer-practices and -positions to meet the challenges of Wikipedia's growth (2003-2007)

Over time, a core group of actively involved developers that dominated the stigmergic software development process started implementing formal-rational structures to manage their expanding and increasingly complex workload and responsibilities, and to legitimize their choices and practices. At the same time, and for the same reasons, the newly established board of trustees of the Wikimedia Foundation proceeded to formalize the informal division of labor that emerged from volunteer-developers' self-organizing practice by granting prominent participants with formal, but initially unpaid positions.

Bottom-up bureaucratization to meet workload and performance challenges

At the time of the establishment of the Wikimedia Foundation in 2003, MediaWiki was by no means a mature product. A few dozen distributed volunteers were attending to all aspects of software development including coding, tracking and fixing bugs, reviewing and installing patches, developing features, establishing new language versions, and fortifying security. This all seemed to happen pragmatically and in a wiki-like way. Without central oversight and coordination developers self-selectively took on tasks that they identified themselves or which they found and discussed on Wikipedia's and Wikimedia's webpages, mailing lists and IRC-channels.

Michels argues that it is common for movements and organizations that grow in size and complexity to hand over increasing amounts of complex tasks to experts, who, eventually, he warns, tend to emancipate themselves from the control of their constituents. They do so, according to Michels, by selectively informing their constituents about their activities, mostly at times when decisions cannot be easily reversed. As a result, the rank and file are denied the opportunity to participate in their own governance and to exercise

control over their expert-representatives. Yet at the beginning one of Wikipedia's and Wikimedia's key characteristics were its openness and transparency. As in a Weberian bureaucratic file system, copies of almost every instance of every discussion, every edit and every software adjustment were published and stored in publicly accessible archives. The leading actors in Wikipedia's infrastructural development used this public space to explicitly present, share, discuss and comment on ideas, proposals, statements and arguments, and they used these venues as a means to legitimize and publicly account for their actions regarding the course of Wikipedia's software development. In this context Wikipedians thought it impossible that its software developers would develop to be elite experts who subverted the democratic process.

When the Wikimedia Foundation was established, there was no formal hierarchical structure, and there were no formal roles and procedures for the organization's software development. This changed due to the pressure of the huge workload and the many challenges that the volunteer developers experienced. During this period, around 2003-2005, MediaWiki was constantly being adjusted and expanded, especially to serve the various language editions in which new Wikipedia's were established quickly. Extensions and modifications were also needed to serve the increasing number of Wikimedia-projects that ran on MediaWiki, such as WikiCommons, WikiSource, WikiBooks and Wikiversity. And then there was the exponentially increasing amount of traffic to Wikipedia, of both readers and editors, which caused issues regarding performance and usability. One early participant that I interviewed, Manske, noticed that he experienced a shift from being a volunteer engaged in MediaWiki in order to help improve the software, to being responsible for the critical task of keeping a complex website up and running. He recalled that prominent developers started receiving bug reports and requests for features and tools from peers, that some of the functions they developed out of their personal interests and concerns had to be switched off in order not to slow down the site, and that they engaged in the development of functionalities to

expand and to maintain the site and to keep it from failing. They felt pressured to make decisions based on what to do first, or at all, since the amount of work was overwhelming. Additionally, in order to effectively educate, align and socialize the growing pool of developers flocking MediaWiki development projects, MediaWiki's established developers tended to devise bureaucratic structures to systemize their work. They started keeping structured lists of "development tasks" on Meta-wiki, and in July 2003 Möller presented what he called the "new development policy." In a post on Wikitech-l, he defined the reference for MediaWiki's stable branch, set rules and conditions for adjustments of this version, and suggested protocols for testing before implementation (Möller 2003b).

Such early instances of formalization of Wikipedia's software development indicate how informal authorities took the lead to provide order, oversight, structure and standardization in an increasingly complex, self-organizing process without central coordination. The initiators appealed to an impersonal bureaucratic order, rather than exhibiting personal authority. Thomas Corell (User:Smurf) questioned why there had not been any discussion on the new development policy, and he wondered who were involved and who decided upon the final policy, suggesting that wiki-principles were only selectively adhered to (2003). Vibber responded dismissively and nearly with contempt to these concerns:

Thomas Corell wrote:

- > Sorry to ask, but where is the discussion about that policy?
Right here! :)
 - > Have all delevelopers agreed to this policy?
Me!
 - > Who count's as developer and had to agree to that policy?
Well, if you don't, speak up.
 - > Where discussions aout new features take place and where
there have to
 - > be an archive about all this discussions?
- This mailing list is archived.

- > And I'm sure there are other things missing.
- >
- > Sometimes you get the feeling that all the beautiful rules in
> wikipedia don't count a cent if they hit reality.
Bah! (Vibber 2003b:n.p.)

Such an argument unfolds in a way that is comparable to the protocol I presented in the previous section and, I would argue, in a way that is characteristic for all debates on the democratic content of Wikipedia's governance. Assuming the representativeness of the case above, those complaining about the establishment of a closed caste that secretly decides on the course of the organization are kindly but urgently advised to swallow their complaints by the defenders of the wiki-ness of the process. The defenders argue that each discussion and every document is publicly available (transparency); that anyone is invited and should feel free to participate (openness); that it is common that only a small subset of the community be involved in participatory processes (self-selection); that a common way of realizing something is that somebody self-selectively starts to work on it, after which community members are free to improve and adjust or to reject his or her proposals, rather than by having reached consensus first (do-ocracy; stigmergy).²⁶ Established participants appeared to have little patience with people who critiqued them by requesting them to actively endeavor to consult as many community members as possible in order to be considered accountable. With a relatively cynical statement, highlighting the innocence of their seemingly oligarchic endeavors, Vibber dismissed allegations of the arbitrariness of Wikimedia's decision-making processes:

²⁶ Möller adds, concerning his initiative to draft and introduce the "new development policy": "Apologies for the surprise mail. Brion and I discussed this before and it was time to simply implement this in order to move forward. I used the wiki to formulate the policy so that other aspects could be easily added and agreed upon. If you object to a specific part, just mention or change it in the wiki ...All our existing wiki policies were initially started like this one. ...It's an open process" (2003c:n.p.).

To keep the cabal-watchers from worrying, this prior discussion consisted of Erik mentioning to me in IM that he thought we should have stable & unstable branches in CVS and me agreeing. We did _not_, I repeat, _not_ secretly plan to round up the other developers in a fake truce meeting where we would use poison gas released from the scale model of the development tree to kill off our competition. Nothing like that even came up. No sir, on my honor. (2003c:n.p.)

During the early days of the Wikimedia Foundation, volunteer developers continued to engage in the division of policies and procedures in order to structure and formalize the initially spontaneous method of software development. I call this process “bottom-up bureaucratization.”

Top-down institutionalization to ensure stability and continuity
The board of trustees realized that it was essential to keep the back-end software up-to-date in order to keep the site up and running, and it recognized the pressure that this mandate put on the volunteer developers. Consequently, the board was not comfortable with leaving this critical task to the spontaneous and self-selected engagement of volunteers whilst the project kept growing. In order to organize a certain amount of continuity and direction regarding infrastructural aspects it considered to be essential, Wikimedia’s board of trustees delegated tasks and responsibilities to specific volunteer developers by granting them formal roles and positions. In July 2004 Tim Starling was appointed the official position of “developer liaison,” whose tasks were to optimize and aligning developers’ work and the board’s concerns:

The Board would like to encourage the creation of a developer committee whereby certain developers are assigned responsibility for ensuring that tasks, such as buying servers, are carried out in an efficient and timely way. It is expected that a number of non-official positions will be created by this

committee, and that particular developers can be named in certain roles if the committee feel that would be beneficial. Tim Starling's role would include documenting the activities of this committee so the community are aware of who to contact about different issues, and...to improve communication, both within the development team, and between them, the Board and the community. (Beesley 2004:n.p.)

In May 2005, four others were granted formal positions by the board in order to provide for a formal structure to manage and control the affairs of the growing organization. Vibber was appointed Chief Technical Officer, Domas Mituzas was appointed Hardware Officer, Möller was appointed as Chief Research Officer, and, as Starling stepped back to pursue his PhD, Jens Frank was appointed Developer Liaison. Except for Vibber, all were volunteer positions (Wikipedia 2006a). According to board member Devouard, the board pursued paying staff since it was desperately seeking people to whom it could sustainably offload some of its responsibilities to make sure that tasks they deemed critical for the stability and the continuity of the website and the organization would be properly executed (2017b).

Wikimedia's Board of trustees entrusted the stability and continuity of Wikipedia to bureaucratization and institutionalization, rather than the wiki principle of leaving Wikipedia's infrastructural maintenance and development to the spontaneous engagement of the leaderless developer community. According to Hidders, such a move was unavoidable:

In the long-run it is impossible to maintain this [complex task of infrastructural maintenance and development] with volunteers. In case of any problems, they need to be fixed immediately, because it literally affects thousands of people at that time. In that sense software is something really critical and vulnerable. (2016)

The appointment of officials fits Michels's idea of the necessity of leaving responsibility for increasingly complex issues to experts. Michels and Weber indicate that paying employees is a means of ensuring that tasks are being executed according to plan, rather than being dependent on the whims of self-selected volunteers. As if arguing defensively against Michels theory that appointing representatives inevitably leads to oligarchization, Wales emphasized that these appointments were nothing but a formal confirmation of a division of labor that spontaneously occurred, and that no hierarchy or power was involved in these positions:

The official positions should be thought of as people who are co-ordinating and advising and communicating, not people who are solely responsible for doing things, or who are the boss of other people. ...What this should be thought of is as a formalization only of something that has gone on for a long time anyway. People take responsibility for something, they co-ordinate it, they advise, they communicate. And especially when it comes to interfacing with the outside world, or interfacing with the board, it is better if we have some clarity – this is the primary purpose of identifying people with particular positions. (2005b:n.p.)

The message he tried to convey was that these representatives, as in an ideal-typical direct democracy, are not the community's leaders; they are nothing but its servants. The formal institutionalization of the division of labor that emerged spontaneously was considered by Wales to be necessary to interface with stakeholders and institutions like funders and knowledge-partners that were not organized in a wiki way.

Möller, who seconded Wales by emphasizing that formal roles are nothing but positions to serve the organization, spontaneously committed himself to reporting on and legitimizing his actions with regard to the board and the community:

[W]e're not introducing a new element of authority here, but primarily first points of contact for certain issues. Beyond that, I think the holders of these official positions should take a basic *organizational* role in the fields they are working in, e.g., propose meetings and agendas, though that is certainly also an open process. I also see it as my role to write regular reports, and to build bridges between the Board, other researchers, and the community. (2005:n.p.)

Whereas Michels argues that the increasing complexity and lack of transparency of developing organizations makes it inevitable that representatives eventually escape the supervision of the rank and file and of their executive committees, Wales and his companions legitimized the fact that specific community members were granted with a certain amount of discretion by pointing at the bureaucratic safeguards as reporting, filing, and transparency that were present in Wikipedia's governance processes in order to forestall potential cases of misuse of power (Michels 2001:87). Bureaucratization was thus applied as a means to legitimize the project's representatives' authority, which they deemed necessary to safeguard the project's efficiency and continuity beyond spontaneous self-organization.

By December 2006 the WMF hired three more employees in order to develop and maintain its infrastructure. Despite the formalization of roles and positions, the procedures and the funds for Wikimedia's infrastructural development were not keeping up with the challenges that came with increasing traffic to Wikipedia. Starling remembers how Wikipedians with a formal position, with the help of volunteers, "kept the site running on a shoestring budget until increasing donation revenue allowed more engineers to be hired" (Starling 2017). In a 2012 interview Vibber recalls how pragmatically he used to operate during the early days of his appointment compared to the "fast-paced release schedules" he was following in 2012, since there were only a few servers and a few server administrators to support the increasingly growing project. He describes how "[t]hings were a lot more rough-and-tumble, but [how] they were also sometimes quicker.

We could bang out a cool feature and deploy it immediately..." (Vibber 2012:n.p.). As did several other MediaWiki developers of this early stage he acknowledged that the growth, professionalization and bureaucratization that they strived for negatively affected the speed and the spontaneity of innovation.

Around 2005, despite the fact that Wales was actively engaged in discussing infrastructural issues on Wikimedia's tech mailing lists, the developers continued to operate rather autonomously. When Vibber once sought approval of the board of trustees for applying a new-language addition, Angela Beesley emphasized that the board left the responsibility of technical issues to the experts, who needed to seek approval of the community (2005). In a later post, in a response to someone holding the board responsible for specific technical fixes, Vibber confirmed that staff did not necessarily operate according to the board's commands. However, he indicated that the organization was becoming more structured and rationalized, and that the influence of the board on his work had increased, all in order to make the organization "more manageable:"

What you need to understand is that the Board of Directors doesn't run a website. The Board of Directors oversees a *company*, whose assets are a bunch of web servers, the name and logo, and a traditional connection to the community.

The technical operations of the site are managed by several paid (me, Tim) and volunteer (Jens, Mark, Domas, various others) programmers and system administrators. But of course, who sets our priorities?

As the company gets more organized, we've got from a very amorphous situation to a slightly more manageable one where there's actually an executive (currently that's Brad [Patrick]). Brad's job is to be the boss and run the operations of the company, within the parameters set by the board of directors.

Sometimes this involves setting priorities for me. (Vibber 2006:n.p.)

Whereas the WMF first set out to formalize the division of labor that emerged from the work of volunteers in order to delegate some tasks it deems essential, it appears that over time developers with a formal position became increasingly aligned with the priorities set by their supervisors and superiors.

In this section I demonstrated that the wiki way of working of the early MediaWiki days, which was dominated by a few prominent Wikimedians who meritocratically established their positions, was continued. However, the growth of Wikipedia and its sister projects, and simultaneously of the number of volunteers engaged in Wikimedia's infrastructural matters, were catalysts of the first steps towards bureaucratization. Developers endeavored to formalize and rationalize software development and maintenance procedures from the bottom-up, to be able to structure and legitimize their activities in the increasingly complex and demanding environment. To make sure that essential aspects of Wikipedia's editing infrastructure were taken care of, the Wikimedia Foundation institutionalized informal positions of developers from the top-down. And although bureaucratic procedures were put in place to emphasize that these acts of institutionalization would not affect the autonomy of the developer community, it caused prominent MediaWiki developers to be tied down more closely to the Wikimedia Foundation's strategies. As a consequence, the autonomy of the community and its opportunities for coordinated opposition were reduced, since the informal leadership of this self-organizing bureaucracy became part of the formal organization. In the following section I describe the process of MediaWiki development as one that led to a more professionalized, centralized, and more bureaucratic strategy to meet persistent performance requirements and to realize strategic objectives.

Centrally coordinated innovation to attract a larger and a more diverse crowd of editors (2007-2014)

By the time Sue Gardner was officially appointed as the Wikimedia Foundation's executive director, the organization had five employees who were responsible for the development and maintenance of infrastructural matters. Seven years later, Wikimedia's Engineering and Product Development department, led by Erik Möller, consisted of 122 employees. The team deliberately positioned itself as subservient to the community. It defined – and it still defines – its mission as: “[T]o build, improve and maintain the technical infrastructure of Wikimedia projects (software and hardware), by *supporting and complementing volunteer efforts*” (Wikimedia Foundation 2014; emphasis added).

Over the years, the Wikimedia Foundation has consistently spent more or less forty percent of its continuously increasing budget on the development and maintenance of its technical infrastructure, from USD 1.4 million in 2008 to USD 20 million in 2014. This budget was spent on the workforce and on resources to contribute to what the WMF's board and staff identified as the core priorities of this period, which were to keep the infrastructure stable and running under increasing demands and to “strengthen, grow and increase diversity of the editing community,” by improving the editing experience in such a way that readers would be persuaded to start contributing to Wikipedia (Wikimedia Foundation 2012b:7). In order to cater for the second of these challenges, the organization committed itself to the realization of the VisualEditor, the largest and most complex software development project in its history.

In the following section I described how the Wikimedia Foundation came to conclude that such a project was essential and how it approached its realization. I conclude that this project exemplifies an increasing professionalization and centralization of Wikimedia's infrastructural development, although it differs fundamentally from Michel's theory of oligarchization in the sense that it does not seem to emerge from an elite's conservative self-interest. The software that

was being implemented at that time was meant to strategically serve a potential community rather than the core of long-standing and highly productive Wikipedians. When the established Wikipedians exhibited their countervailing power as a response to what they felt was counterproductive software that was deployed upon them, they were portrayed as change-averse, while in Michels's theory the established elites are the ones to operate conservatively. In an additional section I will exhibit that the development of the Media Viewer shows striking similarities.

One of the fundamental responsibilities of the Wikimedia Foundation is to provide and to maintain the technical infrastructure of its projects, which keep on growing in size and which face increasing amounts of traffic. Additionally, the WMF identified as one of its priorities the need to attract a larger and more diverse group of volunteers to participate and to stay engaged in its projects (Wikimedia Foundation 2011b:9). Over time, various surveys and reports indicated a decrease in the size, activity and retention of the active editor-base (cf. Wikimedia 2009; Suh et al. 2009; Wikimedia 2010a;b; MediaWiki 2013a). The latter especially is a concern of Wikimedia's functionaries, who indicate the decreasing retention-rate of active editors as detrimental to its ability to execute its mission (Figure 5.1).

Besides the supposedly protectionist and in some cases hostile attitude of established editors and bots towards newcomers – which I will elaborate upon in more detail in the following chapter – Wikimedia's board and staff identified the usability and user-friendliness of Wikipedia's relatively archaic user-interface as one of the causes of the alleged unattractiveness of Wikipedia for new editors. Over the years, awkward features and complicated templates had been added to Wikipedia's editing infrastructure without any central oversight, by which it had grown increasingly complex. Technological innovation was considered as one of the key ways to achieve “the goal of removing unnecessary technical obstacles to editing, and making Wikipedia's interface more responsive and intuitive for editors” (Gardner in Wikimedia Foundation 2009:3).

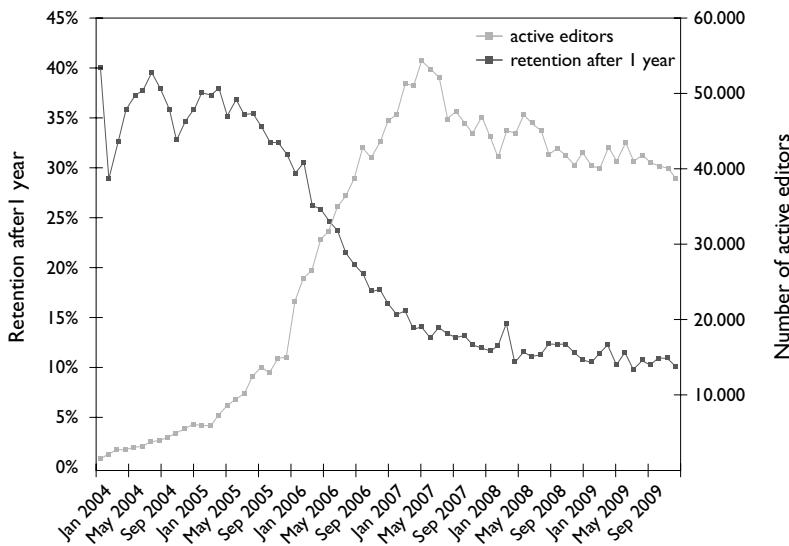


Figure 5.1. Retention versus active Wikipedians in the English Wikipedia (2004-2009), known colloquially as the “Holy Shit graph.”²⁷ German, French, Spanish, Russian and Japanese Wikipedia’s show comparable developments (Van Liere and Fung 2011).

In 2011, staff members of the WMF formally announced the development of a VisualEditor as means to meet the identified challenges (Gardner 2011; Wikimedia Foundation 2011c). This software product was meant to make editing pages much easier “without having to learn any special wiki syntax,” which supposedly would “nurture a more open and diverse community” (Gardner 2011:n.p.).²⁸ While the objective of the Engineering and Product Development department was to support and to complement volunteer efforts in its software development projects, Wikimedia’s

²⁷ Available under the Creative Commons CC0 1.0 Universal Public Domain Dedication license (Wikimedia Commons 2011).

²⁸ Another challenge, which I will not consider in this dissertation, is to “serve audiences on all devices,” amongst which tablets and mobiles, in order to reach “billions of new readers,” and to enable people who do not use a PC to edit (Wikimedia Foundation 2011d:n.p.).

leadership argued that it needed to bypass the existing community in order to reach out to not-yet existing communities:

The most difficult area of Wikimedia Foundation was this distinction that we had to make between the existing editorial community, and the prospective editorial community. ... When we did work designed for new editors, we could not rely on the existing input. Their input was wrong. Because what suited them, would almost by definition would not suit a new person. So that's probably where we had the most conflict with the community over the years. Anything related to new editors, recruitment and retention, that was, definitionally, the existing community was not skilled at that. Or typically not, with exceptions. ... I felt like it was very much part of the Wikimedia Foundation's job, to provide a counter pressure to that natural desire to make everybody the same. I felt like our job was to do the opposite, to put weight on the other side, of being more inclusive and more open, and more welcoming to different kinds of people. (Gardner 2017)²⁹

Initially, the existing community was presumed to be perfectly capable of helping realizing incremental software changes that catered for its own needs. However, as the WMF did not expect it to be equipped or motivated or challenged to cope with the fundamental challenges it foresaw, it proceeded to central interventions.

During his 2011 “State of the Wiki,” Wales referred to the pioneering and innovative spirit of early Wikipedians while at the same time asking the community to assume good faith regarding the central Wikimedia Foundation’s functionaries with the formal task and the authority to develop software that suits the strategic

²⁹ Möller echoes Gardner here when he says, “We felt we actually have a responsibility that goes beyond just the people who are editing. We have a responsibility towards the people, we have a responsibility towards those who are not represented in the current community yet – like the potential prospective editors; the people who deterred from editing, who were frustrated from editing – and we would have a responsibility to the readers as well” (2017).

ambition of the organization by pointing at the objectivity of their research and by playing down the irreversibility of their work:

One of the big lessons that I want to push forward this year in the community is that we need to relax a little bit, not be as conservative, and allow the Foundation room to experiment. If you go and read the Wikimedia blog ...you'll see they put a lot of energy into studying what's going on, editor trends, what do editors say makes them happy/not happy, things like that. And I think we need to accept that they can change the software on us – maybe not to radically please, not all at once – but they'll make some changes and we'll tell them whether we like these changes or not and when we don't like them they can take them away. And we don't need to panic about it and we don't need a huge brouhaha and insist on having massive consensus for every little change in the software. We need to recapture the spirit, the early spirit of innovation and experimentation (Wales 2011:14:50).

Wales and the Wikimedia Foundation express a certain delicacy regarding their engagement in Wikipedia's infrastructural development: not only do they bear the formal responsibility to support the existing community; they appear to engage in innovation aimed at supporting a desired, currently non-existing part of the community as well. The latter challenge is approached as a central and formal infrastructural operation in which existing community members are bypassed as conservative obstacles to the expansion of the project they actively contributed to. In the following sections I will present an analysis of how the WMF and the community interacted during concrete attempts to technically enhance community diversity and engagement.

VisualEditor (2010-2014)

VisualEditor is intended to make the overall “editing experience much easier and more natural” and to counteract the decline in

new contributor growth that Wikimedians experienced (Wikimedia Foundation 2012c:1). In contrast with previous periods of relatively decentral collaboration, this substantial software innovation indicates a period of centralization and of power contestation. Based research into the decrease of active Wikipedians and the decrease in editor retention Wikimedia's board and staff concluded that many users conceived the rather archaic "Wiki markup," which editors used to edit wiki pages, as a barrier withholding them from making their first edit and preventing them from becoming a productive member of the editing community (Figure 5.2). Most of the pioneers that flocked Wikipedia during its early days were Internet enthusiasts that were familiar with this kind of syntax, or were eager to learn it. As Möller recalls, engaging in this unpolished do-it-yourself or DIY-environment provided the early adaptors with a sense of engagement, community, authority and ownership: "At that time, for the people who chose to participate, like myself, it felt like an environment that was still ours to shape. ...We really felt like we were running the place. And we were running the place." (2017)

Over time, as an outcome of numerous incremental adjustments, MediaWiki's markup had become increasingly complex. One of the stumbling blocks for inexperienced editors appeared to be templates, which had been built in relatively strict formats by volunteer-developers to maintain consistency among elements like tables, tables of content, info boxes, image captions, pronunciation details, references, and footnotes. Such templates were hard to understand, hard to use, and hard to adjust, especially for newcomers who were familiar with much more visual and intuitive ways of publishing and sharing information online (MediaWiki 2013b). From this analysis the Wikimedia Foundation drew the conclusion that a more intuitive or WYSIWYG-way of editing would be needed in order nudge readers to become editors in order to enlarge and maintain the editor base.

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--History--  
{see also|Timeline of Rotterdam}  
[[File:Blaeu 1652 - Rotterdam.jpg|thumb|Map of Rotterdam by [[Willem Blaeu|Willem]] and [[Joan Blaeu|Joan]] (1652)]]  
  
The settlement at the lower end of the [[fen]] stream "[[Rotte (river)|Rotte]]" (or "Rotta", as it was then known, from "rot", "muddy" and "a", "water", thus "muddy water") dates from at least 900 CE. Around 1150, large [[flood]]s in the area ended  
desertification, leading to the construction of protective [[Levee|dikes]] and dams, including "Schieland's Hoge Zeedijk" ("Schieland's High Sea Dike") along the northern banks of the present-day Nieuwe Maas. A dam on the Rotte was built in the 1260s and was located at  
the present-day "Hoogstraat" ("High Street").  
  
On 7 July 1340, Count [[William II, Count of Holland|Willem IV of Holland]] granted [[City rights in the Low Countries|city rights]] to  
Rotterdam, which then had approximately 2,000 inhabitants. Around the year 1350 ({{citation needed|date=June 2019}}), a shipping  
canal, the "[[Schie|Rotterdamse Schie]]" was completed, which provided Rotterdam access to the larger towns in the north, allowing  
it to become a local trans-shipment centre between the Netherlands, [[England]], and [[Germany]], and to [[Urbanization|urbanize]].  
  
[[File:Detroit Publishing Company - Rotterdam - Delftsevaart, c. 1895.jpg|thumb|left|The Delftsevaart in {{circa}} 1890–1905]]  
  
The port of Rotterdam grew slowly but steadily into a port of importance, becoming the seat of one of the six "chambers" of the  
"Vereenigde Oostindische Compagnie" (VOC), the [[Dutch East India Company]].
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Figure 5.2. Wiki markup, as taken from the article on Rotterdam on the English Wikipedia (Wikipedia 2017c).

With the resulting VisualEditor, the Wikimedia Foundation embarked on its largest project to date. One of the major challenges to it was to keep the option to edit in the original Wiki markup in order to satisfy the established editors. According to people concerned, such a project could never have emerged out of the community. Considering the technical complexity of the project, one of the main causes for centrally organizing the development of the VisualEditor was that none of the established editors and volunteer developers would deem such an innovation of their concern. Besides that they do not believe that volunteers would have been motivated and capable to develop their contributions to such a level as to match specificities and performance requirements of literally hundreds of different Wikipedias.

Prior to and during the rollout of the VisualEditor, the Product Development team endeavored to gather input and to gain support from the community, both on-wiki and via in-person meetings, for example on conferences like Wikimania. By December 2012 an alpha, opt-in version of the VisualEditor was launched to the English Wikipedia in order for interested users to start exploring and testing the software and to provide the WMF's developers with feedback. In January 2013 the test was extended with an elaborate set of functionalities and to an increased array of Wikipedias. Shortly thereafter, under the pressure of a fixed deadline and from

a general sense that the project had been dragging on for too long without any concrete results, beta versions of the VisualEditor were deployed to logged-in users at several of the largest Wikipedias.³⁰ Many Wikipedians – mostly established and productive ones – responded negatively to this new editing environment. These critics stated that they supported the WMF's efforts to improve the user-friendliness of Wikipedia and Wikimedia projects, but that they found that the software had too many bugs which negatively affected their workflows. Nor were they eager to invest time in having to learn a new markup language. The Foundation admitted that there were bugs, but it legitimized its push to implement the software by referring to the FOSS principle of releasing software early, allowing the community to submit bug reports, fixes and feature requests and providing the developers with the input to improve the product (Wikipedia 2013a: n.p.). Although bug fixing is considered an essential aspect of FOSS-development, the Wikipedians that engaged in discussions on the VisualEditor argued that dealing with the consequences of dysfunctional layouts, broken links and erroneous edits of inexperienced editors caused them unacceptable amounts of extra work. Most importantly, developers had the sense that this new software was deployed from the top-down, meant to attract newcomers and without their considerations being taken seriously by Wikimedia's board and staff.

What unfolded was a conflict between the WMF and a vocal group of editors. Whereas the Foundation claimed discretion to realize its strategic objective to serve and to reach a global audience, the so-called power users refused to use the VisualEditor, as they experienced this as detrimental to their ambitions to operate efficiently. Although the latter claimed to have no principal objections to a WYSIWYG-version of the software, they preferred Wikisyntax since they knew it thoroughly. They blamed their representatives for not respecting their position as the cornerstone of the open and self-organizing community:

³⁰ The VisualEditor is initially introduced on the English, German, Spanish, French, Hebrew, Italian, Polish, Russian and Swedish Wikipedias (Wikipedia 2013a).

The frustration a lot of us have is the distinct feeling that no one at WMF is actually listening. Sure, we get a response, but always very noncommittal, and there's a very distinct impression that nothing we say, no matter how many of us say it, matters in the end. A bugfix here, a minor tweak there, sure, but the big decisions that impact our whole project are being taken essentially out of our hands and dictated from the top down. ...The best resource for those new editors are our seasoned veterans, just as they were for me years ago, and to attempt to attract new editors while repeatedly alienating those veterans and dismissing them as "power users" without a clue what a new editor would need is madness. (Allen 2013:n.p.)

This resulted in Wikimedians labeling their critics as a change-aversive minority that was not the target audience of the software to begin with. Both Wikipedians and employees of the Wikimedia Foundation argued that it should not be up to this vocal minority to determine the course of the organization:

We need to keep in mind that the people who are vocal on mailing lists, or who participate in on-wiki polls with 50 or 100 participants, represent only a tiny fraction of all Wikimedia users – even only a small fraction of those who are active and registered. Yet the constituency of the WMF must be all present users, as well as everyone who might become a user in the future.

The Foundation can't surrender to the inertia and change-resistance of long-term editors, because this serves the bulk of its constituency quite poorly. ...MediaWiki and the user interface are the WMF's core product, and a small minority of vocal resistance should not be the deciding factor in rolling out new features. (User:Nathan 2013:n.p.)

Apparently, the unwelcome outcomes of Wikipedia's open and self-organizing way of working were challenged by those formally and informally engaged in furthering Wikimedia's mission.

As a response, actively engaged members of the English, German and Dutch Wikipedias started community consultations in order to confront the central organization with formal statements regarding the issues concerning the implementation of the VisualEditor-software (Wikipedia 2013b; c; d). They demanded that VisualEditor be disabled by default, i.e. that it would only be available as a feature to "opt-in" until substantial improvements were implemented. On the English Wikipedia editors were originally offered a choice between editing via the VisualEditor ("Edit") or by Wikisyntax ("Edit Source") (Figure 5.3), but those engaged in the discussions on WYSIWYG-editing demanded the VisualEditor-option to be hidden. English Wikipedians felt that their request was not honored, although they argued that their consultation showed an overwhelming consensus that VisualEditor should be made opt-in. In September 2013 an administrator by the name of Kevin Wayne Williams proceeded to turn VisualEditor into a default-off option anyway, without the approval of the Wikimedia Foundation (Williams 2013).

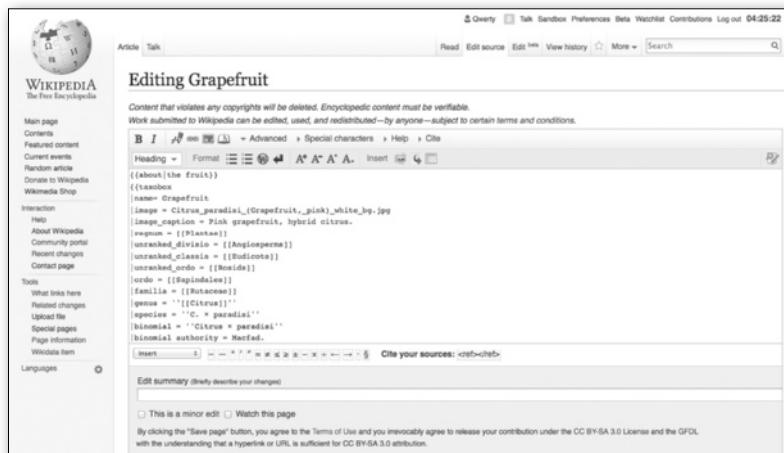


Figure 5.3. "Edit" enables editing via Visual Editor; "Edit Source" enables editing via Wikisyntax.

According to the “Consensus policy,” MediaWiki developers, including both paid Wikimedia Foundation staff and volunteers but not the community members in general, are in charge of the implementation of software on the Wikipedias (Wikipedia 2017d,e).³¹ However, the WMF took the countervailing signals of its constituents seriously and set about improving the software to implement it in closer consultation with local communities. It then endeavored to develop bureaucratic structures in order to be more successful in this respect in the future. Möller, by then Deputy Director and Vice President of Engineering and Product Development, who was as such formally responsible for the implementation of the VisualEditor, concluded that he and his team had underestimated the amount of social effort needed to implement a technical innovation of this scale. He recognized that due to a lack of formal processes and strategies they failed to organize the trust of the community, which was needed to meet the challenge of getting the VisualEditor accepted. As I will elaborate in the section on the most recent period in the history of Wikipedia’s software development (2014-2017), the WMF recently responded to this challenge by actively developing formal structures and by having dedicated people in place to guide such processes.

In the meantime, new community-initiated consultations have approved further rollouts of VisualEditor in English and German Wikipedia’s (Wikipedia 2015; Wikipedia 2016b). Halfway through 2016, improved versions of the VisualEditor were available in most languages, as bugs were resolved, engagement strategies paid off, and conflicts were resolved or put aside. A substantial amount of

³¹ “Consensus” is one of the main organizational principles of Wikipedia and its sister projects. On July 11th 2004 an official Wikipedia-page is established regarding this subject, arguing that formal practices should be instituted to facilitate consensus in order to forestall complexities within a growing community. On January 19, 2007 User:Circeus adds a section “Exceptions” in which it is stated that “Declarations from Jimmy Wales, the Board, or the Developers, particularly for copyright, legal issues, or server load, are usually held to have policy status.” In a later version (24 October 2012) User:WhatamIdoing, a WMF VE liaison by June 2013, added that the community of MediaWiki software developers, including both paid Wikimedia Foundation staff and volunteers, do not need the endorsement of the editor community in case of adding removing, or changing software features (Wikipedia 2017e).

power users happily continue to edit by Wikisyntax. In the following section I demonstrate how the history of the early deployment of the VisualEditor repeated with the rollout of the Media Viewer, albeit that the Wikimedia Foundation exhibited its power more strongly in the latter case.

Media Viewer (2013-2015)

Although Media Viewer does not strictly concern Wikipedia's editing-infrastructure, it is worth mentioning here that the conception and the response to the introduction of this application show striking similarities with the deployment of the VisualEditor in the following ways: a) as a strategic software project, it was centrally conceived and deployed, b) just as the VisualEditor, Media Viewer could be considered a nudging tool to encourage an extended and more diverse crowd of Media Viewer-users "to contribute more to Wikipedia and Wikimedia sister projects," c) its critics were disqualified as being conservative and change-averse, and, d) by an unconventional countervailing intervention active community members displayed their discontent and their power (MediaWiki 2014:n.p.).

One of the strategic opportunities the Wikimedia Foundation derived from its 2011-2015 strategic plan was to create an easier-to-use, more intuitive experience for viewing and contributing media files to Wikipedia and its sister projects (Gardner 2011; Wikimedia Foundation 2011c). The development of Media Viewer started in 2013. The multimedia development team endeavored to engage community members in the design and the testing of the tool by organizing discussions on mailing lists, IRC, Google Hangout and face-to-face meetings and presentations. In June 2014 Media Viewer was implemented as the default image viewer on the English Wikipedia. Shortly after this it was deployed on wikis worldwide. English and German Wikimedians, who did not only detect bugs, but who essentially did not see the point of adding this feature by default, organized community consultations (Wikipedia 2014a, b), and, as a result, they filed an official request to "change the default from has-to-opt-out to can-opt-in" (Baur (User:DaB.) 2014:n.p.; cf.

MZMcBride 2014). However, the Wikimedia Foundation chose to keep Media Viewer enabled on the English Wikipedia by arguing that the Media Viewer was part of its strategic objectives, that it had been developed in close consultation with the community, and that its critics (power users) were not representative for the target audience of casual users and prospective new contributors (Florin 2014; Möller 2014). As with the debate over VisualEditor, references were made to the “Consensus policy,” which holds that decisions regarding software do not have to be subject to consensus of the community (Florin 2014).

Just as with VisualEditor, this case shows that the Wikimedia Foundation and volunteer-developers, rather than the community members in general, hold the ultimate authority regarding substantial software changes. It appears that the WMF considered enabling user experience and reaching out to potential new editors to be more essential than giving in to the vocal and productive community members’ concerns. As a response, and referring to the outcome of the community consultation, a German admin proceeded to disable this functionality by himself (Wikipedia 2014c). This intervention was reverted by one of his peers, resulting in a “wheel war,” which is an ongoing act of Wikipedians mutually undoing each other’s actions. As a response the Wikimedia Foundation added a new protection level to the MediaWiki code, called “Superprotect,” which was directly deployed in order to deny German administrators the right to modify MediaWiki-software in case of Media Viewer-related matters (Wikimedia 2014a).³² Despite the bold display of countervailing community power, the Wikimedia Foundation undeniably exhibited the sole authority over software implementations and asserted that its focus lay on implementing strategic innovations rather than indulging comments and sentiments of power users. On August 27, 2014 the “Wikimedia Foundation removed superprotection from the page, but left the superprotect right and the state of Media Viewer unchanged” (*Ibid.*).

³² On June 10th 2014 WMF-developer Tim Starling added a new protection level to MediaWiki code “requested by Erik Möller for the purposes of protecting pages such that

The board of trustees defended the discretionary position of the Wikimedia Foundation regarding infrastructural innovation by referring to its responsibility to maintain the platform and to guarantee its stability in an increasingly competitive environment. Wales argued that the immensely delaying task of consulting members of each and every community on each and every new policy or software feature would cause inertia and a competitive disadvantage (Wales 2014). He pleaded for the institutionalization of community engagement in Wikipedia's software development by having the Wikimedia Foundation "invest a lot more resources in engineering and product including building a proper consultative process with the community and introducing incremental roll-outs...so that problems can be identified and fixed before we have a huge drama" (*Ibid.*). He implies here that improved formal structures for public consultation and participation would prevent the central organization from having to enforce its innovations upon the community, i.e. that better-designed processes would align the public opinion more closely with the WMF's strategy and objectives.

As we will see in more detail in the following section, the Wikimedia Foundation increasingly engaged in the process of supporting and formalizing participation, with a consequence being that the community's means and opportunities to self-organize became more strictly aligned to its representatives' strategies.

Interventions to foster volunteer engagement (2014-2017)

During the executive directorship of, active Wikipedians explicitly exhibited their distrust in the WMF, as evidenced by their response to the VisualEditor and the Media Viewer. At the same time, as a former employee of the Wikimedia Foundation recalled, it seemed as if the staff at the Foundation somehow feared the community, resulting in situations in which the communication between the two entities was superficial rather than constructive and cooperative.

sysop [systems operator or administrator] permissions are not sufficient to edit them" (Starling 2014:n.p.).

This estrangement climaxed in 2016, when it appeared that the then executive director Lila Tretikov lead a secret operation to establish an innovative software product. In recent years, the Wikimedia Foundation has employed dedicated teams and has developed formal structures to foster and to support community engagement in Wikipedia's infrastructural development.

After a brief analysis of Wikimedia's 2016's chair's and executive director's controversial approach to technological development, I will elaborate two separate cases in which formal processes and structures are developed to facilitate community engagement: the appointment of "Community Liaisons" and "Developer Liaisons" establish connections between the community and Wikimedia's developers, and the "technical wish list" by which the community informs Wikimedia's developers on its software-related needs and concerns. These new structures serve as a vehicle for the Wikimedia Foundation to build software that is better adjusted to stakeholders' needs and concerns, and which meets less resistance than in the recent past. More importantly, the WMF's strategic engagement in realizing positions and processes for community engagement and participation in its infrastructural development serve as a means to legitimize its strategic endeavors while at the same time emphasizing its subservience to the community.

Legitimization of intents to bypass vocal community members to attract newcomers

In 2014 Jan-Bart de Vreede, then the chair of Wikimedia's board of trustees, indicated that the WMF was at a crossroads, marking a period of technological innovation, which the board deemed necessary in order to attract newcomers and to stay ahead of competition. Paradoxically Wikipedia's supporting body appears to engage in interventions and innovations to meet competitive, technological and strategic challenges and to counter the results of self-organization, such as homogenization, community closure and conservativeness. Associated changes, De Vreede assumed, might offend established contributors. He demanded the staff to be

allowed the discretion to roll-out structural rather than incremental innovations, and he suggested “the few and the angry” not to be a burden to this development, or to leave the project otherwise, albeit for a while, in order for the WMF to be able to develop the project and the community according to the challenges it foresaw:

We are unique in many ways, but not unique enough to ignore basic trends and global developments in how people use the internet and seek knowledge. We have to get better at software development, roll-out, and user adoption. And Lila is helping us do exactly that.

... We talk often about “the community” (although in reality we have a lot of different communities, with different characteristics). One thing is clear to me: we need to grow that community—not just in numbers, but also in maturity in welcoming newcomers, accepting change (sometimes for the sake of others), dealing with non-productive discussions, and quickly scaling successful new initiatives.

On Wikimedia-l and in some other places I hear a lot from the few and the angry. There is an argument I hear a lot: ‘We are the community, without us the projects would be nothing. We are the ones who got us here.’ That is true, to a degree. But at the same time... we don’t want to be here.... We want to be much further along the road.

1. We want to attract new editors. They don’t have to become heavy editors, they could even contribute once in a while, as long as we get lots of them. We have to make it easy enough for anyone to contribute so that people once again feel that “anyone can edit.”

[...]

4. We need to act as one community, not 1,000. This means we cannot enact the wishes of a few hundred, but have to build processes that support the successes of millions.

All of this is going to require change, change that might not be acceptable to some of you. I hope that all of you will be a part of this next step in our evolution. But I understand that if you decide to take a wiki-break, that might be the way things have to be. Even so, you have to let the Foundation do its work and allow us all to take that next step when needed. I can only hope that your break is temporary, and that you will return when the time is right. (De Vreede 2014:n.p.)

In Chapter 4 I elaborated how the then executive director, Lila Tretikov, engaged in a secret solo-operation to develop the so-called Knowledge Engine, aimed to direct readers to wikipedia.org and its sister sites and to make them stay there longer while searching for further information, and how this eventually caused her to resign. As a consequence the WMF endeavored more seriously and structurally to engage (existing) community members in software development processes, not in the least in order to forestall accusations of misuse of power.

Liaisons – strategic organizers of community engagement and guardians of not-yet existing diversity

From the resistance to the introduction of both VisualEditor and Media Viewer the Wikimedia Foundation drew the conclusion that informing and engaging community members should become a more structural aspect in its software development processes. The Technical Collaborations group was established with both a Community Liaisons and a Developer Liaisons team by which the WMF aspired to build closer relationships with community members and volunteer developers.

Members of the Technical Collaborations group said that the attitude at the Foundation with regard to its constituents used to be rather paternalistic, but that it currently aims to operate more collaboratively. Liaisons' task is to identify stakeholders; to reach out to them; to inform them about current and upcoming projects and their potential benefits and implications; to collect input, feedback and requests; to inform Wikimedia's staff members about their findings; to inform communities on the actions that officials took based on their feedback; and, if applicable, to provide them with resources to get new software adjusted, translated, implemented and documented for local purposes. Given the fact that many of the Wikimedia Foundation's recent software projects are aimed at reaching out to new audiences, and that it disqualified its critics as conservatives that are not part of the projects' primary target audience, it seems remarkable that the WMF invests in building better relationships with existing community members. However, the Foundation is well aware of the significance of the established editors for the progress and the maintenance of the website. It endeavors to synchronize with them because it has come to realize that software changes have an impact on power users' established workflows, and that unwelcome alterations could affect their efficiency and their servitude to the project significantly.

Since communities are extremely divers and since they do not have formal interlocutors, liaisons do not have fixed representatives to turn to. Hence they need to make strategic decisions regarding whom to consult and how to value their input. Their ambition is to increasingly engage community members in early stages of software development processes, in order to make potential users "cheerleaders" for the new products: "if you find champions of an idea within a local context, they will act as advocates of that idea on your behalf, and that is basically the best thing that can happen" (Möller 2017). The liaisons point at the complexity of their positions: they argue that existing editors are the core of Wikipedia but that, regarding the WMF's mission to increase its projects' reach and diversity, they

also feel responsible for serving and targeting new audiences. This appears to be an issue for Developer Liaisons as well.

In the early days of Wikipedia, a relatively small and well-connected group of volunteers engaged in the development, adjustment and dissemination of the project's software. Due to practical and strategic concerns this process was centralized and professionalized. Although in principle volunteer developers have always been welcome and essential to Wikipedia's infrastructural development, their opportunities to contribute to its core aspects have decreased substantially over time:³³ MediaWiki has grown a complex constellation of a variety of computer languages and protocols, which makes it hard for volunteers to set-up a working environment and to distinguish tasks that fit their skills and interests to begin with. Furthermore, the fact that every change to Wikipedia's software might affect the performance of the website, and the user experiences of thousands of editors and readers, and due to the fact that there are only a few extremely busy developers engaged in "code review," chances of getting patches installed have become increasingly small over time:

Because Wikipedia is one of the top-10 Internet properties, you don't get your shiny feature there easily, [unless] you... start convincing users that this is great. And if tens of thousands of users have installed it individually, then [those formally engaged in MediaWiki-development might consider it a] relevant functionality. (Gil 2017)

Because MediaWiki is essentially an open source platform, Wikimedia's Developer Liaisons' task is to remove barriers for volunteer developers. They try to provide prospects with

³³ In an interview the manager of the Technical Collaborations group elaborates how MediaWiki is for a substantial part being developed by professional developers, who are hired by the Foundation, but that MediaWiki is essentially an open source platform with an API: "You can build tools on top of that and actually in an ideal world the Foundation should be doing less and focusing on what is really complex and then the wide range of possible features or bugfixes and maintenance [should be left to volunteers]" (Gil 2017).

opportunities to work on incremental and non-critical MediaWiki-features by organizing workshops, conferences, hackathons and mentorship programs. Following the WMF's mission, the objective of the director of this department is to get a more diverse crowd of developers beyond the currently overrepresented young, well-educated Western males. Despite the fact that he resolutely underscores that his role is to serve the community, he is strongly committed to develop strategies to reach out to developers that are not reached yet to work on a greater diversity of tools in order to get a greater diversity of perspectives represented in Wikipedia (Gil 2017). So, just as the Community Liaisons, Developer Liaisons are WMF functionaries employed to facilitate the engagement of volunteers in the development and the acceptance of Wikipedia's software. Both types of liaisons strategically and selectively consult Wikipedians in order to meet the WMF's objectives – as guardians of the concerns of not-yet reached audiences – and to enhance its image of being a servant of the community.

Top-down endeavors to make software development a collaborative effort

In the meantime, various infrastructural projects resulted from local Wikipedians' spontaneous and self-selected initiatives, which were embraced by the central Wikimedia Foundation. One of the most notable of these initiatives is the German “Technical Wishes Poll,” which was initiated in 2013 by Raimond Spekking (User:Raymond). He shared the opinion of his peers that VisualEditor had many flaws by the time of its introduction, but he got frustrated by the community's lack of openness and boldness to test new things. As the sentiment amongst active Wikipedians was that software development was increasingly becoming a top-down affair within a central organization unaware of community members' specific wishes and needs, he started a page called “Technische Wünsche” to invite Wikipedians and Wikimedians to express their ideas, request and demands (Wikipedia 2013e). Spekking explicitly aspired that the German chapter and the Wikimedia Foundation would address

these issues, rather than leaving them to the community, because, as far as he was concerned, they would make software improvements in a more stable way than the volunteer developers.³⁴

During this project Spekking was contacted by Wikimedia Germany (WMDE): members of the German community reproached WMDE for not listening to the community and not operating as its representative, and the Technical Wishes project served as an occasion to prove the opposite. The chapter's Software Development department was responsive in a number of ways, and provided a transparent and structured process to categorize and prioritize and to effectively respond to the German-speaking community's 230 software-related wishes and concerns (Müller 2015:3). The chapter developed a script to count the number of votes for each wish, indicated whether wishes could be addressed on short notice or on the long run, and made "initial assessments about [alleged solutions'] potential cost and implementation requirements" (*Ibid.*). It tackled certain issues right away, provided feedback channels, and endeavored to reach out to a broader audience in order to have the initiative meet the central WMF's criteria regarding reach and diversity.

In 2015, as a follow-up of the spontaneous and self-organized initiative, WMDE's Community Communications Manager organized a second round of collecting technical wishes. Additionally, she initiated Tech on Tour, a series of six workshops throughout Germany in order to broaden the community consultation from self-selected "techies" to a wider audience. One of the conclusions of this consultation was that Wikimedia's software development is considered to be a rather exclusive affair. Wikimedians with and without experience and interest in software development experienced a lack of transparency and an overload of information regarding Wikimedia's infrastructural development (Müller 2015:8). As a consequence, WMDE's technical staff endeavored to legitimize its work by transitioning to a more "agile" – incremental, iterative

³⁴ "We have many people who can do really cool stuff, [but] in a really hackey way, which break when changes are made to MediaWiki" (Spekking 2016).

and transparent – software development process: “This gives those outside the process a better overview of what the team is currently developing, while also enabling the team to react quicker to problems and new demands” (Müller 2015:14). However, WMDE’s staff concluded that it inevitably needed a certain amount of discretion in order to manage this process with regard to the technical feasibilities of community members’ ideas and the availability of human and financial resources. Obviously, those who are engaged in endeavors to meet the community’s wishes and concerns make decisions based on their professional and political assessments of the complex context and circumstances in which these need to be implemented.

Notwithstanding the fact that the second version of the Technical Wishes project and Tech on Tour have been partly devised, formalized, professionalized, subsidized and directed by the German chapter, both projects are explicitly labeled as “community-driven” processes. Staff of the Wikimedia Foundation consider the approach of investigating technical wishes by means of community consultation a success and are eager to make it serve as an example of how the WMF could work in closer collaboration with the community, rather than being considered professional experts hired to centrally develop and deploy software. Shortly after WMDE’s second Technical Wishes project the Wikimedia Foundation’s Community Tech team, established in 2015, organized its own community consultation called the “Community Wishlist.” Both Technical Wishes and the Community Wishlist were discussed during WMCON 2016, where there appeared a broad consensus regarding the idea that community consultations serve as a more effective means to get new software accepted than when approval is sought after it has already been implemented.

Such a community-driven method of directing development, however, seems to go against Wales’ and De Vreede’s pleads to grant centrally coordinated experts discretion in order to deal with software innovations in a quick and efficient way. It appears that the innovations Wales and De Vreede talked about are more structural than the incremental ones that are the subject of both community

consultation projects. However, it turns out that staff engaged in the latter ones consider a certain amount of authority a prerequisite to follow-up on community consultations as well. Despite the fact that the collected information is publicly shared, discussed and evaluated, according to those involved professional inquiry and action are still required:

In case of technical wishes it is almost never clear what the exact problem or demand is. Most wishes and suggestions need clarification or elaboration and re-iteration. We [staff members of the WMF] or volunteers involved in the discussion put effort in that. We ask for input, but we also make use of our experience and expertise. ...We also make decisions when we make estimations of the feasibility and of the resources and the capacity that are available and needed to realize a tool or a product. So the priority list is not a one on one outcome of a vote. (Anonymous respondent 2016)

MediaWiki's Lead Architect Vibber, who appeared to be genuinely enthusiastic about the results of the efforts to engage community members in Wikimedia's infrastructural development, suggested to develop a toolkit with instructions and formalized procedures in order to set standards for consultations and to legitimize prioritization. Thus, whereas these community consultations originated from spontaneous self-organization, Wikimedia's officials appear to be eager to bureaucratize and to centralize these to legitimize the central organization's authority, to realize its objectives, and to maintain its image.

As a response to the negative reactions of the community to its alleged oligarchization, Wikimedia's board and staff endeavor to strategically engage their constituents in its infrastructural projects. Notwithstanding the fact that the central Wikimedia organization has the technical ability and the legal right to implement software from the top-down, it endeavors to organize Wikimedia's software development in such a way that it is – or at least it appears to be –

the product of collective effort, rather than the outcome of personal whims of a self-interested elite. Despite its apparent subservience to the community, the WMF stipulates a certain amount of discretion with regard to its concerns and objectives.

Up until this point I described the evolution of those aspects of Wikipedia's infrastructure that are aimed at editing Wikipedia-pages. In the following section I discuss the tools that volunteer-developers devised to enhance the work of editors.

From Toolserver to Tool Labs: centralization of a repository of volunteer-developed algorithms (2005-2017)

From the early days of Wikipedia volunteer-developers have engaged in writing algorithms and programming bots to automate and to enhance editing. Many power users strongly depend on these tools in order to be able to be as productive and to work as efficiently as they do. The evolution of the organization of these tools, bots and algorithms shows striking similarities with the development of Wikipedia's critical infrastructure and its features: the platform where bots are initially hosted is operated and maintained by volunteer enthusiasts and it is dominated by a self-selected informal authority. In order to safeguard its stability and continuity, once the project grows in size and complexity, the Wikimedia Foundation provides funds and supports a central tools-repository. Despite the resistance of the original repository's "power-administrator," who is regarded to be conservative, most bot operators move their tools to the central servers without much complaint. Despite the fact that volunteers are actively invited to engage in "Tool Labs" governance and maintenance, they operate here under stricter conditions than at the original "Toolserver."

In September 2005 a server that Sun Microsystems donated for the first edition of Wikimania in Frankfurt, Germany was put into use as the first "tools server" (MediaWiki 2016). Developers who, until then, operated their bots from their own machines, were provided space on this server, where they could run and test tools

and have them perform operations and run queries on real-time copies of Wikipedia and its sister projects (User:Jarry1250 2011). The tools on “Toolserver,” which served archiving purposes, and served as means to enhance the correcting of errors, the detection vandalism, the categorization of pages, the counting of edits, the production of reversion statistics, the assembly of reference lists, the maintenance of links, the composition of lists of activities, the rendering of statistics, and the compiling of reports, could be freely used by anyone interested. Toolserver was owned by Wikimedia Germany, and it was commonly funded by WMDE, the Wikimedia Foundation, and several chapters (Baur 2012a). It was hosted and maintained by volunteer admins, with the support of one WMDE-employee. Toolserver was operated on a relatively ad hoc basis: its admins provided tool developers informal guidance and support; in case of troubles they attempted to make adjustments to the platform as well as they could; and broken hardware was repaired and replaced, but no structural investments were made in order to keep up with the growth in traffic and server load (*Ibid.*).

In 2011, the Wikimedia Foundation announced “Wikimedia Labs,” a cloud computing environment to host and operate software for the WMF’s projects. Labs offered the Tool Labs-service, “a platform for volunteers to easily run web services, bots and other applications” (MediaWiki 2017a:n.p.). At a time of increasing centralization of software development Labs is supposed to appeal to the sentiment of freely contributing volunteers of the early days that Wales referred to in his 2011 “State of the Wiki”:

The Wikipedia website infrastructure and software was built and originally completely operated by community volunteers. As the site has grown, over time the infrastructure and software development became more dominated by Wikimedia Foundation staff. While the Foundation’s increased involvement has had a positive effect, we would like to reverse this trend and encourage more volunteerism. (*Ibid.*)

One could argue that Toolserver provided such encouragement, but in 2012 the Wikimedia Foundation announced that it would no longer fund the Toolserver and that, mostly for reasons of stability and continuity, its explicit goal is to make Tool Labs its alternative (Möller 2012). The argument was that Toolserver was relatively unstructured and unstable, causing periods of total downtime and high database replication lag (User:Jarry1250 and User:Tony1 2012). Besides that, as Toolserver was never very strict in establishing and maintaining criteria for admission, and so it allowed for the hosting of tools based on proprietary software, meaning that changing terms of use of such software could lead to the discontinuation of tools. Combined with the fact that it appeared that many volunteers stopped maintaining and updating their tools without publicly sharing their documentation and source code, this was considered a potential cause for discontinuity and dysfunction of critical aspects of Wikipedia.

The Wikimedia Foundation, claiming to be a “technology organization,” argued that it was better equipped to host and to maintain infrastructural services than a chapter like Wikimedia Germany, which was, for example, dependent on the Foundation to be provided with real-time copies of the database (Möller 2012:n.p.). The WMF claimed that it had the funds and the staff available to establish a central and structured repository for tools to guarantee stability, continuity, service, maintenance and security in ways that Toolserver supposedly could not deliver. The objective of Tool Labs is to host tools under open-source license, with publicly shared source code and documentation, and to have multiple volunteers share the responsibility for the operation and the maintenance of these tools in order to decrease the risk of discontinuity. Critics of WMF’s plans doubt whether it would be possible to have volunteer developers properly document their projects and to collaborate on maintaining other people’s projects:

In my experience volunteers seldomly like to fix other peoples mess. Most tools are re-invented if the first tool broke. [The

option to publicly share the source-code of tools on Toolserver] was not used much; most people (and I do too) like to quick hack a fast solution for a problem; and clean-up and documentation will be done “later.” (Baur 2017:n.p.)

Since Wikimedia Germany is an autonomous organization, it could have chosen to sustain the Toolserver. However, it positively responded to the Foundation’s request to support the transition to Tool Labs (Möller 2012). Baur, Toolserver’s passionate and controversial apostle and lead administrator, considered the disinvestment in and the leaving of Toolserver as “another step to become more dependent of the WMF” (Baur 2012b). Despite the fact that Baur is widely acclaimed for his unremitting commitment, tool authors left Toolserver en masse. Both his supporters and his critics seem to prefer structure and stability over the “living community creating stuff in a[n] anarchic way” that Toolserver’s volunteer “root” practiced and propagated. All seem to agree that it made sense to leave this critical part of Wikimedia’ infrastructure to professionals with sufficient resources rather than to the individual whims of an overburdened volunteer with a seemingly political agenda (Baur 2012c).

Besides the obligation to choose a license; publish the code; organize the tool among multiple maintainers; and to publicly share documentation, the requirements to run a bot on Tool Labs appear to be relatively low: operators must identify themselves as real persons with at least a basic idea of how Wikipedia works; they must perform 50-100 test-runs in order to convince their peers that their tools function properly;³⁵ and they must make sure that running their programs does not overburden the server capacity. In that a general and formal framework is being provided to make participants collaborate democratically and relatively autonomously,

³⁵ One slide in Davis’s “Community norms” presentation elaborates Tool Labss “Best practices,” which are considered to be to: ‘pick a license; publish the code; have multiple maintainers; and write some documentation” (2016:11). In our email conversation Davis adds: “Reverting isn’t as easy as it is on wiki, so we are forced to be a bit more guarded than would be ideal” (2017:n.p.).

and to make tools operate efficiently, Tool Labs resembles a Weberian bureaucracy.

Despite the availability of staff support at Tool Labs, maintenance and administration of tools are largely in the hands of volunteers. Bryan Davis, WMF employee and manager of the Tool Labs project, describes how he is engaged in developing the Tool Labs community in such a way that it will eventually be self-governing and self-sustaining, and why he thinks that a professional support structure would be needed in order to realize this:

The hoped for result is a self-governing and self-sustaining community of volunteers who work collaboratively to solve the technical problems facing the Wikimedia movement. This is fundamentally how the wikis themselves work, and I think it is the only long-term sustainable future for our technical spaces. As was found in the Toolserver project, there are certain activities like system administration which are difficult to sustain with 100% volunteer effort, but ideally the paid contributors in the system will take care of the boring and difficult tasks which enable others to pursue more interesting tasks. (2017:n.p.)

The community is granted a reasonable amount of autonomy in the production of software tools, while it is offered a formal structure and professional support to develop, maintain and host their algorithms. In order keep control over the critical aspects of Wikipedia's infrastructure, the WMF allowed itself the discretion to intervene when it thinks that would be necessary.

Davis, whose task it is to serve both the volunteers-developers and the WMF's ambitions and its concerns and responsibilities regarding safety and stability, compares the role of the Wikimedia Foundation to that of a bouncer at a concert:

The basic principles are to assume good faith, be respectful of the time invested by the volunteers, and take decisive but

reversible actions when needed. It's a bit like being a bouncer at a concert. We are there to make sure that everyone has a good time. That occasionally means we have to ask someone to be more respectful of those around them (no slam dancing!), and if they don't change their behavior we escort them out. (2017:n.p.)

Although this happens in close collaboration with volunteers, the Wikimedia Foundation hosts the concert, delivers the bouncers, and sets their mandate, with as a consequence that, with the transformation from Toolserver to Tool Labs, tool developers have become subject to stricter and more formalized conditions for operating their algorithms.

Conclusion

The starting point of the analysis of the evolution of Wikipedia's editing infrastructure is the discrepancy between hackers' moral resistance to tendencies of power concentration and bureaucratization, and classical sociological theories that hold that organizations inevitably, once they grow in size and complexity, centralize and bureaucratize. The central question of this chapter is how and why tendencies of oligarchization and bureaucratization manifest themselves in the development of Wikipedia's software infrastructure, and how these affect the autonomy of the constituents of the open and self-organizing community. By this sociopolitical and empirical account I analyzed the appearances, the causes and the consequences of the omnipresent tension between abiding the open and self-organizing principles of the community on the one hand, and the tendency to compromise these principles in endeavors to secure the platform's stability and sustainability, and to realize the WMF's mission on the other.

Just as in the previous chapter, I demonstrated here that tendencies of power concentration and of bureaucratization that Michels and Weber describe manifest themselves in Wikipedia in its initially

stigmergic software production process. Although tendencies of power concentration are contested, just as with Wikipedia's financial organization, Wikipedia's formal representatives appear to defend their discretion more strongly with the argument that they bear the responsibility of developing and maintaining the increasingly critical editing infrastructure of the increasingly large and complex project, and of realizing the WMF's mission of expansion. As in the previous chapter, I observe a process of ongoing bureaucratization as a means to manage the increasingly large amount of work, as well as to democratically organize authority and to forestall tendencies and allegations of power concentration in this typically anti-hierarchic project. These developments appear to be not unilaterally and deterministically imposed from the top-down, but to partly emerge from the bottom-up as well as part of a reflexive process of stakeholders evaluating the structure of the organization that they are part of and that they help shaping. I argue that, rather than being fundamentally opposed to each other, democratic and self-organizing communities and classical forms of organization appear to be intertwined. Just as in the previous chapter, I refer to the concept of "self-organizing bureaucratization" in order to grasp this phenomenon in relation to Wikipedia's progression.

In the early days of Wikipedia's infrastructural development, power concentration emerged from spontaneous self-organization. Through the wiki way of working, a small subset of prolific developers self-selectively and meritocratically gained a self-reinforcing form of informal authority. By their skills, their enduring presence and their active involvement these developers were by far the ones that were the most thoroughly engaged in the increasingly complex infrastructural matters. They knew how pieces of software had come to being, on which considerations these were based, which alternatives were considered, how these had been compiled, what their strengths and weaknesses were, how these were linked to other features, and what potential consequences of alterations might be. As a consequence, they were relatively well-informed on how to get their work accepted, and hence they had insights and arguments to support or to block

contributions of peers. Thus, in line with Michels's observations, the intentionally democratic way of working bred a caste of specialists, with relatively autonomous positions in the face of dilettante board and community members. Critique of Wikipedians that argued that decisions regarding Wikipedia's software were increasingly made by an elite was dismissed by references to the principal openness of the process and the structural adherence to principles of documentation and transparency that would serve as bureaucratic safeguards. However, with arguments regarding the criticalness and the complexity of software development processes, leadership appears to be accepted more easily in these trajectories than in the case of Wikipedia's financial organization.

Another form of power concentration becomes apparent in the central organization's endeavors to cope with the challenge to execute its mission of expansion and diversification. Since it does not entrust this complex task to the spontaneous and self-selective engagement of volunteers, it develops and implements technical innovations as a principal authority. Radical changes are estimated to come from top-down enforcement rather than from constituents' incremental contributions. Paradoxically, the officials engaged in these professional operations claim to pursue the revitalization the "pioneering spirit of the early days." Critique of established and productive users, who claim that the software that is centrally deployed and therefore negatively influences their workflow, is disqualified by the argument that it is the central organization's responsibility to execute its mission, and that those complaining are conservatives who are not the target audience of the interventions. Nonetheless, as a response to the comments and countervailing actions of individual critics the central organization sets out to restore its relationship with its constituents by the establishment of formal positions and procedures to actively engage them in its software development processes. Just as with the emergent type of power concentration, bureaucratic principles are applied by both parties as a means to mitigate tensions between hacker-principles and centralistic interventions to host an increasingly complex

organization. This “self-organizing bureaucratization” serves as a means to formal-rationally and objectively legitimize authority, organize goodwill, facilitate participation, align constituents with the central organization’s mission, and to dismiss accusations of power concentration.

Besides a mechanism to legitimize authority and to organize trust in cases of centralization, bureaucratization appears to serve as a means to organize responsibility and continuity in Wikipedia’s critical infrastructural development process. In line with Michels’ and Weber’s argument that self-governing groups develop formal structures and positions once they grow in size and complexity, Wikipedians appear to start formalizing processes and dividing tasks from the bottom-up in order to be able to share and to off-load some of their increasing workload and responsibilities. At the same time their representatives engage in the formalization of the division of labor that emerges from the bottom-up in order to delegate responsibilities and to align constituents in their endeavor to meet the project’s performance requirements and to safeguard its continuity. They appear not to entrust these critical tasks to the spontaneous and self-selective involvement of volunteers. Paying staff is a way to create dependency and so to allow an employer to demand a certain commitment and specific output of its employees, which cannot be expected from volunteers. As a consequence of this self-organizing bureaucratization, the project’s informal authorities become more closely aligned with the community’s representative body than with its constituents. Again, those in hierarchical positions refer to bureaucratic principles of documentation and transparency in order to legitimize the formalization of authority and to dismiss allegations of power concentration. Despite all these bureaucratic safeguards to both legitimize and to avoid power concentration, the increasing alignment of Wikipedia’s constituents’ in the central organization’s structures and objectives affects their autonomy to spontaneously engage in the project’s software development. As a result of formalization, their opportunities to contribute to its core aspects have decreased substantially over time.

It is common to portray the way in which open and self-organizing communities are organized as fundamentally opposed to classic hierarchical bureaucracies. Based on the empirical analysis of the case of Wikipedia's infrastructural development I would argue that both forms of organizing are closely related. Not only does power concentration appear to emerge from spontaneous self-organization (cf. Barabási 2003), formal and informal representatives appear to deliberately bypass hacker principles and to tend to rely on the classical organizational principles of power and bureaucracy in order to execute mission-critical responsibilities which they do not risk leaving to the community's spontaneous and self-organizing engagement. Whereas Cunningham defines wiki software as a tool to cater to projects with uncertain outcomes, Wales and Sanger have a preconceived idea of what they want to achieve with it. According to Cunningham, for a wiki to function "it takes a sense of trust and faith in the process, rather than control over the eventual outcomes." As I demonstrated throughout this chapter, starting from a situation in which constituents experienced a great sense of trust and faith regarding the mission-critical aspects of Wikipedia's editing software, but have, over time, become increasingly organized via classical organizational processes of power and bureaucracy. The essential reason is, I conclude, that infrastructural development processes are political processes, in which practical challenges must be met, political ambitions must be pursued, and ideological choices must be justified. Apparently both representatives and part of the constituency believe that these practical, political and ideological challenges are better served by classic organizational principles than by spontaneous self-organization. In this context bureaucratic principles serve as a means to organize the acceptance or trust that tendencies of oligarchization and of bureaucratization are not enforced upon the community by a self-interested elite by explicitly and objectively demonstrating that both volunteers' and officials' decisions are based on formal-rational procedures, rather than on formal and informal representatives' individual whims.

From this empirical analysis it appears that, despite the common understanding of Michels' and Weber's classical organizational theories, part of the centralization and of the bureaucratization of regarding Wikipedia's software infrastructure emerged from the bottom-up, rather than being imposed from the top-down. Besides the fact that power concentration appears to partly emerge from community members' voluntary endeavors, it turns out that some constituents consider a central authority essential in order to set directions and enforce decisions regarding critical aspects of their open and self-organizing community's projects. Rather than elites to be self-interested, as one would expect to find based on Michels, I find that authorities are inclined to exhibit power and bureaucracy in order to safeguard the mission-critical aspects of their "organization." Nonetheless they do not necessarily mind compromising community members' autonomy in their endeavors. Along with exposing conservative tendencies, as Michels demonstrates, those in power appear to aspire to breach the alleged conservativeness of the established order of constituents, which they consider an obstacle in the realization of their tasks and ambitions. Nevertheless, it appears that community members play a significant political role as countervailing force challenging top-down exhibitions of power, by which they significantly influence how power relations exactly play out and how bureaucratic structures evolve during their organizational evolution. Throughout this historical development, bureaucracy serves as a legitimate source of power, i.e. as a means to objectively balance democratic ideals and principles, and tendencies to claim authority to meet responsibilities and ambitions that apparently come with hosting a large and complex organization.





Coordinating culture:
regulating volunteers in
Wikipedia's distributed
system

One of Wikipedia's challenges is to establish and maintain a culture and an environment in which volunteers can operate freely and constructively, without any central coordination. According to one of Wikipedia's essential principles, "be bold," Wikipedians are encouraged to be proactive and to contribute to Wikipedia's content, software and governance based on their personal insights, motivation and concerns. The intrinsic unpredictability of such spontaneous organization is fundamentally opposed to structures that are traditionally considered to be characteristics of a safe and productive environment, such as formal hierarchies, policies and procedures, which are meant to rule out uncertainties and which are implemented to achieve an organization's objectives and ideals. It appears that both Wikipedians' and Wikimedians' attempts to establish and maintain a collaborative culture increasingly tend to the "traditional" end of the spectrum.

In *Good Faith Collaboration: The Culture of Wikipedia*, Joseph Reagle argues that Wikipedia established and maintains a collaborative culture, which is essentially based on "good faith," as it seeks to maintain a neutral point of view, and as its objective is to assume that peers' and newcomers' contributions are made with good intentions (2010). According to Reagle, both traits, to maintain a neutral point of view and to assume good faith, allow volunteers to work effectively with one another. Over time, however, the essentially rational and apolitical culture that Reagle observes confronted practical and ideological challenges that came with the vastly expanding project. Differences of opinion and objectives amongst stakeholders, the proliferation of trolls and vandals, the decrease in editor retention, and the homogeneous composition of the community were just some of the factors that added a political dimension to the good faith assumption. In this chapter I consider how power concentration and bureaucratization played a role in the efforts of Wikipedians and Wikimedians to cope with these challenges, and how such strategies affected the autonomy of Wikipedia's constituents.

After describing how advocates of open and self-organizing communities argue that traditional organizational models are

inadequate to account for democratic and distributed ways of working, I elaborate distinct strategies that Wikipedia used to establish and to maintain a collaborative culture. I divide this chapter into sections according to the key periods of this process to show the progression, causes and effects of power concentration and of bureaucratization. In Wikipedia's first few months, Larry Sanger endeavored to co-creatively develop Wikipedia's essential norms and standards, yet volunteers were attributed a high amount of autonomy in establishing and maintaining a civil and productive environment. After a while, as Wikipedia's basic norms and values were regularly challenged by constituents, Sanger sought to establish a central authority to enforce basic rules and guidelines. This attempt failed precisely because the community resisted the development of a central authority. During the early years of the Wikimedia Foundation (2003-2007), Wikipedians increasingly dedicated their efforts to the documentation and enforcement of a body of formal rules and regulations in order to socialize the increasing amounts of newcomers. Additionally, in this period of "bottom-up bureaucratization," they developed and ran bots to counter the attacks and abuse by vandals. During a later period (2010-2017), in which the Wikimedia Foundation centralized and narrowed its focus, the WMF engaged in programs and interventions to counteract the negative consequences of Wikipedia's bureaucratization, by, for example, centrally establishing initiatives to make Wikipedia's culture more welcoming to newcomers. These interventions were characterized by increasing automation: algorithms and bots were developed to provide Wikipedians with estimates of the intentions and the effectiveness of potential new collaborators. Simultaneously the WMF engaged in initiatives to expand and to diversify the composition of the community. For strategic reasons these attempts were terminated and left to the community.

I conclude that, over time, Wikipedia's initial hacker culture was increasingly curbed by formal structures and policies. Initially, bureaucratization appeared to emerge from the distributed and uncoordinated efforts of Wikipedians themselves, as they self-

selectively engaged in efforts to sustain an open and self-organizing community. Wikimedia's officials engaged in efforts and technological interventions to mold Wikipedia's culture in such a way as to better serve its central mission, i.e. to stimulate the development of a more open and diverse community than the one that emerged from the bottom-up. As bureaucratization appears to be the un-coordinated product of both bottom-up and top-down efforts to establish and maintain a democratic organization, this phenomenon fits my conceptualization of "self-organizing bureaucratization."

In *The Penguin and the Leviathan*, well-known Harvard economist and peer-production advocate Yochai Benkler argues that classical organizational and governance models are based on the premise that human beings are essentially self-interested. As a consequence, Benkler argues, organizations are traditionally built upon incentives, punishment, and hierarchical control, "in order to get people to achieve public, corporate, or community goals" (2011a:2). According to Benkler, such models lack any concern for human autonomy and intrinsic motivation. Referring to dozens of field studies, he provides an argument for the proliferation of more social and democratic ways of working.³⁶ In the seemingly effective, robust and profitable organizations he describes, participants appear to be motivated by personal and common interests, moral considerations, team spirit and mutual trust, rather than being driven by hierarchical authority, machine-like bureaucracy, and undemocratic and incentive-driven market systems. He argues that new, a-hierarchal, open and self-organizing types of social organization are vested with the capacity to establish democratic, decentralized and diverse organizations and systems with more discretion for their constituents. Since it started out based on a set of simple norms and on the intrinsic motivation of its constituents to contribute to a common good, Benkler considers Wikipedia a paradigmatic example and an amazing experiment of

³⁶ Benkler refers to cases like Toyota, Southwest Airlines, the Chicago community police, Linux, and Wikipedia. During his opening speech at Wikimania in Haifa, he alludes to the Occupy movement and the Syrian Arab Spring-protests in the vicinity of the conference venue as examples of new and democratic ways of organizing (2011b).

how “behaviorally realistic cooperative human systems design” can be practiced at a large scale (2011b:1:00:25).³⁷

As I demonstrated in Chapter 2, classical sociological theories would argue that this intentionally democratic collaboration is only ever transient, with power concentration and bureaucratization as a logical consequence. According to Michels, it is unavoidable that organizations become governed by conservative representatives once they grow in size and complexity. And according to Weber, bureaucratic structures are required in order to establish and to maintain the basic conditions for democratic cooperation. Both Michels and Weber argue that such formal structures could adversely affect constituents’ autonomy. In this chapter, I examine the ways that tendencies to power concentration and of bureaucratization played a role in Wikipedians’ and Wikimedians’ endeavors to organize, foster, facilitate, encourage, manage and sustain a culture of cooperation amongst volunteer contributors, and I offer an analysis of the causes of these phenomena, as well as of how they affected constituents’ autonomy.

Setting and challenging norms of participation (1999-2003)

The predecessor of Wikipedia, Nupedia, had a rigid bureaucratic structure that was inadequate to catalyze the establishment of a peer-produced encyclopedia. The early period of Wikipedia could be characterized as a charismatic community, engaged in making decisions and crafting the project’s basic principles and policies for collaboration on the basis of consensus. Rational arguments and mutual respect were considered to be the essential ingredients needed to establish and maintain a constructive collaborative culture. However, Wikipedians learned that these principles alone were not

³⁷ Although he is an explicit advocate of new social and democratic forms of cooperation, Benkler does not propagate a post-authoritarian and a post-bureaucratic paradise. In addition to classic organizational models and theories he seeks to build models and theories that could account for and that could optimize the personal and the social engagement he observes and values (2011a:27).

sufficient to maintain a harmonious and productive culture, as they found themselves confronted with practices of participants radically committed to the openness, leaderlessness and undefined nature of bottom-up organization, who actively challenged these principles. This put Wikipedia's editor in chief, Sanger, in an untenable position: while he advocated for community members' autonomy on the one hand, he demanded (in vain) to be allowed the authority to correct what he considered counterproductive and illegitimate discussions on the other.

During Wikipedia's early stages, Wales and Sanger made continuous efforts to shape, advocate for and disseminate a culture that allowed volunteers to freely and boldly partake in the production and distribution of the sum of all human knowledge. Their ambition was to support the project to thrive on the self-selected engagement and the self-government of volunteers, as they were convinced that mistakes, discrepancies and disputes could be solved by members of the community improving on each other's work, by exercising respect and politeness, and by using rational arguments. They engaged in establishing and maintaining the structures to serve as common ground for participants to work together productively and respectfully. One of the main ways by which they did so was by introducing one of Wikipedia's essential policies which holds that articles should be *unbiased*, or written from a *neutral point of view* (2001a).³⁸ Attempting to write articles by fairly representing all views by "*describing debates rather than taking one definite stand*" was considered a guarantee of productive collaboration on Wikipedia (Wikipedia 2001a:n.p.). Committing "with a consistently positive, sympathetic tone" to the fact that the sum of all human knowledge "includes *all different* (significant, published) theories on all different topics" was supposed to demonstrate respect to both supporters and opponents of specific ideas and statements, and therefore conflicts were supposed to be kept to a minimum (*Ibid.*). By that time, Wikipedians started to volunteer in the pre-structuring of processes to welcome newcomers and to consequently disseminate the project's

³⁸ Sanger introduced this "Neutral Point of View-policy" in Nupedia (Nupedia 2000).

ideology, processes and customs in order to socialize them. In case of any conflicts, Sanger and Wales served as final arbiters.

In our interview, Erik Möller recalled the vibrant atmosphere amongst early Wikipedians, who were recruited from online platforms concerned with the democratization of editorial and software development processes. He found them productively engaged in the important questions of how to deal with all kinds of practical and theoretical challenges, such as how to respond to conflict and what would happen if editors ended up reverting each other's work back and forth. "Everyone didn't always agree, but the group was small enough that that didn't impose insurmountable challenges, and the problems were interesting and fun to reason about" (Möller 2017). They concluded that deliberative decision-making and pursuing consensus were the tactics that would best serve Wikipedia's ideology and its practices.

A practical and ideological choice that Wikipedians made during that time and that has been essential for Wikipedia's collaborative culture was to keep a record of all previous versions of all articles and policy documents. This allows anyone to trace all the edits and arguments in every article's or policy's history (Figure 6.1).³⁹ This feature not only serves to provide insight in the evolution of an article, but also makes it such that any changes, including vandalism, can be easily detected and reverted by any Wikipedian, immediately. This not only allows for the maintenance of the project being taken care of by participants from the bottom-up rather than by an institution from the top-down, but also provides the formal structure to make it relatively harmless to support the spontaneous and self-selected editing of volunteers.

³⁹ The very first wikis did not keep a complete history of page edits, so that previous versions of articles and related discussions and conflicts disappeared by default.

- (our | prev) ◻ 23:03, 27 March 2003 MartinHarper (talk | contribs) m .. (36,029 bytes) (+127) .. (link to meatballwiki article) (thank)
- (our | prev) ◻ 21:58, 9 February 2003 Eloquence (talk | contribs) m .. (35,902 bytes) (-3) .. (replacing with less controversial example) (thank)
- (our | prev) ◻ 22:40, 7 January 2003 Mav (talk | contribs) m .. (35,899 bytes) (+19) .. (per talk: scare quotes) (thank)
- (our | prev) ◻ 07:25, 7 January 2003 Mav (talk | contribs) .. (35,880 bytes) (-22) .. (Per talk: taking out "if necessary edit it," since this is a protected page; this page needs some TLC though...) (thank)
- (our | prev) ◻ 19:51, 22 December 2002 Stephen Gilbert (talk | contribs) .. (35,902 bytes) (+41) .. (adding polish interlink) (thank)
- (our | prev) ◻ 11:42, 31 October 2002 Brion VIBBER (talk | contribs) m .. (35,861 bytes) (+2) .. (fix fr link) (thank)
- (our | prev) ◻ 06:19, 26 September 2002 AstroNomer (talk | contribs) .. (35,859 bytes) (-1) .. (Larry Sanger>jimbo Wales. Larry doesn't beat people on th head anymore) (thank)
- (our | prev) ◻ 06:38, 18 September 2002 Brion VIBBER (talk | contribs) m .. (35,860 bytes) (+12) .. (interlanguage links: de,eo,fr) (thank)
- (our | prev) ◻ 16:03, 12 September 2002 Ed Poor (talk | contribs) .. (35,748 bytes) (+1) .. (removed "neutrality" from definition of "neutrality" – it was a circular definition) (thank)
- (our | prev) ◻ 16:59, 17 April 2002 Lee Daniel Crocker (talk | contribs) .. (35,747 bytes) (+2) .. (thank)
- (our | prev) ◻ 02:24, 3 April 2002 24.150.61.63 (talk) .. (35,745 bytes) (+2)
- (our | prev) ◻ 07:45, 22 March 2002 Zundark (talk | contribs) .. (35,653 bytes) (-3,783) .. (revert 24.150.61.63) (thank)
- (our | prev) ◻ 06:26, 22 March 2002 24.150.61.63 (talk) .. (39,436 bytes) (+4,783)
- (our | prev) ◻ 15:51, 25 February 2002 —April (talk | contribs) m .. (35,653 bytes) (0) .. (move content - this whatcha want, LMST?) (thank)
- (our | prev) ◻ 11:46, 19 February 2002 Conversion script (talk) m .. (35,655 bytes) (-434) .. (Automated conversion)
- (our | prev) ◻ 01:41, 5 January 2002 Larry_Sanger (talk) m .. (36,087 bytes) (-2)
- (our | prev) ◻ 01:29, 5 January 2002 Larry_Sanger (talk) .. (36,089 bytes) (+6)
- (our | prev) ◻ 02:41, 27 December 2001 Larry_Sanger (talk) .. (36,023 bytes) (-116) .. (Done for now with making a general light edit (mostly copyediting for clarity))
- (our | prev) ◻ 02:22, 27 December 2001 Larry_Sanger (talk) m .. (36,139 bytes) (-198) .. (Still in progress...light general ediling)
- (our | prev) ◻ 02:13, 27 December 2001 Larry_Sanger (talk) m .. (36,337 bytes) (-281) .. (In the process of general light editing)

Figure 6.1. Snapshot of the History of Wikipedia's Neutral Point of View policy. Every page edit is stored and retrievable via hyperlinks.

This history-feature allowed Wikipedians to encourage others to “be bold,” referring to the ideal of a culture in which nobody should feel discouraged to edit an article on Wikipedia. However, it appeared that many newcomers did hesitate to engage in editing the online encyclopedia, as they often reported flaws rather than solving them. Lih notes that, as a consequence, established editors developed the “SOFIXIT” template, which provided newcomers with a message on their Talk pages that included encouragement and basic instructions for making an edit (2010). The goal was to confront them with Wikipedia’s ethos that allowed everyone to actively intervene in the encyclopedia’s pages: “Don’t like the way things are done? Annoyed how dates are missing in an article? Think there’s a better way to display images? Those articles are missing maps? ‘SOFIXIT, it’s a wiki after all’ became the standard reply on the mailing lists or talk pages to newbies” (Lih 2010:114; Wikipedia 2004).

Early in the project’s history, formal positions were established, including that the “administrator” or “admin” status allowed specific Wikipedians with the technical ability to perform administrative tasks like deleting pages or removing or renaming them without

breaking links. In March 2001 Wikipedians had an on-wiki discussion concerning the criteria to grant community members administrator-status. Wales himself suggested to generously allow this privilege to any active Wikipedian, which conveys his sense that existing and new community members could be easily trusted with formal responsibilities:

I, Jimbo Wales, propose that I should give out the administrator password fairly freely. People who have been around for a week or two, contributing to the pages in a useful way, should have access to this. ...I think, as long as someone has shown good will (and that means pretty much everybody who is a regular visitor) should have it. (2001b:n.p.)

Several Wikipedians responded with worries regarding how to make sure that admins were aligned with Wikipedia's norms and standards. User:CliffordAdams, who was explicitly asked for his opinion, suggested they have a variety of privileges, ranging from influential to not too influential, and that they defined stricter criteria regarding whom and whom not to allow admin-status (Adams 2001:n.p.). He also suggested that they emphasize that adminship was a service to the community rather than a hierarchical position. Adams's approach towards the formalization of adminship reveals his belief that adherence to bureaucratic principles would serve as an objective means to organize trust in an open and self-organizing environment. He sketches a division of labor in which pre-described tasks and clearly established mandates be allowed to participants with proven merits. This hierarchical system, in which constituents were supposed to play a prominent role, was established in order to function as effectively as possible, and with as little risk as possible. At the same time, the democratic aspect of the organization was foregrounded by emphasizing that officials were nothing but servants of the community.

During these early stages, Wikipedia appeared to operate as a charismatic community, where decisions were made amongst

Wikipedia's officials and a limited number of self-selected disciples on the basis of implicit understanding and shared intuitions rather than based on explicit cultural norms. Wales clearly held the position of Wikipedia's ultimate and charismatic authority, while active Wikipedians engaged in the project based on a sacred belief in the potential of online peer-production. Weber defines charismatic authority as "extra-ordinary," and as "sharply opposed to rational, and particularly bureaucratic authority" (2013:244). Wikipedians, in their endeavors to make the self-organizing community work respectfully, objectively, productively and based on consensus, started to actively engage in the repurposing of the wiki by seeking to add bureaucratic aspects to it.

Wikipedians are ideally supposed to behave in a respectful manner, allowing for any of them to operate according to their personal creative spirits, without any need for formal structures defining rights and authorities. During Wikipedia's early stages, Wales and Sanger operated as the project's ultimate authorities. They were the ones performing complex or controversial administrative tasks, and they were the ones making final decisions in cases of discussions and disputes. However, since this situation did not scale with Wikipedia's growth and the subsequent increase of its administrative tasks, quality-issues, controversies and conflicts, Wikipedia's officials felt obliged to off-load some of their authority. Admins' mandates were expanded, for example by allowing them the authority to block vandals and users that behave unconstructively; and on a page called "Rules to Consider," Sanger invited Wikipedians to engage in the establishment of the fundamental principles of Wikipedia's collaborative culture: "We must rely on developing our own good habits and occasionally taking a bit of time to correct the results of someone else's bad habits. But it might help to specifically enunciate particularly rules that some of us wish we'd make an effort to follow" (Wikipedia 2001b:n.p.). Sanger emphasizes here that it was up to volunteer-editors themselves to build and to maintain a pleasant, productive and healthy working environment. However, in order to establish a common ground and to provide arguments in potential

discussions and conflicts, and to make contributing to Wikipedia potentially more productive, he suggests that they publicly and by consensus compose, discuss and record what community members consider to be the basic conditions to achieve such a collaborative culture. By stating that “rules are established according to the vigor of their enforcement,” he emphasized that the rule-system is not forced upon the community from the top-down, but that rules and regulations are applicable only as long as these are applied by community members themselves (*Ibid.*).

One of the most prominent guidelines on this “Rules to Consider” page is “Ignore all rules.” To emphasize the wiki-ness of Wikipedia’s rule system, and to make sure newcomers do not feel intimidated, Sanger encouraged participants to let their own sense and judgment prevail over formalized guidelines. “If rules make you nervous and depressed, and not desirous of participating in the wiki, then ignore them entirely and go about your business,” he suggested (*Ibid.*; cf. Wikipedia 2002). To guarantee minimal standards, however, Sanger nevertheless introduced two additional guidelines: don’t publish any ideas or propositions, only verifiable data (“Verifiability”), and don’t publish any research that has not been published elsewhere (“No Original Research”).

Sanger, however, was confronted with the fact that these basic rules and principles were not unequivocally respected and applied, and that volunteers participating in Wikipedia were not uniformly working towards a shared goal. He recalls that editors appeared to behave rudely and to push their views rather than striving to reach consensus, and that trolls seemed to aspire to frustrate debates by flocking to discussions in large numbers. He concluded, to his own astonishment, that Wikipedians appeared to disagree about the project’s identity and its essential cultural characteristics, questioning whether the project’s culture should be “radically anarchical and uncontrolled, or instead more singlemindedly devoted to building an encyclopedia” (Sanger 2005:n.p.). This tension literally challenged Sanger’s original convictions and aspirations regarding bottom-up organization. As the inventor of the rule “Igonore all rules,” who

presented himself as a “believer …in Wikipedia’s lack of hard rules,” he began to worry about the conflicts and the disputes concerning the project’s fundamental principles (Lih 2010:171). He seemed to consider that some Wikipedians’s commitment to principles of openness and freedom were detrimental to the course of the project and to his pursuit to work productively and effectively.

Sanger argued that Wikipedia supported anarchy, however not as a principle, but only as far as it served the development of the free encyclopedia (2001:n.p.). He considered the project’s participants to be autonomous self-organizing entities only insofar as they operated within preconceived boundaries, and as long as they served the preconceived purpose of the project. He was convinced that a self-organizing community needed a central authority to maintain the project’s basic principles and to pursue its objectives, without being constantly challenged to discuss and to legitimize its actions and considerations to any community member. He eventually balked at the lack of a generally agreed upon constitution and a moral code that could have granted him the authority to maintain order and to achieve the effectiveness he deemed necessary to make the project a success. As a result, he requested this authority from the community:

I need to be granted fairly broad authority *by the community* – by you, dear reader – if I am going to do my job effectively. Until fairly recently, I was granted such authority by Wikipedians. I was indeed not infrequently called to justify decisions I made, but not constantly and nearly always respectfully and helpfully. This place in the community did not make me an all-powerful editor who must be obeyed on pain of ousting; but it did make me a leader. That’s what I want, again. This is my job. Now if, as I have been recently, I am constantly forced to justify my every action, I can act far less, and my effectiveness as a leader of the project becomes much less effective. (Sanger 2001a:n.p.)

Although Sanger explicitly emphasized how limited the powers of such a leader would be, his plea for authority was not well received by Wikipedians, who started to worry about the development of a “cabal” (cf. The Cunctator 2001:n.p.). Sanger concluded that he might have become “the symbol of opposition to anarchism, of the enforcement of standards, and consequently of the exercise of authority in a radically open project” (2005:n.p.). Ironically, it was by his own design, and from his early convictions regarding how an open and decentralized project should work that he was denied the authority he later deemed necessary to actively manage the project and to fight the inevitable politics that come with any open and self-organizing community.

Sanger guessed that Wales might be in a better position to exercise such power. In October 2002, after he had resigned, Sanger publicly demanded that Wales use his authority to declare certain policies as non-negotiable in order to protect Wikipedia from people he classified as “vandals, trolls and idiots” (2002b:n.p.). On the basis of establishing and sustaining a productive and healthy collaborative environment, Wikipedia’s former first official did not only consider it a central authority’s task to provide volunteers with the infrastructure and the ideological framework to self-organize, but went further by deeming it essential to define enforceable and non-negotiable norms in order to counter contributions that are considered counterproductive. While Sanger, by his own admission, lacked the formal-rational means to exercise authority, his founding counterpart Wales seemed to experience less trouble exercising authority because he was considered less of a controversial and more of a charismatic figure than Sanger.

This second stage in the development of Wikipedia’s collaborative culture points to the paradoxical and contested aspect of organizing self-organization, i.e. of providing volunteers with a basic set of norms and rules in order to self-organize, while at the same time fostering the aspiration to achieve specific ambitions and to dispose the project of unwelcome aspects of self-organization. This was a controversial way of leaving portions of an organization to the self-

selected and stigmergic endeavors of volunteers, as it could principally lead to outcomes that were indeterminate upfront. The following section describes the transformation of a contested, charismatically led community towards a bottom-up bureaucracy.

Bottom-up bureaucratization to remain “in focus and in love” (2003-2007)

At the establishment of the Wikimedia Foundation, Wales concluded that Wikipedia’s expansion in terms of the number of visitors to the website, the number of edits, the number of editors, and the volume of the encyclopedia, implied a challenge regarding how collaboration among volunteers of the project was organized. Newcomers were mostly unaware of the mores and of the technical possibilities of the platform, and it took established Wikipedians a lot of time and effort to correct, train and socialize them. At the same time the project became subject to the malpractices of trolls and vandals, which caused those engaged in maintaining Wikipedia’s open atmosphere and its quality standards a lot of work and frustration. Just as Sanger did previously, Wales implied that maintaining an open platform and a welcoming community would pose a challenge on the concurrent ambition of maintaining and improving standards of productivity, quality and civility (Wales 2004b:n.p.). In his “Founder Letter” of September 2004, he argued that upholding “a standard of rational benevolence and love” would be essential in order to face this challenge (*Ibid.*). Only by constructively and respectfully building upon each other’s work, he argued, could Wikipedia’s goal of collaboratively producing and maintaining a high-quality global knowledge-service be achieved.⁴⁰

In practice, as I will demonstrate, endeavors to establish and maintain these conditions often led to bureaucratization. Community members, rather than Wikimedia’s officials, engaged

⁴⁰ Wikipedia’s founder elaborates: “The only way we can coordinate our efforts in an efficient manner to achieve the goals we have set for ourselves, is to love our work and to love each other, even when we disagree.” (Wales 2004b:n.p.).

in devising a formal-rational structure of policies and guidelines, formal positions, and bots, in order to provide themselves with the capacity and the authority to meet the challenges of the expanding open and self-organizing community, or as Wales put it, to engage in endeavors to “remain in focus and in love.” In this section, I describe the formalization, expansion, and calcification of procedures, the increasing formalization of the enforcement of policies and guidelines, the increasing division of labor and the increasing barriers to obtain a formal position, and the proliferation of bots in Wikipedia. All are bureaucratic tendencies, motivated by intentions to establish a democratic and collaborative culture, with an increasingly rigid and exclusive structure as a consequence.

Expansion and calcification of policies and guidelines

Wikipedians are engaged in the composition, maintenance and enforcement of norms, rules and regulations in a wiki-like fashion. Wikipedia’s body of norms and good practices, meant to create and to maintain a constructive and productive atmosphere, formally consist of three formats: “policies,” which are relatively strict norms; “guidelines,” which are “actionable norms approved by general consensus”; and “essays,” which are “nonauthoritative articles meant to pose statements and to enhance discussion on specific topics” (Reagle 2010:51). On Wikipedia’s “Policies and guidelines” pages, it is mentioned that these structuring principles follow from community consensus is emphasized (Wikipedia 2017f). In line with “Ignore all rules,” Wikipedians are encouraged to have policies and guidelines guide their work as long as these are constructive and are not hindering their efforts. Those engaged in editing Wikipedia considered Wikipedia’s documented basic principles of verifiability, no original research, and neutral point of view, to be insufficient in making the project function according to their wishes and ambitions. Two of the fundamental causes for them to engage in the expansion of Wikipedia’s body of formal rules and regulations were that they experienced a lack of justification (“arguments”) and authority to enforce decisions regarding the issues they faced, and that they lacked

the capacity to engage in person in practices to socialize newcomers in the context of the overwhelming expansion of Wikipedia.

To a large extent, Wikipedia's body of policies and guidelines was formed when Wikipedians engaged in formalizing established practices and habits, and informal standards and norms, by which they could effectively socialize and discipline newcomers regarding issues as content, conduct, and authority. They considered this a legitimate practice to manage their increasing workload. There are a broad range of policies and guidelines including what information to include or not to include in a Wikipedia article, what etiquette to follow, how dispute resolution should be organized, under which conditions pages can be deleted and by whom, how to treat newcomers, how to lay-out pages, how to use images in Wikipedia, and how to name and categorize articles. All are meant to integrate and align the distributed contributions of individual participants in the project in an efficient, coherent and mannerly way.

Specific policies and guidelines were also composed to meet legal requirements and in response to acute challenges. A well-known example is the “Biographies of living people” policy, which was composed after fictitious and compromising information was purposefully added to an American journalist’s Wikipedia-page (Wikipedia 2017g).⁴¹ “Biographies of living people” demands strict adherence to US law, and emphasizes that editors are obliged to adhere to Wikipedia’s core content policies (Verifiability; No Original Research; and Neutral Point of View) when they publish information about living persons. Not only is this policy meant to enforce the legal and moral norms of respecting subjects’ privacy, it is also meant to safeguard Wikipedia’s reputation as a reliable source of information. As a consequence of the controversy that brought this policy about, unregistered users were prohibited from creating new article-pages, since non-registered newcomers were generally thought to cause too much nuisance.

⁴¹ On the page of the John Seigenthaler it was falsely stated that “Seigenthaler had been a suspect in the assassinations of U.S. President John F. Kennedy and Attorney General Robert F. Kennedy” (Wikipedia 2017h).

Another policy that was initiated and devised by the Wikimedia Foundation for both pragmatic and legal reasons is “Office actions.” According to this policy Wales, Wikipedia’s ultimate authority by that time, provided Wikimedia’s officials with the power to delete articles without consulting the community and without seeking consensus in cases where the WMF was confronted with content that was offensive, libelous, or causing personal harm or legal troubles such as copyright infringements (Wikipedia 2006b). Wales explained that this policy was created in order to assist one of the Foundation’s first employees, Danny Wool, who claimed to receive phone calls from people demanding rectifications and from lawyers threatening lawsuits on a daily basis (Wool 2006). Well aware of the anti-authoritarian spirit of the community, Wales hastened to emphasize that leaving the WMF’s officials a certain amount of discretion to intervene in Wikipedia’s content was merely a practical measure in order to save time and to avert legal troubles, and that it was “in no way meant to override or replace the process of community consensus” (Wikipedia 2006b).

As the community grew, it invested more in defining and enforcing policies and guidelines rather than acting on Sanger’s call to “ignore all rules” (Viégas, Wattenberg and McKeon 2007). Kittur et al. report that the number of edits that contributors devoted to the content of articles dropped from more than ninety percent in 2001 to less than seventy percent in 2006, while the proportion of their contributions relating to policies and procedures increased from two percent to almost fifteen percent in the same period (2007:455). Despite Wikipedians’ anti-bureaucratic sentiments and despite the awareness of the potential negative consequences of formalization, active participants, rather than central authorities, developed an extensive body of formal norms and guidelines and informal essays during Wikipedia’s evolution.⁴²

⁴² All of those engaged in efforts to update, refine and extend Wikipedia’s body of policies and guidelines were encouraged to avoid “instruction creep,” i.e., to avoid the expansion of rules and regulations over time to the point that they become overly complex and

While I find that the number and length of policies and guidelines continues to increase, over time the rate of expansion slowed down from its peak. Halfaker et al. conclude that policies and guidelines in Wikipedia become increasingly “calcified,” meaning that it became harder for community members to adjust Wikipedia’s formal structures, especially for newer generations of editors (2012). Respondents confirm that, whereas all Wikimedians are theoretically allowed to add and to change policies and guidelines, this has, over time and in practice, become more difficult. A quote from one of my interviewees confirms this:

There is just too much shared social belief invested in the rules such as they are, including people’s personal emotional investment, the sort of cognitive investment that they made in the decisions that they have made, the arguments that they have posted, all the time that they have spent on Wikipedia arguing, all the precedents that they have created. You can change any [policy, guideline, essay or legal rule], in theory. But the higher the level, and the longer it has been there, the more likely it is that other things have been built connected to it, and that people have an emotional connection to it, so the changing is not a question of technology... It is a social thing. (Wyatt 2016)

According those I interviewed, most Wikipedians are generally hardly aware of political aspects of the evolution, the background, the scope, the relations and the sensitivities of a policy or guideline, and so only seldom do they manage to organize community support and consensus to legitimize any changes or amendments. In the previous chapter I showed that developers aspiring to make changes to MediaWiki faced similar barriers. The fact that Wikipedia’s community members, as with their officials at the Wikimedia Foundation, do not possess any authority to curb the uncoordinated

then are “often misunderstood, followed with great irritation or ignored” (Wikipedia 2006c:n.p.).

and at some points inconsistent bureaucratization, although it contributes to the rigidization of the project's culture (cf. Gardner 2009:n.p.). Practically speaking, it is understandable that policies and guidelines have become more fine-tuned over time and that they should not be changed abruptly, given that they serve legal obligations and organizational objectives of productive collaboration and socialization.

Reverting edits, rather than socializing newcomers

With the growth of traffic and activity on Wikipedia's website, Wikipedia's volunteer law-enforcers were confronted with opponents and trolls who maliciously sought the boundaries of the project by challenging conventions, teasing peers and representatives, provoking discussions, pulling pranks and frustrating procedures. Articles, policies and guidelines themselves have regularly been subject to serious vandalism. For example, in June 2005, 29 of the 93 edits to Wikipedia's description on its "Vandalism" policy were complete or almost complete replacements of the policy description with nonsense text, including:

"ill show you vandalism;" "Vandalism is indisputably bad-faith addition,like when i deleted all of the following text: poof;;" "vgsoudhsghipogdhipogdsjgsoudhsghipog" [ad infinitum]; "Fuck you sons a bitches;" "Google It!;" "Fuck you;" "Liberals want to kill your babies!!!!" [ad infinitum]; "Hello!!!!;" "it's a free country.ILOVEWARTHOGS!!!!!" "You had better not block me!!!!!!!!!! I love wartyhogs/.1!;" "whkgjs;flg;jfsdgljsfdjgsd;" "tyuyhio77u897987987yuhiujhjiku;" "what is vandalism, exactly? A question for the ages;" "Vandalism is cool.;" "i love vandalism;" and "heyy??" (Wikipedia 2017i:n.p.)

Based on his analysis of edits to Wikipedia's "Verifiability" policy between 2003 and 2006, Konieczny concludes that from the total of 1,112 edits, 503 could be classified as "vandalism related," and 298 as minor, leaving less than thirty percent of the edits to be substantial

contributions to the actual policy description (2009). These examples serve to illustrate that a substantial part of the regulatory activity in Wikipedia's early years could be ascribed to activities of vandalism and vandal-fighting.

Reagle reports that, along with Wikipedians' engagement in maintaining standards regarding quality and civility, the relative amount of policy-citations on users' Talk pages increased over time (2010:91). References to formal norms and principles do not only serve to explain and to legitimize actions; they provide editors who are familiar with Wikipedia's rules and regulations with relative authority. Although, according to Beschastnikh, Kriplean and McDonald, newcomers familiarize themselves relatively rapidly with Wikipedia's norms (2008), in my interviews respondents mentioned how established Wikipedians would refer to rules and customs in order to get their way and to keep discussants and critics at bay, even though some of those very rules and customs were nonexistent. At the same time, overburdened and over-protective "Recent Changes patrollers" tended to immediately revert users' mistakes and unwelcome contributions rather than making an effort to adjust their work or to familiarize them with appropriate norms and customs. One person I interviewed, Ziko van Dijk, put it this way:

In case of a dispute the common argument is: 'I'm an experienced Wikipedian, you are not, so do as I say.' ...It is not uncommon that others do not share my point of view, or that they lack insight or information for proper judgment, but they might say: 'I support him as an experienced Wikipedian.' And if others do so as well, a syndicate of experienced Wikipedians is established, which attribute each other the role of "core community members," because they gain from it. In case of another conflict they want to be supported as well. (2016)

What I take from this and from other interviews, is that, through familiarity, experience, and expediency, structures of trust amongst editors form in which established ones support each other even if they

do not really know each other. Consequently, despite the availability of bureaucratic procedures to forestall the fact, these relationships serve as structures of power, causing newcomers to have a harder time getting their proposals accepted. Although the scale at which these barriers are actually raised is uncertain, this phenomenon serves as an argument for various initiatives of Wikipedians and Wikimedians to lower the threshold for newcomers to participate in Wikipedia, of which I describe in later sections of this chapter.

Increasing division of labor and barriers to obtain a formal position

In his 2005 “Letter from the Founder,” Wales emphasized that Wikimedia was essentially egalitarian and that, as was true in Wikipedia, credentials did not equal status, authority or privileges (Wales 2005c). At the same time, he emphasized the need for positions with a certain amount of authority in cases where complex judgments need to be made. Initially, Wikipedia’s initiators used their personal authority to manage the project, to resolve conflicts, and to come to decisions. In order to be able to provide such guidance at the increasingly large scale of the project, a range of formal positions was developed by which a number of these responsibilities could be delegated to community members.

The most prominent community-member positions with authority are Wikipedia’s “administrators.” Admins can disable and re-enable the editing functionality of pages; rename, delete and undelete pages; and block and unblock users held responsible for vandalism and misconduct. Admins are told that they are not supposed to act on their personal views, that they do not have any special power over other users, and that they are only to settle matters based on community consensus (Wikipedia 2017j). Nevertheless, admins are generally considered as functionaries with status and power (*Ibid.*). Over time, checks and balances were established in order to formalize mandates and to intervene in cases of misconduct and abuse of authority. In several language-editions of Wikipedia, admins need to re-apply yearly to have their positions reaffirmed

by the community, and admins can have their status removed by Wales and by so-called “bureaucrats,” who can in turn have their status removed or changed by “stewards.” The mandates of all these officials are bureaucratically captured in formal policies. Therefore, the introduction of authority cascaded further bureaucratization, as the provision of checks and balances induced the extension of formal procedures and of layers of authority.

While admins, bureaucrats and stewards have different levels of authority, all are expected to implement policies and execute community consensus. In case such a consensus cannot be reached, a case can be referred to an “Arbitration Committee” (colloquially known as ArbCom). Wales established the ArbCom for the English Wikipedia in 2003.⁴³ While discussing the decentralization of the mediation of conflicts to this open and non-hierarchical body, he demanded the position of final arbiter, “so that I can at least act as a final safety valve in case things start to go haywire. And I also, of course, would reserve the power to ‘disband parliament’ if necessary” (Wales 2003d:n.p.). So, despite that bureaucratic checks and balances were put in place, Wales, just as Sanger, Tretikov and other prominent Wikipedians and Wikimedians did on other occasions, claimed the authority to intervene in or to bypass these formal processes out of fear that they would be misused or would be used in a way that was not foreseen or intended by himself. Although Sanger’s and Tretikov’s claims were strongly contested, Wikipedia’s charismatic leader’s claim was, in this specific case, not disputed.

In principle, every registered Wikipedian can file a “Request for Adminship” (RfA) to become appointed an administrator. RfAs are public consultations in which aspiring admins explicate their candidacy, after which their peers can take part in an online interview and in expressing their support or their concerns. RfAs explicitly involve no elections and no top-down decisions, and

⁴³ By October 2017 there were 12 active and 9 inactive or trial Arbitration Committees. “Only the English Wikipedia holds a plebiscite (a non-binding vote) where Jimmy Wales still selects the Arbitrators in the end; all other projects’ committees are elected independently of him” (Wikimedia 2017f).

instead are based on impersonal bureaucratic procedures of exchanging arguments. After a nomination has been posted for a minimum of seven days, a self-selected bureaucrat “review[s] the discussion to see whether there is a consensus for promotion” (Wikipedia 2017k:n.p.). Since chances of reaching full consensus are futile,⁴⁴ bureaucrats have a considerable amount of discretion in these processes (*Ibid.*). According to an early Wikipedian, the first adminships were rewarded to anyone who asked Wales for the role and whom he recognized by name. However, despite the democratic intentions to distribute formal positions among constituents and despite the bureaucratic checks and balances, it appears that over time it became increasingly hard to obtain a position as administrator. Jemielniak notes that “[t]heoretically, access to roles of responsibility is open to anyone and anyone who is trustworthy can become an administrator,” but that “[i]n practice, expected qualifications of administrator candidates rise every year” (2014:29; cf. Lih 2010:185). Respondents who I interviewed remarked that, besides the fact that applicants are expected to meet to the unwritten requirement to be insanely productive, dependent on the language edition they are working in, they need meet specific performance requirements or to make sure to stay out of any conflicts in order to avoid a situation in which the continuation of their adminship gets challenged (Huikeshoven 2016b; Wyatt 2016). The aggravation of the admission procedure does not follow from a central strategy, but is the result of incremental, individual contributions from the bottom-up. The self-organization of authority in Wikipedia appears to cause conservatism and compliance, rather than to cater for openness and diversity.

Based on an analysis of RfA procedures, I conclude that these disputes have become increasingly extensive and formal over time. In March 2004, there were on average nineteen Wikipedians

⁴⁴ In Wikipedia's RfA-description it is stated that “In practice, most RfAs above 75% support pass. In December 2015 the community determined that *in general*, RfAs that finish between 65 and 75% support are subject to the discretion of bureaucrats (so, therefore, almost all RfAs below 65% will fail)” (Wikipedia 2017k:n.p.).

contributing to an RfA-discussion, whereas in March 2013 this figure increased to 146. During this period, contributions of those engaging in RfA-procedures became more elaborate. While in 2004 most discussants used on average eighteen words in order to pose a question or to provide a response, in 2013 this increased to approximately sixty words per comment. Despite the fact that every registered Wikipedian is allowed to participate in RfA-discussions, Boy found, based on a network analysis of all (4,223) successful and unsuccessful RfA-applications between 2004 and 2014, that fewer unique contributors were involved in such processes over time (2015). Additionally, I found that between 2004 and 2014 approximately ninety percent of most active contributors to RfAs were Wikipedians with a formal status or user rights. Apparently, the wiki-way of selecting representatives fit for the job of administrator caused a self-selected division of labor amongst recruiters. Nevertheless, based on an analysis of their documented interactions and arguments, I found no indications that self-selected recruiters with formal positions deliberately cooperated to realize their own agendas, suppressing ‘informal’ volunteers’ contributions. Since edits and RfAs are executed by hybrid and self-selected compositions of Wikipedians, both with and without formal positions, I consider hub-formation a consequence of self-organization rather than a centrally coordinated strategy (cf. Barabási 2003).

The more extensive admission procedures and the increase in number and decrease in diversity of discussants involved in approving RfAs indicate a process of formalization and centralization of procedures that determine candidates’ fitness. Statistical analysis of the archive of RfAs provides evidence that, over time, chances to be granted the position of administrator have drastically diminished and that fewer candidates nominate themselves for an admin position, perhaps as a consequence (Figure 6.2). The result is that administrators become a relatively exclusive group in Wikipedia’s editing environment. Around the role of admin, formalization of procedures enacted codes and norms that were social, subjective, and led to a narrowing of the ideals of openness on which the platform

was founded. Another area that enacted normalizing principles due to the in-practice actions of malicious participants was the construction of automated scripts to counter vandalism on Wikipedia.

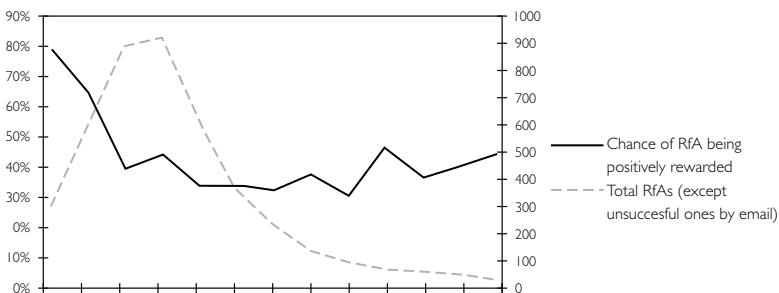


Figure 6.2. Chance of a Request for Adminship being positively rewarded between 2004 and 2016 (based on Wikipedia 2017l).

Proliferation of bots as guardians of a healthy and productive community

Wikipedia's formalized morals and procedures appear to be insufficient to protect Wikipedia from counterproductive or malicious contributions, as user Mayer evidences in this desperate post:

There is a very persisant vandal afoot that is jumping accounts and reverting articles to older versions at an alarming rate. I can barely keep up by using the rollback feature. PLEASE somebody with godlike developer powers block this fuck. I've been at this full time for over an hour – There are many other things I would rather be doing on Wikipedia. A very frustrated mav. (2003:n.p.)

Wikipedia's growth induced Wikipedians to engage in the automating their work to scale up their efficiency and their productivity (see Chapter 5). Bots, short for robots, i.e., software for automated actions, play an increasingly significant role in the maintenance

of Wikipedia's collaborative culture as they assist Wikipedians in identifying, assessing and countering the vandalism and spam that come with mass participation. Geiger et al. show that bots are mainly developed and operated by a small group of self-selected "vandal fighters," who eagerly endeavor to maintain Wikipedia's quality and its formal and informal norms (2012). These software-based tools and scripts provide vandal fighters with real-time assessments of new contributions, upon which they can take immediate action in the form of reverting edits, leaving "one of many pre-written message templates," or even banning the authors (Geiger et al. 2012:124). According to Geiger, administrators' interventions against vandalism used to be a completely manual task prior to 2006. Since 2007, he reports, over seventy percent of vandal fighters' work has been assisted by "helperbots" (2009:2). This development toward automation, catalyzed by Wikipedia's excessive growth, embodies the bureaucratic ideal of increasing productivity by executing tasks based on predefined rules and in a seemingly objective, machine-like fashion.

Instead of assuming good faith in Wikipedians, those fighting vandalism devised algorithms and mechanisms to assess and to correct the performance of self-selected contributors in near real-time, and according to predefined standards. Since bots include metrics regarding the user who made specific edits, these, according to Geiger and Ribes "explicitly discriminate against anonymous and newly registered editors" (2010:125). Tkacz summarizes Geiger, and Niederer and Van Dijck as foregrounding these bots as an argument to "refute the popular 'wisdom of the crowds' thesis," demonstrating that "Wikipedia's coherent order and relative stability are not the result of 'many minds' working in harmony, but of sophisticated technical actors that add, filter, monitor, revert, guide and shape new contributions" (2015:112).

Apparently, in Wikipedia's growing and increasingly complex and contested context, efforts by busy Wikipedians and Wikimedians to adhere to Wales's plea for rationality and tolerance effectuated the proliferation of bureaucratic and automated mechanisms for

socialization. This process indicates as a transition from charismatic to bureaucratic authority. Wikipedia's volunteers argued and operated as officials, developing, following and enforcing well-established formal regulations, rather than following their individual preferences or exercising personal authority. Over time, Wikipedia's norms, procedures and positions became increasingly rigid and exclusionary. To a large extent, this process of formalization and depersonalization is not centrally coordinated or imposed, but rather resulted from self-organization. As I did previously in the sections on Wikipedia's financial and infrastructural organization, I refer to this phenomenon as "self-organizing bureaucratization." In the following section, I describe how the Wikimedia Foundation assesses and anticipates the negative aspects of its own rigid and exclusionary bureaucratization in the later stages of processes to develop and maintain Wikipedia's collaborative culture.

Diversity, retention, automation (2010-2017)

Since 2007, the English as well as other language-Wikipedias experienced a decline in engagement of active editors (see Figure 5.1). In October 2010, the Wikimedia Foundation commissioned a study in order to get a better understanding of this downward trend (2010a). They concluded from its findings that the retention rate of long-time editors appeared to be relatively stable, whereas the retention of new Wikipedians "ha[d] dropped dramatically from mid 2005 to early 2007, and ha[d] since remained low."⁴⁵ Since then, this phenomenon has been widely regarded as an alarming concern with regard to the quality and the sustainability of the project. The fear is that, especially if there would not be enough editors in the future to grow and maintain the encyclopedia. Based on a study by Suh et al. (2009) and upon a survey amongst former contributors (Wikimedia Foundation 2010a, b; cf. Geiger et al. 2012; Halfaker et al. 2012; Tkacz 2010) the conclusion is drawn that newcomers are

⁴⁵ "Retention rate is defined as the percentage of the original cohort that made at least one edit in the twelfth month after joining." (Wikimedia Foundation 2010a:n.p.)

appear to be demotivated by the fact that the chances of getting their edits accepted had, over time, become increasingly limited, and by the fact that they many felt that their experienced interactions with bots and established Wikipedians as were hostile and off-putting.

With the maturation of Wikipedia, making changes to articles has become an increasingly delicate endeavor. Some respondents remember how, early on in the project when lots of general topics were not covered and when most articles were only in a rudimentary state, all changes and additions were more-than-welcome. It was easy to perform quality control as a few active contributors could read through all of the contributions to Wikipedia by the end of the day. As more time, effort, thought and debate were invested in establishing and crafting articles and policies, adding and making changes became more sensitive. Correspondingly, more attention and resources were spent on protecting, conserving and maintaining articles. “In that context, the new user would be much more likely to find themselves running into one of these preservers and protectors trying to make sure that an article would not get damaged or improved in the wrong direction or whatever, and be frankly very pissed off that their edit or perceived improvement would just be reverted very quickly” (Möller 2017). The end result is that the editor-base was not keeping pace with the growth of Wikipedia.

The continuous influx of newcomers is itself one explanation for the protectionist behavior of the Wikipedians. The fact that a substantial part of the growing community is unaware of the project’s social and technical norms caused an increase in the workload of established Wikipedians, to their frustration. As a consequence they tended to develop and to maintain stricter defense mechanisms, amongst which “bot- and script-supported reverts, deletions [and] user warnings” were key (Gardner 2011:n.p.). Although these mechanisms help established editors to maintain Wikipedia’s quality, they are considered to be off-putting to newcomers. Since 2007, over seventy percent of editors’ initial contacts on Wikipedia have been generated by automated tool or bots (Geiger et al. 2012:124; cf. Halfaker et al. 2014:311; Wales 2011:31:10), often providing

a warning or a message that their edits are reverted. According to Jemielniak, “the use of semiautomated countervandalism tools often results in good-will edits being discarded simply because it is easier for an experienced editor to delete them than correct them and explain the need for doing so. As a result, new editors are squeezed between high regulation and being treated as vandals, even when making innocent mistakes” (2014:100-1). Whether the large number of initial bot-contacts, the tone of scripted and personal messages, and the speed of reverts really established an atmosphere that caused the significant drop in editor retention could be contested. However, the WMF’s analysis and conviction that those elements caused an alarming drop in retention has cascaded interventions of Wikipedians and Wikimedians to counter this ‘trend’ by engaging in establishing formal structures and interventions in order to socialize Wikipedians, both newcomers and established ones.

Despite the fact that Gardner recognized the pressure under which experienced users work and the quality issues that come with the principally uncensored work of newcomers, she emphasized that she would not be willing to compromise Wikipedia’s openness to newcomers (2011:n.p.). In the following sections I analyze some of the endeavours that the Wikimedia Foundation and Wikipedians made since 2010 to establish and maintain a hospitable collaborative culture in order to attract and retain Wikipedians. This representative set of examples that I use for my analysis, sourced from Wikipedia sites and interviews, includes an application to make it easier for editors to praise one another, a mentoring program, an application to better inform editors regarding the evolution of their edits, approaches to maintain an open and welcoming culture for good faith editors, and strategies to fight harassment. In the majority of these examples, the organization uses technologies, especially of automation, to reach these goals at scale and to maintain consistent standards.

Templates to spread WikiLove

On May 11, 2003 Eric Möller posted an essay on the English Wikipedia titled “WikiLove.” He was committed to overcoming the

harmful and unproductive discussions and behaviors he observed on Wikipedia's Discussion and Talk pages and Mailing lists, and in this essay Möller advocates for the pursuit and the maintenance of a spirit of collegiality and mutual understanding amongst the variety of editors contributing to Wikipedia. Assuming that all engaged in Wikipedia shared the "common goal" of the "love of knowledge," he argued that "if we concentrate on achieving NPOV [neutral point of view] even when it is difficult, if we try to actually *understand* what the other side has to say, then we can reach the state of 'WikiLove'" (Wikipedia 2003). In practice, WikiLove did not spread spontaneously. A survey by the Wikimedia Foundation did find that positive feedback, i.e., "having others compliment you on your edits/articles" was the most likely to cause people to say they will edit more frequently (seventy-eight percent agreement) (2011e:25). However, from its own research the Wikimedia Foundation concluded that between 2004 and 2011 newly registered users on English Wikipedia were more likely to receive automated messages with a negative tone than words of welcome and praise on their Talk pages (Figure 6.3).

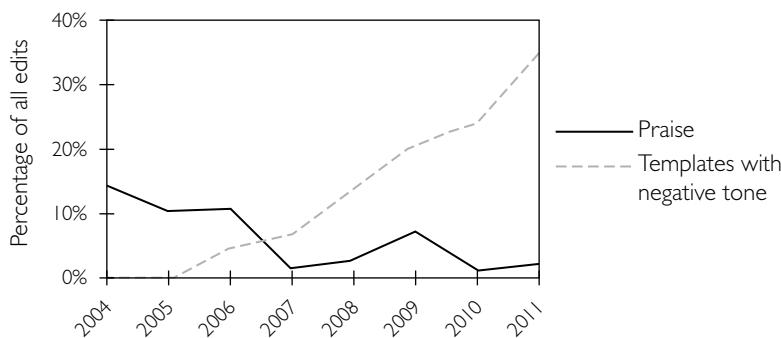


Figure 6.3. Praise versus Negative templates, English Wikipedia 2004-2011 (Walling 2011).⁴⁶

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These findings led to a general conclusion by Wikimedians that Wikipedians' eagerness to sustain the project's quality and reliability during its extensive growth caused the emergence of a rigid, bureaucratic, automated and semi-automated practice of assessing and reverting edits and banning users, rather than on socializing them. In his 2011 "State of the Wiki," Wales underlined this observation by stating that "our tools are pushing us to bad behaviours," and that "software is driving us to treat each other poorly" (Wales 2011:33:20). In stating that "template warnings are too easy; and praise is too hard," he expressed the alleged complexity that underlies Wikimedia's and Wikipedians' challenge to fight vandalism, to adhere to quality standards, and to be welcoming and supportive to newcomers at the same time at an increasingly large scale (Wales 2011:n.p.).

Wikimedia's officials sought ways to meet these challenges through the use of technology. WMF developer Ryan Kaldari, for example, endeavored to revitalize and visually reify the principle of WikiLove by developing a "WikiLove" extension. Via this optional software addition to MediaWiki, Wikipedians could easily post templates with friendly and funny images (kittens, puppies, cookies, pints, etcetera), and words of welcome and appreciation on other users' Talk pages. WikiLove was meant to enhance the expression of mutual appreciation for working on the common cause of creating a free encyclopedia. In fact, this attempt to provide virtual-digital and automated support to enhance collegiality amongst Wikipedians via WikiLove was not univocally appreciated. As a response to negative responses to this feature, in which editors explicitly state that they did not appreciate their peers' WikiLove (Figure 6.4), MediaWiki's WikiLove page explains how one could disable this feature (Figure 6.5). The fact that the use of this tool did not proliferate and, hence, only reached a limited share of the target audience indicates that this automation of personal signals of praise did not bring about the cultural transformation deemed necessary to challenge the allegedly hostile environment.



Figure 6.4. Image from a template expressing objection to “non-consensual WikiLove” (Adler, 2011).

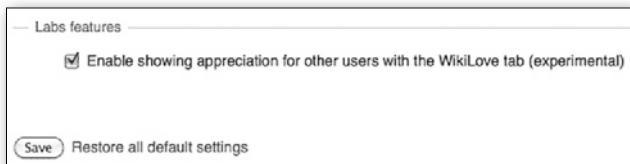


Figure 6.5. Screenshot of the WikiLove preference in MediaWiki (Kaldari 2011).

Efforts to provide mentorship to newcomers

After the Haifa letter was published (discussed in Chapter 4), trust in the Wikimedia Foundation reached an all-time low. Staff of the WMF were reluctant to reach out to the community out of fear that any conversation or intervention would instantly result in a fierce conflict. Nevertheless, the WMF was convinced that research and experiments were needed in order to engage community members to cooperate to counteract the decreasing editor retention. One of the ideas was to create an online space for newcomers to meet experienced Wikipedians. The motivation to develop the so-called “Teahouse” came from the observation that Wikipedia’s volunteer-operated helpdesk was hard to find and that those consulting this service felt reprimanded and underappreciated, rather than served and supported. Those engaged in establishing the Teahouse believed in the premise that a more social and welcoming space and meaningful personal interaction would effectively support the engagement and the retention of newcomers. In 2012, a team of Wikimedia staff and Wikipedia volunteers developed the platform and invited a selected group of experienced Wikipedians to actively reach out to newcomers. Interactions in the online Teahouse environment allowed

the new editors to get accustomed to the community culture, to get their questions answered, and to develop relationships with peers in a comfortable atmosphere.

Based on the metrics of the project and the surveys the initiators held during the pilot (February-May 2012) to demonstrate its effectiveness, one Wikimedian involved concluded in an interview that the approach was working, saying that “Teahouse visitors enjoy and benefit from the experience, and initial results on retention suggest that Teahouse visitors tend to stick around Wikipedia longer than new editors who didn't visit, that they contribute more content more frequently, and that the content they contribute to articles is reverted less often” (Morgan 2012:n.p.). Those involved considered the Teahouse hosts' proactive and personal approach essential for getting new editors to stay engaged in the project. However, they noted that any actual intervention was hampered by a lack of interest: over the course of the pilot period, 321 invitees participated out of 7,339 invites that were sent by hosts (Wikimedia 2014b).

Those involved in the Teahouse project sought ways to reach out to and to serve newcomers more effectively. However, they did not receive the engineering capacity and the financial support they wanted as, around 2012, the WMF prioritized resource allocation almost exclusively to the VisualEditor and mobile projects to make editing easier (Gardner 2012). Meanwhile, the executive director criticized the amount of time and financial resources spent on pilots and experiments, advocating instead for “encouraging and supporting activities that directly advance the Wikimedia Foundation's mission” (*Ibid.*; cf. Chapter 4). Gardner felt that Wikimedia's staff should only invest its time and resources in what she defined as its core functions of engineering and grant-making. As a result, the Teahouse was left to the community to build and maintain.⁴⁷

⁴⁷ A following initiative to establish a mentoring program, called the “Co-op,” was discontinued after the pilot-phase for the same reasons, namely a disappointing response to invitations, the inability to scale due to intensive personal engagement, and a lack of technical support (Wikimedia 2015).

Indeed, the community rallied, and in 2017 the Teahouse still thrives, with a continuous influx of editors asking questions and being helped by peers in a relatively polite way. The labor-intensive task of actively and personally inviting newcomers to the Teahouse has been made scalable by outsourcing it to algorithms. “HostBot,” for example, posts invitations on newcomers’ Talk pages. Research by the Wikimedia Foundation indicates that by October 2015 over 8,000 new editors had participated in Teahouse conversations responding to over 140,000 invites (indicating a growth in reach from 4.4 to 5.7%), resulting in these editors, receptive for coaching, making significantly more edits and being more likely to continue editing (Wikimedia 2016c; Morgan and Halfaker 2015:33-4; Halfaker 2015).

Since the earliest informal interactions between active editors and newcomers, and since the establishment of the Welcoming Committee in 2003, volunteers have endeavored in hundreds of formal and informal initiatives and constellations to recruit, welcome, help and mentor newcomers (cf. Reagle 2010:9; Konieczny 2009:167). Those who receive subsidies from the WMF endeavor to contribute to Wikimedia’s grant-making objective to engage editors as a service in return. They organize activities such as meetings, lectures, edit-a-thons, write-ups, contests and thematic events. However, when I asked a staff member of the Wikimedia Foundation named Asaf Bartov what he felt would be an effective strategy to engage and socialize newcomers sustainably, he replied that Wikipedians’ and the WMF’s well-meant interventions were relatively ineffective, as most active Wikipedians appear to socialize themselves:

I could tell you a fancy story, but the truth is that the single most effective tool is the wiki. We reach almost all people via our wikis. People like us, who read Wikipedia, who find out that they can edit, who edit and keep editing (2016:n.p.).

Bartov's example illustrates how strategic programs to engage newcomers seem to be formal forms of socialization that hardly relate to the autonomous explorations that originally got most established Wikipedians committed to the project. The director of Wikipedia's programs on education and outreach, as I will discuss in a following section, draws a similar conclusion.

Provision of automated feedback

The Teahouse and related mentoring-projects are human-resource intensive while reaching only a limited portion of the target audience, so Wikimedia's Growth or Editor Engagement team eventually came up with an alternative and scalable way to socialize newcomers. In 2013, the team introduced a Mediawiki extension called "Echo" (also known as "Notifications"). One of the purposes of the application is to instantly inform editors about changes and discussions concerning the pages they worked on, since inexperienced Wikipedians' were often unaware of the changes that were made to their edits and why they were made. Prior to Echo, the only way to find out if a contribution to an article or a policy was preserved or reverted was to visit the specific page or its history, which a newcomer often did not think to do.

As with the Teahouse, Echo is meant to help newcomers get acclimated. Echo provides registered users with automatically generated welcome messages and tips on how to get started and where to find things (it serves, for example, as a medium to recommend newcomers to visit the Teahouse). More importantly, it also informs them about reversions made to their edits, messages that are left on their Talk pages, links that are made to pages they created, and when and where references are made to their User pages. Editors receive compliments when they reach a certain milestone via this tool, and it allows them to thank and to praise each other. The Wikimedia Foundation used Echo to perform A/B tests with different variations of notifications in order to be able to quantify which of these indeed helped users to be more productive. Besides being a tool to provide editors with information, feedback and directions in a scalable

way, Echo thus serves as an instrument to optimize Wikipedia's productivity.

The application of machine learning to sort out desirable newcomers

Based on research by Halfaker et al. – with Wikimedia's Principal Research Scientist as the main author – the Wikimedia Foundation concluded that the decrease in Wikipedia's editor retention was caused by the effectiveness of the bureaucratic tools that the community developed to provide quality control and to counteract vandalism (2012). Bots and those that are occupied with patrolling recent changes manage to revert unproductive edits within seconds, "making it such that a few dozen non-specialists can patrol every edit in near-real time" (Geiger and Ribes 2011:6). However, these quick reverts are considered to demotivate newcomers. Further, the algorithms of productive anti-vandalism tools like "ClueBot," "Huggle" and "Twinkle" are composed in such a way that they discriminate against newcomers and anonymous editors (Geiger and Ribes 2010:125). In the period of intensive growth it was considered essential to use algorithmic tools to effectively quality-control the metaphorical fire hose of 160,000 edits and 6,000 newcomers per day.⁴⁸ In hindsight, these automated systems, performing socialization based on a "gatekeeping" ideology, are supposed to have caused "newcomers to be thrown away with the bathwater." (Halfaker, Geiger and Terveen 2014; Halfaker 2016:29:33). According to analyses by Halfaker et al. and Geiger et al., previous automated tools did not make a distinction between simple mistakes and intentional damage and falsehoods, and as a consequence edits of benevolent and highly desired newcomers were reverted just as rigorously as malevolent contributions of trolls (2012; 2012). Triggered by the worry that this tendency would demotivate editors and that this, as a consequence,

⁴⁸ Machine learning tools help editors and vandal fighters prioritize which edits to review. By such 'bot-assistance,' the workload of vandal fighters is, according to Halfaker, reduced by ninety percent, making it possible that this job can be left to a few people only (2017:2:25).

would harm the capacity of the community to maintain Wikipedia's content and quality, the paradigm that was subsequently adhered to held that the WMF and the community should develop and apply measurements and tools to sort-out and to engage and to socialize "desirable" editors, who appear to act in good faith.

One of the Foundation's attempts to meet the challenge of assessing the legitimacy of newcomers was by developing a machine learning system called "Objective Revision Evaluation Service." ORES was built and trained to assess the quality of edits and the intention with which these are made. The fact that it is an open API (Application Programming Interface) means that new applications, and ideally ones aimed towards newcomer socialization, could be built on top of it by anyone. Generally, the variety of applications that developers at the WMF and community members engaged in during the past two years provide estimations of the quality of recent changes to Wikipedia, by which users and bots can make deliberate decisions whether it would be necessary to send the editor a warning message or whether it would worthwhile to try to connect a presumably good faith editor with one of Wikipedia's training and socializing services like the Teahouse. The fact that community members themselves train the system by teaching it whether edits are valuable and desirable means that it can engage in a more sophisticated way, more sensitive to cultural context than Wikipedia's previous quality-assessment tools ever were.

Wikimedia's machine learning infrastructure appears to be constructed by a demographically narrow group of young, male, Western, well-educated, tech-savvy people, with an inevitable bias as a consequence. WMF-employee Halfaker acknowledged that his relatively dominant role in the research and the development of tools regarding the quality and the intent of Wikipedians' edits puts him in a relatively authoritarian position (2016). He legitimized the fact that he is one of the few of a very homogeneous group devising the algorithms that "objectively" assess Wikipedians' intentions by emphasizing that the technologies and the scripts he and his team develop and experiment with are not meant to tell how Wikipedians

should behave, but that they rather work to empower community members to talk about, develop, use and deploy the tools they think are essential to socialize their peers. Despite the transparency and the appearance of objectivity of the algorithms that Halfaker and his team develop, deploy and provide to their constituents, they find themselves in a relatively powerful position, since most of their constituents lack the capacity to understand and to critically evaluate the algorithms by which the work of their peers is being evaluated.

Wikimedia's engagement with machine learning technologies marks a change in endeavors to establish and maintain Wikipedia's collaborative culture. Although intended to counter the negative consequences of bureaucratization and automation this culture has changed from promoting an essential attitude of assuming good faith and of leaving most norm-setting and enforcement to the community, to an essential sense of distrust, supported by a system of automated and quantified screening of newcomers. Although recent technologies allow for a more precise selection of which edits to revert, and of which editors to block, and, additionally, whom to refer for further assimilation, self-selective engagement and socialization in Wikipedia has indefinitely been replaced by increasingly bureaucratic screening systems deciding whom and whom not to welcome. As such Wikipedia's system of socialization is subject to ongoing bureaucratic optimization as a consequence of the conviction that "objective" algorithms are the key to make Wikipedia function efficiently at its immense scale.

Fighting harassment

Although the use of offensive language, bullying, stalking and sexual provocations have been issues for all open platforms since the early days of the Internet, the Wikimedia Foundation has only recently allocated staff and funding to conduct research and to perform pilot projects regarding Wikipedians' and Wikimedians' safety and integrity (Wikimedia 2017g; cf. Horn 2017a). Until 2015, the Foundation's formal standpoint was "to leave the management of harassment to community volunteers and not have its own staff

be involved" (Rasberry 2017:n.p.). As a matter of principle, the organization chose not to interfere in what they considered the community's business. Such a stance was also a practical and strategic one, since the commitment and the investments needed in order to properly address a complex phenomenon such as harassment at the scale of Wikipedia made the WMF stay away from any structural engagement.

One of the sources that Wikimedians often refer to in order to emphasize the seriousness of online harassment, and which indeed might have caused a change in the WMF's perspective, is a 2014 report by the Pew Research Center that claimed that four out of ten Internet users have personally experienced online harassment, and seventy-three percent have witnessed it occur to others. There are no exact figures about the extent to which Wikipedians have been victims of harassment. A recent study by Wulczyn, Thain and Dixon indicates that "the overall prevalence of personal attacks on Wikipedia is around 1%," which is certainly substantial considering the numbers (2017:2). In 2015, the Wikimedia Foundation performed an opt-in survey, which served as a source of information regarding the forms of harassment that prevail on Wikipedia and its sister projects. A manager of the Support and Safety team reported to me how those engaged in fighting harassment were astonished that the respondents of the survey reported that they considered flaming (often targeted at specific demographic groups); sexualized and violent comments (especially those posted on female administrators' talk pages); organized brigading; and wiki-conflicts turning into off-wiki harassment as relatively common phenomena (Earley 2017).⁴⁹ Another intriguing observation is that harassment quite often takes

⁴⁹ The issue of harassment resonated with the Wikipedians I interviewed: one provides an emotional account of how he was followed through several Wikimedia projects by a bully (cross-wiki harassment), seeking pointless debates and speaking badly about him, causing him a burn-out. Another explains how services to send people thank-you and welcome notifications are used to annoy people. Several have examples of how conflicts on Wikipedia are continued on other online platforms like Facebook, or even at Wikipedians' home addresses, where editors who are frustrated after being blocked from the online encyclopedia manage to harass Wikipedians and their loved ones.

the form of ongoing petty annoyances, and since each such single instance would not be considered a form of intimidation or threats in themselves, they are hard to identify and to root out.

Since 2013, volunteers have asked the Wikimedia Foundation to improve the blocking tools on a number of occasions (Wikipedia 2017m). In an interview, Patrick Earley, who is a central figure in Wikimedia's health and safety research and initiatives, considers technological interventions a too narrow and too simplistic response to the complex issue of harassment, especially because it is difficult to define "harassment" in objective terms.⁵⁰ Besides the fact that there is a huge spectrum of forms of harassment, Earley argues, they are at least partly a product of the subjective concerns and feelings of particular stakeholders, both attackers and victims. Significantly, Earley told me that Wikipedia's "Internet utopians" strongly resist interventions from the top-down, as they believe that problems should be solved amongst volunteers themselves. To illustrate this dilemma: during a workshop at WMCON 2017, the issue of harassment appeared to be contentious, with no consensus amongst the Wikipedians and Wikimedians present regarding the extent to which Wikipedians' autonomy should be respected in endeavors to counteract this phenomenon. Several community members whose acquaintances had been bullied to the point that they quit editing Wikipedia pleaded for an increase in interventions for the sake of community health at the cost of lowering privacy standards. However, this position that was fiercely opposed by others who felt that violating editor's anonymity would compromise the Foundation's principles and endanger its mission.

In 2017 the WMF acquired a USD 500,000 grant from the Craig Newmark Foundation and Craigslist Charitable Fund to develop projects and programs to make the Wikimedia community healthier and more inclusive. Surprisingly, this grant was provided to Wikimedia's Community Tech team. Its recipients, who explained that they would dedicate the grant to building "better reporting systems

⁵⁰ Additionally he is convinced that, once a concrete line is drawn, harassers would be perfectly capable to identify and to circumvent that line (Earley 2017).

for volunteers, smarter ways to detect and address problems early, and improved tools and workflows related to the blocking process” emphasize that they do not aspire to develop an automated control-and-blocking apparatus (Horn 2017a). They aim to provide those who are engaged in safeguarding the project’s quality and safety with algorithmic tools to seemingly objectively enhance their decision-making capacity. Despite his reluctance towards the automation of support and safety-programs, Earley acknowledges that this could contribute to the lowering of the burden that administrators face, as it appears to be a terrible amount of work for volunteers to collect proof to demonstrate that harassment cases are serious enough to warrant or to block someone, making it fairly impossible to achieve reasonable levels of productivity. The tool that the Community Tech team aspires to develop aims to considerably reduce the time it takes volunteers to investigate and to evaluate cases by helping “admins (and others) [to] follow the ‘story’ of [a] conflict” (Horn 2017b). Once again in the history of Wikipedia, its formal and informal representatives tend to bureaucratic and technological interventions to safeguard the project’s quality and continuity under the pressure to meet challenges of objectivity, scale and pace.

The WMF’s attempts to expand and to diversify its editor base (2007-2017)

Policing harassment has become understood as an ethical imperative on the organization, including an obligation to devote resources to reducing harassment throughout the platform. Similarly, diversity of participants has long been a source of concern by critics and participants alike, and Wikimedia has been pressured to address the problem of representation. As Möller said in 2017, the organization understands fair representation and diversity as part of its responsibility:

We felt we actually have a responsibility that goes beyond just the people who are editing. We have a responsibility towards...

those who are not represented in the current community yet – like the potential prospective editors; the people who deterred from editing, who were frustrated from editing – and we would have a responsibility to the readers as well. (Möller 2017)

As a consequence of self-organization, Wikipedia's pool of active developers and editors has always had a rather narrow demographic constitution of mostly of young, Western and highly educated white men, who cover a relatively narrow array of encyclopedic subjects. Articles dedicated to sports, technology, video games, military history, and science fiction are overrepresented in Wikipedia, leaving whole areas of importance and interest untreated. Those with formal positions at the Wikimedia Foundation have considered this form of homogeneity and one-sidedness as a formidable problem for a long time. They argue that Wikipedia's lack of diversity would both cause a barrier for newcomers to start participating and that it would hamper the ambition to collect and distribute the sum of all human knowledge. They have tried to breach this allegedly unwanted situation from the top-down, by developing strategies, campaigns, programs, tools and interventions to make Wikipedia's editor base and its output more diverse. In this section I discuss the WMF's attempts to expand and to diversify its editor base, specifically in underdeveloped languages and in the subjects that are covered in the encyclopedia.

Expansion and diversification of Wikipedia's content through education

Long before he was employed by the Wikimedia Foundation, German Wikipedian Frank Schulenburg endeavored to motivate new editors to write Wikipedia articles, first by reaching out to universities. In 2006 he organized the first “Wikipedia Academy,” a conference that was aimed at bridging the gap between the academic world and Wikipedia and at trying to recruit high-quality contributors for the online encyclopedia. Although these conferences were well attended

and well covered in the media, they did not serve as a vehicle to engage academics in Wikipedia more structurally. Triggered by the ageing of the German population, Schulenburg changed his focus and tried to recruit senior citizens. This was not a success either, because at that time a substantial part of this target audience was too unfamiliar with computers and the Internet in order to make valuable contributions to Wikipedia. However, his endeavors caused Gardner to employ Schulenburg as head of "Public Outreach." In this position he was responsible for getting people to contribute to Wikipedia. He concluded that he needed structured processes and well-documented educational material in order to explain larger audiences of potentially new Wikipedians how to edit, as he assumed that the ones he would be targeting would be less inclined to start experimenting with wiki-software right away, as he and many others of the 'founder generation' were.

In 2009, Schulenburg and his colleagues noted that teachers at universities increasingly used Wikipedia as a teaching tool. They appeared to assign students the task of writing Wikipedia articles instead of having them write traditional term papers. In 2010 the WMF got a grant from the Stanton Foundation in order to do a pilot project to reinforce this trend, and not only as an attempt to reach potential new Wikipedians. Partnering with teachers and students was considered as an opportunity to breach the biases of the subject-areas that were covered by the homogeneous community. The idea was to assess the usefulness of partnering with academic institutions dedicated to a specific subject area and to improve the quality of Wikipedia content in that area in a dedicated way. For the pilot, Schulenburg managed to gain the interest of several academics teaching and doing research in the field of public policy, and, as a consequence, 200 public policy students actively created and contributed to Wikipedia's public policy articles in a short period of time.

As part of the pilot, Schulenburg developed a method to find out to what extent content in a specific area got improved. He documented each step of the project, which provided him with

material to account for how the donor money was spent and to what effect. His measurements and documentation served also as a blueprint to scale the project, as they allowed for the autonomous execution of comparable projects in the same structured manner. In the following period, Schulenburg and his team managed to engage educators and their students in expanding Wikipedia in areas previously uncovered. Based on the online documentation that Schulenburg compiled and made available, Wikipedians managed to set-up education programs in more than thirty countries. However, in order to realize its ambition to structurally expand and to diversify the community and Wikipedia's content substantially, the WMF concluded it needed to find and train hundreds of coordinators. Since the WMF's priorities were engineering and grant-making, rather than individual personal engagement in projects, it decided in 2013 to make Wikipedia's Education Program a separate entity, called the "Wiki Education Foundation," of which Schulenburg was hired as executive director.

Over time, the project became increasingly automated, to scale it and to make it less dependent on the personal involvement of Schulenburg and his team. Investments were made to develop an adaptive online learning environment, which not only provides teachers and students with a sophisticated twelve-weeks educational program, but then also tracks the results of what people are doing so that teachers could check on students' efforts and the quality of their results. Further, automation allows funders to get quantified arguments of the impact of their donations and for the Wiki Education Foundation to improve its systems. By automating a large part of the process, the Wiki Education Foundation managed to scale its work. Schulenburg explains why he and his Education Program team never made editor retention a focus of their work. From his analyses, he concludes that only four percent of those who are directly targeted and personally supported to write Wikipedia articles actually kept editing, and hence, that it would be a waste of effort to target a general audience who would presumably only reinforce the trend of producing articles in the field of sports,

technology, video games, military history, and science fiction. However, the pragmatic and dedicated outreach strategy and the subsequent bureaucratization of Wikipedia's education program seem to have substantially contributed to the diversification of the content of Wikipedia. They managed to reach specific groups of students, who, as a dedicated workforce, as Shulenburg's figures indicate, produce a significant amount of Wikipedia's content each year, at least in specifically targeted subject areas (2017). This impetus to make Wikipedia as productive and effective as possible fits the practices of Wikimedia's Learning & Evaluation team, which is currently engaged in the further development and systemization of structures to help Wikipedians to learn from previous projects and to help them improve and scale these. Rather than leaving Wikipedia to the whims of individual self-selected contributions, Wikimedians engage in interventions in Wikipedia's collaborative culture to achieve a more structured expansion of the project.

Interventions to catalyze the growth of Wikipedia in the Global South

Gardner considered it the WMF's task to counteract the homogenizing tendencies of the community. In its "Strategic Plan" for 2015, the Wikimedia Foundation defined as one of its core priorities the need to engage editors and to stimulate content creation from the Global South:

Wikimedia has dramatically lower reach in the Global South, which includes regions with the world's most rapid growth in Internet usage. In the coming years, a key challenge for Wikimedia will be to replicate its earlier successes in developing editing communities that create valuable, high quality knowledge resources in languages they are literate in, to engage a growing readership in all parts of the world. (Wikimedia Foundation 2011d:12)

In order to achieve this mission, the WMF deployed a team and initiated pilot programs in India, Brazil, and the Middle East. The assumption was that a critical mass of articles would be needed in order for a Wikipedia in a “small language” to be found via Google, and that being more present in Google searches would potentially attract an increasing audience of readers, which could become inspired to become editors in order to extend and to maintain the project. To contribute to this challenge Wikimedia’s Global Development unit engaged in developing an educational project in India called the “Pune Pilot Project,” which ran from February to November 2011. As Read describes it, “[t]he goal of the India Education Program [was] to create a ‘sustainable and long-term channel to recruit new editors’ by integrating Wikipedia assignments into university courses in India” (Read 2012:1). Pune was chosen as the site for the pilot because it had numerous colleges and universities with hundreds of thousands of students from all over the country. Although the initial purpose was to boost the number of articles in languages that were underrepresented in Wikipedia, including Bengali, Telugu, Malayalam, Sindhi, Punjabi, Gujarati, and Oriya, students in the selected universities were educated in English and they were challenged by their teachers to write in English.

The education project concerning public policy that was previously performed at U.S. universities served as a reference. It was reported that within 18 months, 800 American students had contributed the “equivalent of 5,800 printed pages” to articles on public policy, substantially improving their quality (Wikimedia 2011b). Between February and November 2011, the Pune Pilot Project reached 1,014 students. However, their contributions were of substantially lower quality for various reasons. Not every student’s grasp of English was up to a standard that his or her contributions would have stood a chance on the English Wikipedia. However, all students were obligated to attempt to edit Wikipedia in order to pass their assignment. The Pune Universities opened the courses to many more students than originally agreed upon, boosting the mentor-student ratio from one to ten to one to eighty-five. Eager

to “maximize results per investment dollar” and to demonstrate the scalability and the impact of the Education Program, Wikimedia’s local consultant decided to take on the challenge (Read 2012:6). Besides the fact that the mentors did not have the capacity to guide their students adequately, their professors were not capable of keeping a close watch on their work either. Where most classes in the U.S. project had fewer than twenty students, some Indian professors had classes of 180 students.

When the Pune students started to make their first edits, editors and administrators patrolling the English Wikipedia, who were not informed about the program, noticed a substantial increase in articles and edits. They reverted a majority of these right away because of what they saw as poor quality and massive copyright violations (Read 2012:8-9). Students did not understand how their work vanished, and they were not aware of the seriousness of their conduct, so, eager to pass their course, they kept re-posting their edits or opening alternative pages, increasing the amount of work and frustration for admins and patrollers. Established Wikipedians responded with worry and frustration, stating that the violations of Wikipedia’s collaborative culture were growing to unmanageable proportions. In an interview, Schulenburg detailed the issues at the time, which I verified in the archive of the history of page edits:

The copyvio [copyright violation] issues are the most serious problem, but even if this is ignored many of these edits don't improve WP and some are a real mess. Typical problems are lack of references, text pasted into the wrong place in articles (or even into the wrong article), text not blended with existing text, unclear English, poor wiki-formatting etc. There is also a consistent disregard for wiki etiquette (edit summaries, using preview rather than making dozens of minor changes, ignoring guidance from the existing WP community ...). (Wikipedia 2012:n.p.)

Wikipedia's rational and bureaucratic system of norms appeared not to be directly applicable to the Indian academic culture, and this attempt to increase diversity had instead a negative impact on Wikipedia's quality. During the academic course, useless content seemed to be added to Wikipedia at an even higher pace, as students needed to post content to pass their exams. Admins proceeded to block the IP addresses of individual students and of one of the participating universities in order to prevent any further harm being done. They also demanded that organizers halt the influx of inferior and illegal material. According to the head of the Education Program, the Pune Pilot was a total disaster. He told me in an interview that “[i]t was the biggest disaster in my professional life. ...People were yelling at me, I got death threats, people asked for my team to be fired” (Schulenburg 2017). In November 2011 the project was shut down, and only twenty-one percent of the project's student contributions remained intact (Read 2012:16).

Wikipedia's processes, policies and guidelines clearly did not serve as a blueprint to make new editors contribute productively and qualitatively to the project. In response to the sheer uncontrollability of the unstructured and unregulated additions to Wikipedia, established Wikipedians referred to templates and procedures nonetheless, as they deemed bureaucratic tools and standards as essential conditions to be able to maintain the quality and to safeguard the continuity of the project in light of its immense size and complexity. Material that did not comply with these standards was removed right away. This case indicates how Wikipedia's collaborative culture could, over time, become increasingly rigid.

Although the Wikimedia Foundation invested considerable amounts of time and human resources in the Indian pilot, as well as in both the Brazil and the Middle East projects, and despite ongoing activity of local Wikipedians in these areas, it concluded that these failed to substantially extend and diversify the project's editor pool and contents. Schulenburg explains that active engagement of the WMF in these projects was discontinued, caused by both a deliberate strategy as well as by a failing organizational structure (2017b). With

“Narrowing Focus,” Gardner decided that the Foundation would terminate its burdensome and hardly scalable engagement in local experiments and that it instead aspired to realize its ambitions toward expansion by providing local organizations with project grants. The WMF’s sole intent with its active engagement in strategic locales had been to inspire people and to kick-start some projects in these areas, and to then let them run these by themselves. Further, Schulenburg argues, when he and his team and some other staff members engaged in outreach activities left the WMF, the Foundation simply lacked the institutional knowledge and a formal and coherent command and executional structure with qualified and dedicated personnel to follow-up and to expand upon seeds that were sown to grow the diversity of Wikipedia’s content and its editor pool.

Herewith the Wikimedia Foundation made the essential choice to maintain the skewed situation as it was. Although one of its core ambitions was to engage newcomers, to increase its reach, and to drive diversity, by substantially reducing its active engagement in these emerging communities, and by allowing the continuation of a funding system by which most of its financial resources kept on being dedicated to those local organizations in Europe and North-America that already collected and consumed most of the movement’s funds, it essentially reinforced the systemic bias it intended to break. The choice of Wikimedia’s leadership to treat different local organizations with different stages of evolution and in different contexts as relatively equal economic entities, obliging all local organizations to request for funding in a generalized and standardized fashion was a factor in the reinforcement of the power dynamic and hence the inequality in its readership, editorship, and its body of articles.

Conclusion

Those convinced that open and self-organizing networks are precursors of revolutionary, new ways of working presume that the socialization of community members is no more than a pragmatic and

highly individualized process of volunteers autonomously adapting to the norms and standards they identify while participating. Classical sociological theories hold that it is inevitable that socialization processes would involve forms of power concentration and bureaucratization, specifically once an organization matures and grows in size and complexity. The question I sought to answer in this chapter is how and why forms of power concentration and bureaucratization would manifest themselves in Wikipedians' and Wikimedians' endeavors to establish and to maintain a healthy and productive collaborative culture.

One predominant cause of the manifestation of power concentration and of bureaucratization in Wikipedia is a fundamental challenge that those participants formally and informally involved in Wikipedia are confronted with. While they aspire, out of principle, to leave the establishment and the maintenance of a healthy and productive community to the project's constituents, based on their sense of rational benevolence and love, they realize that, in practice, not everybody acts according to the norms and ideals they consider essential for the community, whether they do that deliberately or unconsciously. They find that in various cases leaving the development of the community's culture to self-organization conflicts with the Wikimedia Foundation's strategic ambitions. Power concentration and bureaucratization are then considered viable strategies to cope with the unwelcome and unforeseen outcomes of self-organization.

Initially, Wikipedia's collaborative culture was informally established and maintained by its charismatic community. However, over time, when the project grew in size and complexity and when newcomers kept flooding in, unaware of, or ideologically opposed to the project's aspirations to establish and maintain an open and democratic culture based on trust, faith, respect, politeness, rationality, deliberation, collaboration and consensus. As a result, those involved in maintaining a healthy and productive culture tended to formalize and to automate the project's norms and standards into procedures and policies. Overburdened editors and recent changes patrollers considered bureaucratic and automated disciplining of peers an

essential strategy to maintain the project's quality and to safeguard its continuity, as it helped them scale their activities: to be able to perform the immense task of correcting edits and fighting vandalism in the increasingly large and complex project, agreed upon norms, policies and guidelines, as well as bots provided admins and others with the means to work efficiently and effectively.

Over time, Wikipedia's policies and guidelines became more sophisticated and more institutionalized, and the site became harder to contribute to. Further, it became harder to obtain a formal position in the establishment and the maintenance of Wikipedia's collaborative culture. This follows mostly from reasons of maturation, but it conflicts with the democratic ideal within which constituents could equally partake in their own governance. Wikipedia's bureaucratization and rigidity appear to be the by-product of numerous decentralized and informal deliberations and acts by community members, staff and bots, rather than resulting from a centrally coordinated strategy by a detached and self-interested elite. Nevertheless, various newcomers and outsiders experience Wikipedians as gatekeepers closing ranks. This is a major source of frustration for the Wikimedia Foundation, since when staff and board members look at the system as a whole, they find that it is excessively and increasingly bureaucratic, exclusive and uninviting. However, they conclude that they do not possess any authority to ensure that the rule system remain lightweight and efficient.

Although it aspires to leave the maintenance of the community culture to the community itself, the Wikimedia Foundation centrally plans and executes projects to overcome unwelcome and unforeseen outcomes of the community's self-organization. Strictly top-down exhibitions of authority are often strongly contested by the community's countervailing constituents, and the Foundation's active and personal engagements to provide a healthier and more welcoming and diverse environment appear to be relatively inefficient and unsuccessful because they lack the ability to scale. Hence, these strategically and idealistically essential aspects of Wikipedia's collaborative culture are increasingly left to technology and to the

community itself, which the WMF aspires to engage via financial incentives.

The evolution of the establishment and maintenance of Wikipedia's collaborative culture indicates a transfer from a fundamental trust in the love, civility, adaptability and the self-governing capacity of the community to an objective system used to maintain the quality, continuity and productivity of the project. Besides the fact that bots, algorithms, tools and machine learning technologies are considered able to maintain Wikipedia's collaborative culture relatively efficiently at its immense scale, I would argue that these automatons are widely applied and tolerated in Wikipedia's essentially anti-hierarchical community because they are considered to provide rational and objective assessments of the quality of edits and intentions of editors, rather than these being left to the subjective authority of individual community members. Since active Wikipedians and Wikimedia staff do not have any formal authority to command their peers to behave in specific ways, they tend to devise and to apply impersonal, formal-rational rules and procedures to legitimize their endeavors to direct Wikipedia's self-organization in preconceived directions. They consider impersonal and formal-rational and algorithmic tools as valid, effective and efficient tactics and coping strategies to deal with the complexity as well as with the inherently anti-hierarchical ideology of the open and self-organizing community

Based on these findings, I argue that the common understanding of open and self-organizing communities as being fundamentally different from traditional forms of organization is essentially flawed. Those engaged in the establishment and the maintenance of Wikipedia's collaborative culture indeed appear to act unselfishly, and go great lengths to safeguard the project's quality and continuity. However, in contrast to the arguments of the advocates of the revolutionary newness of open and self-organizing communities, they consider bureaucratization an essential aspect of developing and maintaining this culture. Moreover, it is Wikipedia's community members, and not an elite or formal authority, who are responsible for the project's increasing bureaucratization. Rather than leaving

the establishment and the maintenance of the community's culture to stigmergic spontaneity and good faith collaboration, they tend to formalized and automated means of working and assessing the quality of the work of their peers in order to be able to perform their tasks more efficiently and productively. Apparently, the increasingly sophisticated and machine-like tools that volunteer Wikipedians develop and are provided with to estimate the quality of edits and the intentions of editors are generally used to sort out unwanted and desirable newcomers systematically, and to assimilate the latter. As Michels indicates, endeavors to "organize" the democratic engagement of constituents, i.e. to provide constituents with systems, tools and opportunities to govern themselves, inevitably result in the decrease of their autonomy, since they are forced to operate in a more narrowly structured environment.

Although the tendencies towards bureaucracy and power concentration are evident for the reasons Weber and Michels note, there are also important nuances. Contrary to what one would expect on the basis of Michels's theory, the 'elites' that devise and maintain the increasingly bureaucratic structure of Wikipedia are mainly, at least initially, not its formal representatives, but a subset of active and conservative Wikipedians that self-selectively and intentionally tend to discipline themselves and their peers to increasingly strict norms as a strategy to cope with the uncertain outcomes of self-organization. Contrary to what would be expected from Weber's conception of bureaucracies as staff-controlled and directive organizations, it was Wikipedia's 'unofficial' volunteers who developed and enforced a bureaucratic structure intended to sustain the online encyclopedia's quality, to socialize newcomers, and to rule out individual whims. Those engaged in the maintenance of Wikipedia's collaborative culture operate rather autonomously, as if they emancipated themselves from the control of their constituents, but they do not have a very high amount of discretion and they are under the constant scrutiny of their peers. Contrary to what one would expect from both Michels's and Weber's conceptions of organizational development, the founders and guardians of the intentionally

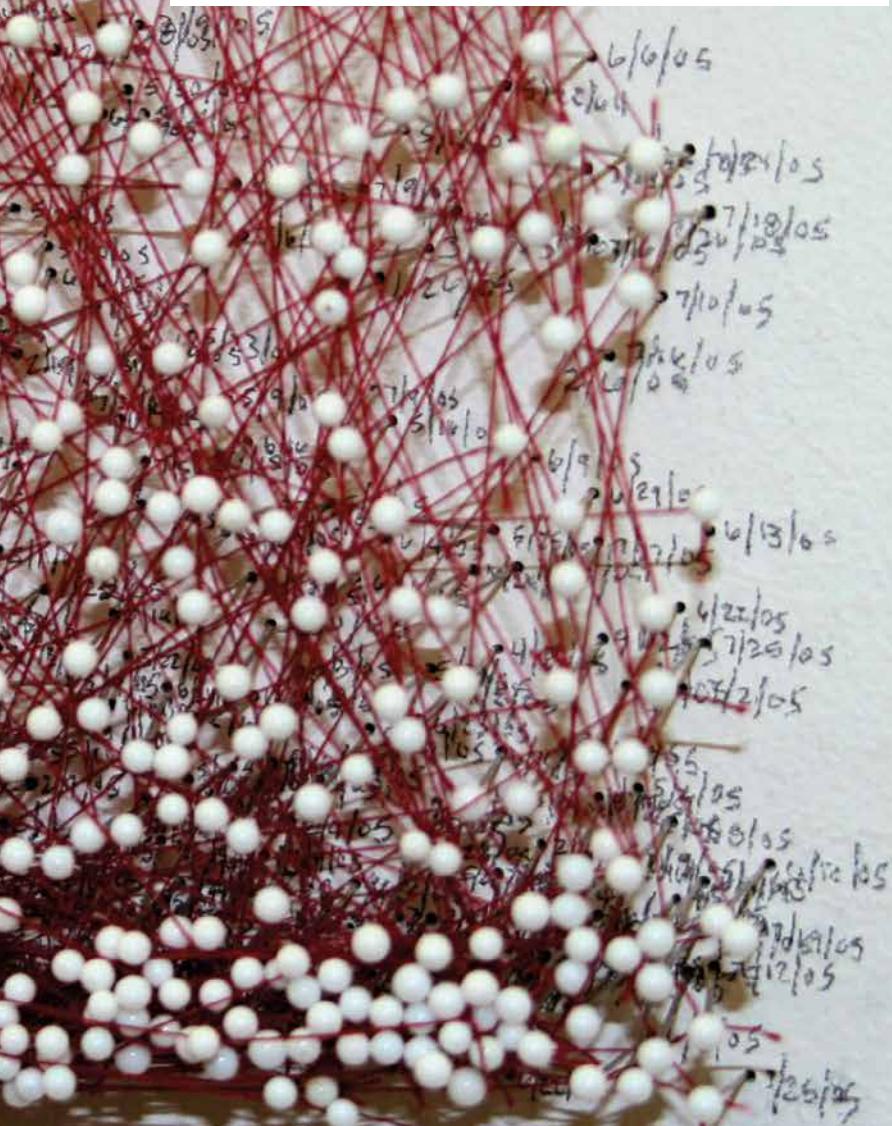
democratic organization do not appear to act conservatively. In the case of Wikipedia, they in fact strive to breach conservativeness and endeavor to maintain a more open and diverse community than the one that emerges from the bottom-up. Furthermore, the processes of power concentration I observed do not appear to be essentially deterministic. To the contrary, Wikipedia's constituents appear to operate effectively as a countervailing power in cases where they experience an excess of central authority.

By adding the notion of “self-organizing bureaucratization” to theories of the evolution of intentionally democratic organizations, as I proposed as well in the previous chapters on Wikipedia's financial and infrastructural developments, I aim to support my conclusion that Wikipedia's bureaucratization originates from self-organization, not from design. I define self-organizing bureaucratization as the emergence of increasing legal-rational organization from a process of organizing self-organization, i.e. from a process in which both staff and constituents make an effort to realize and maintain a democratic, open and self-organizing community, in which participants are provided the opportunity to be actively involved in its governance. In this specific case top-down and bottom-up interventions are made to Wikipedia's collaborative culture to serve the pragmatic purposes of manageability, growth, productivity and sustainability.



• 7/20/05

Conclusion: self-organizing bureaucratization



Many authors have narrated how new information and communication technologies enable people to collaborate and organize without central oversight or authorities. Such accounts contrast open and self-organizing communities with rigid, hierarchical and introverted bureaucracies. It is often argued that closed and hierarchical organizations in civil society, government and business are becoming obsolete, as open and self-organizing communities have proved to be adept in valuing the qualities and the autonomy of their participants, harnessing democratic decision-making, and spurring diversity and innovation. However, while open and self-organizing communities thrive on the Internet, classical sociological theories would lead one to expect that this is not because they are fundamentally different from classic oligarchies or bureaucracies, but only because they are in the early stages of their development.

Michels argues that within initially egalitarian movements or organizations oligarchization, i.e. the concentration of power within a conservative and self-interested elite, will inevitably occur. When, in its early stages, an organization is relatively small, it is feasible to engage all constituents in processes of collective decision-making on the basis of consensus. However, when organizations grow, it is common to establish a division of labor between decision-making representatives and constituents. Since representatives can draw upon expertise and experience, and their constituents lack time, capacity and resources to fully monitor complex decision-making processes, the former have a measure of discretion. While the ideal of democracy would demand that the representatives do nothing but serve the interests of their constituents, in practice they use their discretion to serve their own concerns.

Whereas Michels considers office holders of bureaucracies as an irrational totalitarian force in their own right, Max Weber mostly considers them as rational procedural executioners. Weber describes how self-organizing communities mostly arise from the initiative of energetic individuals and their early followers. Such types of collaboration depend on what he calls charismatic authority. Charismatic communities do not have administrative hierarchies,

formal positions or legal procedures, but derive their strength from high levels of trust between leaders and followers, which allows collaboration to proceed spontaneously and organically. According to Weber, organizations based upon charisma are inherently unstable and transient. Charismatic organizations develop legal-rational or traditional forms of authority (or a combination of both) over time and under the pressure of an organization's expansion, in order to guarantee their stability, continuity and legitimacy. Weber describes the paradoxical phenomenon that democratic organizations develop structures of dominance to maintain the basic conditions for democratic cooperation when they grow in size and complexity.

The questions of this dissertation are how and why power concentration and bureaucratization manifest themselves in Wikipedia's organizational evolution, how these phenomena shape the intentionally democratic organization, and how they affect the autonomy of its constituents. I took Wikipedia as a case-study, since it is considered a paradigmatic example of an open and self-organizing community. Wikipedia experienced explosive growth after it abandoned the rigid, bureaucratic model of a for-profit online encyclopedia, and itself became the basis of an open and self-organizing community. Millions of volunteers have contributed their time and expertise to the project, creating and maintaining what is human kind's most extensive repository of knowledge. Wikipedia has remained a vibrant community and maintains an ever-expanding global infrastructure for ordering, storing and accessing knowledge. That Wikipedia is a spectacular example of what open and self-organizing communities can achieve is not in dispute. However, the question I sought to answer is how and why tendencies of power concentration and bureaucracy would manifest themselves as the project evolved. In the following sections I elaborate on the insights that I draw from this study, and based on these insights, I make a theoretical contribution to the analysis of open and self-organizing communities in general. Lastly, I propose a refinement of classical sociological theories on organizational evolution.

Through my empirical analysis of Wikipedia's financial, infrastructural and cultural practices, I demonstrated that, under the influence of different circumstances and challenges, and of conflicts and contestations between different stakeholders with different opinions, ambitions and concerns, Wikipedia exhibits varying forms of organization in which different constellations of power and bureaucracy prevail. In general Wikipedia's organizational evolution is a transient phenomenon, characterized by the omnipresent political struggle between those stakeholders that practically or ideologically strive to leave the project's governance to the community's self-organization, and those that feel the need to centrally and bureaucratically intervene in the course that results from the community's self-organization in order to secure the platform's quality, continuity, and its mission. As an outcome of these struggles, Wikipedia's organization has transformed from a charismatic community fundamentally based on trust and the self-governing capacity of the community to an essentially centralized and bureaucratized organization, engaged in the maintenance of the quality, the continuity, the mission and the productivity of the project.

In the following sections I summarize Wikipedia's organizational evolution, which I conclude is characterized by subsequent instances of power concentration and decentralization as well as by ongoing bureaucratization. As a consequence of this bureaucratization, the constituents of this open and self-organizing community have become increasingly aligned with and bound to the central organization's formal structures, as well as in the execution of its overarching mission. This demonstrates a deviation from the ideal-typical form of open self-organization, in which the organization is completely left to the indeterminate outcomes of self-selected endeavors of peers. To grasp this phenomenon, and to provide an analytical framework to analyze the evolution of open and self-organizing communities in general, I elaborate upon the concept of "self-organizing bureaucratization," which demonstrates how self-organization and bureaucratization are interrelated, rather

than antithetical organizational models, as bureaucracy is generally accepted, both by formal and informal representatives and by the rank and file, as a means to organize authority in an as democratic way as possible. With regard to Michels' and Weber's classical organizational theories, I conclude that the reflexivity of an organization's constituents and representatives should be considered a crucial factor in the understanding of an organization's evolution.

Power concentration and power contestation

The dynamic of power concentration and its resulting contestation are common phenomena throughout the evolution of the organization of Wikipedia. Power concentration appears to emerge from the bottom-up from the open and self-organizing community, and it is appropriated by formal and informal authorities that feel the urge to intervene in the course of the project's self-organization.

At Nupedia, its funder and founder was the sole decision making authority, personally deciding on the allocation of resources, on the technical infrastructure for editing the online encyclopedia, and on the formal norms and permissions, because, in the end, he would be held accountable for the site's performance by his co-investors. One of his main objectives has been to increase the reach and the productivity of the project, in order to make it a valuable business case for investors. An unfavorable economic climate made Nupedia, as well as its spin-off Wikipedia, a weak proposition, which forced Wales to offload some of his authority to the community. After this decentralization, Wikipedia's organization could be considered as a charismatic community, as substantial parts of the editing-process, as well as of the development of the project's editing infrastructure and its collaborative culture, were left to self-selected volunteers, stigmergically operating on shared beliefs and mutual trust, rather than adhering to the individual objectives and concerns of a central authority. Nonetheless the project's founders and funders still functioned as its ultimate authority. The editor-in-chief at that time was confronted with the fact that the quality and the continuity

of Wikipedia were seriously challenged by the exponential growth of the project, as this brought in a lot of visitors and new editors, raising demands regarding server capacity, technical support, and user experience, as well as ideological fundamentalists and trolls, who deliberately undermined each form of structure and authority. Driven by his disbelief that these challenges could be left to the self-organizing capacity of the community, he deemed it a fundamental necessity to have a single formal authority in charge of the project. However, such a general authority was heavily contested by anti-authoritarian community members, which caused that such authority was never effectuated. During this period in time, several highly motivated community members appropriated certain essential tasks in Wikipedia's financial, infrastructural and cultural organization. By their active engagement, these people gained a substantial level informal authority, as they were the ones that knew the backgrounds, formal requirements, personal sentiments, and technical details related to specific financial, infrastructural and cultural issues. This form of informal authority was contested by community members as well, by critics who accused these informal authorities of acting as an elite. These concerned community members demanded formal structures to facilitate more democratic participation. The alleged elites refuted this criticism by pointing at the open and transparent procedures they respected and held on to. Board members of the Wikimedia Foundation offered several of these informal authorities formal positions, to offload part of their responsibilities to maintain the quality and the continuity of the increasingly growing organization. Due to its increasingly complex and specialized tasks, the work of the staff of this increasingly professional and hierarchical organization became increasingly hard to control by its constituents. To work more efficiently, and to effectively influence the community to partake in effectuation the Foundation's mission, the Foundation actively engaged in various top-down interventions, as it did not expect the structural changes and innovations it envisioned to come from self-organization. The WMF appeared to be more hesitant to intervene in the establishment and the maintenance of

Wikipedia's collaborative culture, which it left as much as possible to its constituents so as not to appear to intervene in the open and self-organizing community. It was less hesitant to demand authority regarding what it deemed mission-critical aspects of Wikipedia's organization, such as its finances and its infrastructure.

As these interventions resulted in criticism and acts of contestation, the Wikimedia Foundation engaged in invoking and in devising formal structures in order to legitimize its authority and to actively engage constituents in central decision-making activities, emphasizing the democratic aspect of Wikipedia's organization. However, as the engagement of Wikipedia's constituents became increasingly organized by its central authority constituents became increasingly encapsulated in generally agreed-upon and bureaucratic structures. Michels's theory leads us to consider these pre-staged structures to stimulate participation and engagement and to organize participation as "democratic masks" or "guises," as these are rooted in and permeated with the central and top-down organization's objectives.

The emergence of power concentration seems rather paradoxical in an environment that is principally anti-hierarchic. The reason that, at various stages in Wikipedia's history, a substantial amount of authority is drawn to formal and informal representatives is twofold. First, various instances of power concentration appear to be the consequence of self-organization, as those who are most engaged in specific projects and activities automatically gain a relatively large share of authority and autonomy. As they are energetic enthusiasts and experts who do huge amounts of work, they serve as examples, mentors or leaders, and, as a consequence, they set the tone and the standards of the project. These authorities or experts cannot be easily controlled and corrected by outsiders and newcomers. Over time, their power increases, since, as network theory predicts, new connections are more likely to hook up with these stronger and existing ones. In his influential study *Linked*, Barabási demonstrates that connections in open and essentially egalitarian networks are not evenly distributed, and that these are following "power laws,"

meaning that they are organized around certain specific “strong” or “fit” nodes or “hubs” (2003). As a consequence, Barabási argues, networks on the Web are essentially characterized by a “complete absence of democracy, fairness, and egalitarian values” (2003:56). By formalizing the positions of some of these emergent central figures, the Wikimedia Foundation engages in the consolidation and the reification of this phenomenon. Through the encapsulation of their informal representatives, the WMF reduces the community’s opportunity for organized opposition at the same time. I would consider Barabási’s theory of power laws a useful instrument to explain the bottom-up emergence of the power concentration in Wikipedia.

The second form of power concentration I observe comes from those who consciously draw power to themselves in order to actively bypass or even contest the outcomes of self-organization. Those inclined to sustain the quality and the continuity of the project, and to achieve its mission of expansion and diversification, and who apparently do not believe this to come from self-organization, devise top-down interventions in order to contest the alleged homogenization and the community closure that tend to emerge from letting the course of the organization to spontaneous, stigmergic and volunteer engagement. As I discuss in the following section, this form of power concentration appears to be closely related to Wikipedia’s bureaucratization, since the Wikipedians and Wikimedians engaged in these interventions tend to formal-rational arguments and bureaucratic means to emphasize the democratic aspect of their discretion and hierarchic positions, i.e. they endeavor to demonstrate that their autonomy and leadership does not stem from their personal whims and privileges.

While the first form of power concentration that I described seems to emerge from spontaneous, stigmergic and volunteer engagement, the second form of power concentration I observe is characterized by those with formal and informal positions intentionally intervening in the course of Wikipedia’s self-organization. They bypass concerns of established (self-selected, self-organized, and critical) Wikipedians,

which they consider to be conservative, and they seek ways to rid themselves of the bureaucratic structures meant to constrain their power in favor of furthering the Foundation's ambition to reach a more diverse crowd of editors. The WMF explains endeavors to engage a more diverse crowd of editors as an advancement of democratization, but this might as well be considered an intervention to breech the advancement and the countervailing power of the organization's 'civil society.'

Despite the fact that Wikipedia's governance is determinatively dominated by central figures and a central organization, I would not consider this a form of oligarchization or elite-formation in a Michelcean sense, as I do not find proof of formal and informal authorities, emancipating themselves from the control of their constituents, using their powers and positions to transform the organization beyond its original purpose in order to profit from that personally. Nor do I find a general apathy among the rank and file with regard to availing themselves of their democratic powers; in cases where authority is questioned, it is contested by the community, although in some cases more effectively than in others. Hence I consider the phenomenon of power concentration in Wikipedia the emergent effect of the uneven engagement of constituents in the project, as well as the contingent outcome of continuous political struggles between those who intervene in (or outright oppose) Wikipedians' spontaneous and self-selected engagement in order to safeguard the project's quality and continuity and to further the movement's mission, and those who reflexively contest this, ideologically adhering to the openness and democratic character of wikis.

Ongoing bureaucratization

In the previous section I demonstrated that power concentration in Wikipedia is not an ongoing trend, but that it is rather a phenomenon that emerges and that is subsequently contested again. Bureaucratization in Wikipedia could, on the other hand, be

considered a much more linear and self-reinforcing trend. It serves to organize work in the large and complex project in an objective and efficient and effective way, and it serves to legitimize the authority of people who appropriate the discretion to intervene in the natural course of self-organization. Once such forms of bureaucracy and authority are contested, new forms of formal-rational organization are introduced or existing ones are improved, in order to further legitimization or to organize democratic participation. The result is further bureaucratization.

Wikipedia's predecessor Nupedia had a rigid bureaucratic editing structure, as its founder and its editor-in-chief deemed that to be necessary in order to produce content according to their norms and quality standards. It appeared that volunteer-editors considered this teleological bureaucratic structure, which apparently did not do justice to their sense of creativity and autonomy, to be off-putting, and the seeming unattractiveness of the project influenced its viability in a negative sense. As a successful transformation was made to a wiki form of content creation, Wikipedia's volunteer-editors were provided the chance to self-selectively and stigmergically produce content and review each other's work, and to engage in the project's governance and technical development, based on shared beliefs, mutual trust, and consensus, rather than following formal procedures and set-hierarchies. As the project started to grow in size and complexity, community members themselves appeared to engage in the formalization or routinization of positions, policies and procedures, and in the automation of processes, amongst others by devising rules and regulations, and by deploying bots. What I call "bottom-up bureaucratization" appeared to serve as means to provide the norms, structure, stability, and trust, which Wikipedians deemed essential to work efficiently and effectively in the inherently unstable charismatic community. More concretely, bottom-up bureaucratization served as means to cope with the overwhelming demands and challenges of managing volunteers' work, i.e. with the socialization or disciplining of newcomers, with the task of proving to be accountable to funders and external institutions, with

the challenge of shaping and maintaining the collaborative culture and the quality of Wikipedia's content in the light of attacks of vandals and trolls, and with the legitimization of the authority that Wikipedians and Wikimedians claim.

In the face of Wikipedia's sustained growth, the WMF proceeded to enact further bureaucratization by employing an executive director and by substantially expanding its staff. Weber and Michels explain that paying staff is a strategy to have them operate according to pre-defined tasks and objectives, which prominent Wikipedians and Wikimedians apparently did not expect to come from the project's self-selected volunteers. They concluded that it is hard to sustainably count on the input of these volunteers for the execution of complex and boring tasks, and for radical innovation. As a consequence, the executive director and her staff engaged in further bureaucratization of Wikipedia's organization by the further development and deployment of formal positions, protocols, measurements and controls, with a central strategy that served as their reference. First of all this further bureaucratization stemmed from the before-mentioned reason of organizing work of both volunteers and staff in the increasingly large and complex project in an efficient and controllable manner. Additionally, these bureaucratic structures served to legitimize the authority of Wikimedians to further the accomplishment of the movement's mission of, amongst others, reaching and engaging a more diverse reader and editor base, which, as they concluded, did not follow from self-organization. A consequence of the expansion of the WMF's increasingly central and formal-rational approach and assessment of the open and self-organizing project was that its relationship with the vocal and established part of the community got disturbed. To keep established Wikipedians engaged, since they are considered valuable assets of the project, the WMF endeavored to devise bureaucratic structures to involve community-members in the maintenance, the governance, and the further development of the project. As a consequence, Wikipedians have become implicated in self-devised as well as top-down bureaucratic structures.

I thus consider bureaucratization in Wikipedia as a means to organize work of both volunteers and staff in the increasingly large and complex project as efficiently and as effectively as possible and I find that bureaucratization serves as a means to legitimize the authority of people who appropriate discretion to sustain the project and to further the movement's mission according to their insights. If we analyze these two objectives more closely, it appears that bureaucratization serves the purpose of disciplining: over time, Wikipedians and Wikimedians appear to increasingly submit each other and themselves to bureaucratic structures, measurements and controls.

Why would Wikipedians and Wikimedians engage in acts of disciplining themselves and each other? Weber, as many Wikipedians with him, would argue that once there is a comprehensive disciplinary structure consisting of clearly defined goals, well-established and well-documented norms, well-thought out procedures, and objective criteria and while participants commit themselves to use rational arguments, to follow the lead of those with formal and informal positions and clear mandates, and to publicly document and to account for their work, it would be much more efficient to meet certain challenges and to achieve certain objectives in a complex environment, based on the commitment of self-selected participants, then when matters would be organized "from case to case" (2013:983). In such an open and transparent and at the same time bureaucratic organization, self-selected volunteers could easily join a project based on their personal motivations, objectives and concerns, without established participants having to step in in each and every case. Although this appears to be a way of reasoning that resonates with many Wikipedians and Wikimedians, it is contradictory to what is considered one of the essential premises of open and self-organizing communities and wikis, namely that the freedom of participants, and the undefined outcomes of their contributions would lead to richer, more creative and more innovative results.

With the growth of the organization, distributed ways of working seem to negatively affect aspirations to work efficiently and according

to pre-set objectives. Therefore, participants engage in attempts to discipline peers in a scalable way, i.e. via procedures and tools based on formal-rational grounds. This finding fits Weber's observations that efforts to establish and sustain democratic organizations beyond a limited group of stakeholders would inevitably develop structures of dominance. I conclude that this theory also holds in an essentially bottom-up organization that largely thrives on information and communication technologies, as advocates of radically new ways of organizing praise information and communication technologies for their democratizing potential. This increasingly bureaucratic way of working is self-reinforcing in character. With the ongoing growth of the organization, the responsibilities, the workload and the challenges of functionaries and volunteers continue to grow, resulting in further bureaucratization, as bureaucracies, strive to function efficiently and effectively and in controlled and predictable ways. One potential negative consequence of further-reaching bureaucratization could be that bureaucratizing organizations become less tolerant to exceptions, which is antithetical to the context of an open and self-organizing community.

According to Weber's theory, forms of domination always need to be embedded in attempts to cultivate the belief in their legitimacy. That Wikipedians and Wikimedians tend to discipline themselves—i.e. that they tend to publicly and bureaucratically account for their work – follows from their awareness of the community's sensitivity for hierarchy and power concentration. As a consequence they tend to explicitly demonstrate that the authority or discretion they claim is based on formality, rationality, transparency and objectivity, rather than stemming from their personal concerns and objectives. In this context, it appears that the notion of leadership is structurally downplayed in Wikipedia. So, apart from being a means to organize work efficiently and effectively, bureaucratic (self-)disciplining serves the democratic purpose of demonstrating that every potential participant has an equal chance to participate in his or her governance, and that domination is minimized. The phenomena of bureaucratic disciplining and self-disciplining serve the purpose of

mitigating complexity and authority in a democratic organization. The latter is a rather surprising conclusion, given the fact that open and self-organizing communities are heralded for their democratic aspects, while at the same time being explicitly portrayed as strongly opposed to bureaucratic organizations. In the following section on self-organizing bureaucratization I will further elaborate upon this conclusion, which can be explained by Wikipedia's stakeholders' common belief in rationalism and objectivism.

Despite the plausible explanations for bureaucratic disciplining and self-disciplining in Wikipedia, and in open and self-organizing communities in general, the bureaucratization of Wikipedia is in fact an act of re-purposing a wiki. While one of the essential characteristics of wikis is the indeterminacy of their outcomes, that is, “you have to believe that it’s going to come out, even though you can’t say what it is,” Wikimedians and a subset of Wikipedians deem it their task as reducing this indeterminacy via bureaucratic structures (Cunningham 2014). As such, Wikipedia’s increasingly bureaucratic organization is a grotesque violation of the ideals of openness and self-organization. Wikipedia’s ongoing bureaucratization does not meet much resistance from the open- and self-organizing community, and when it does, it sees further bureaucratization as a consequence. It appears as if Wikipedians carry their bureaucratic straitjacket as a Weberian “stahlhartes Gehäuse” (Baehr 2001). This “shell as hard as steel” is not a cage that confines Wikipedia’s volunteers, nor does it force them to work in a machine-like constellation, but, as I would relate Weber’s concept to the evolutionary bureaucratization of Wikipedia, it is a generally appropriated form of conformism to formal-rational norms organization. Regarding the manifestation of bureaucracy in Wikipedia, I observe a transformation from a charismatic open and self-organizing community to a situation in which bureaucratization thrives. Bureaucratization appears something that is not always designed and strictly imposed, effectuated from the top-down, but rather is a way of democratically coping in a complex environment. To grasp this phenomenon I introduced the concept of self-organizing bureaucratization, which I consider to be a central notion in the

theorization of open and self-organizing communities, and which I elaborate in detail in the following section.

Self-organizing bureaucratization and democracy

One of the objectives of this study of the organizational evolution of Wikipedia and the Wikimedia Foundation has been to contribute to the theorization of the development of open and self-organizing communities in general. The central concept of my contribution is “self-organizing bureaucratization,” by which I mean to capture three aspects that I consider to be essential in the development of open and self-organizing communities. The first is that open and self-organizing communities are essentially transient, as their organizations fundamentally change once they grow in size and complexity. The second is that open and self-organizing communities are characterized by political conflicts between those appropriating discretion and devising formal structures to pragmatically meet the project’s challenges and objectives and those that ideologically engage in the defense of community members’ autonomy and their self-organizing character, with the result being that these challenges concerning complexity and authority are essentially managed by bureaucratization. The third inclusive aspect of self-organizing bureaucratization is that the inevitable bureaucratization of open and self-organizing communities can be explained by their inclination to meet the ideal to organize themselves and their work as democratically as possible. The use in speaking of self-organizing bureaucratization is that bureaucratization is an ongoing process that is not devised and deployed by officials from the top-down, but which emerges from the political interaction between all stakeholders involved, both constituents and those with formal and informal positions. The concept of self-organizing bureaucratization highlights the fact that bureaucratization serves the purpose (or the ideal) of democratic organization, while at the same time revealing an essential disbelief in, or at least a strong inclination to intervene in, self-organization.

Open and self-organizing communities are not static entities. As Weber describes, and as I noted earlier, self-organizing communities mostly arise from the initiative of energetic individuals and their early followers. As these operate in close contact with each other, decisions regarding the course and the governance of the organization are made based on shared values and concerns, and in full awareness of those engaged. As both Michels and Weber observe, such early groups and parties and movements, which Weber identifies as “charismatic communities,” are essentially unstable, and, once they start to grow in size and complexity, they would eventually face challenges of organization and representation. From that moment on, not all constituents are, nor can be, engaged in and informed on every governance issue of the community. By then its energetic leaders do not have the capacity to be involved in every decision-making effort, or to act as an arbiter in every conflict anymore, nor can or will they inform every constituent on everything they are engaged in in detail. In the eye of those advocating the radically democratizing aspect of open and self-organizing communities, information and communication technologies are supposed to meet this challenge, as these allow all engaged to be informed on every governance issue and to take part in every decision-making activity in real-time. In the context of an open and self-organizing community, participants are invited to self-selectively and stigmergically operate according to their personal expertise and concerns. Allowing constituents to ‘pick their battles’ is expected to lead to more optimal results than when assigning tasks to functionaries, operating under a supervisor. Theoretically and technologically this could be scaled-up indefinitely. Yet the empirical practice of Wikipedia teaches us that Wikipedians tend to choose bureaucratic disciplining strategies of devising formal norms, structures, positions, tools, criteria, measurements, checks and balances, et cetera in order to cope with these challenges. The concept of the self-organizing bureaucracy holds that once open and self-organizing communities grow in size and complexity, formal and informal structures will be developed and deployed, by both constituents and representatives, to cope with the challenges that

come with this growth as efficiently, effectively, and as democratically as possible.

As they are essentially open and leaderless, people with various backgrounds, viewpoints and concerns join open and self-organizing communities. Their personal, incremental and stigmergic contributions are supposed to further these projects in more efficient, productive and innovative ways than traditional hierarchical and rigid bureaucracies ever would. Existing literature on open and self-organizing communities hardly touches upon the ongoing political struggle by which open and self-organizing communities like Wikipedia are characterized and formed. I argue that, rather than an ongoing rational and objective improvement-trajectory within which incremental contributions of self-selected volunteers leading to an increasingly optimized organization with increasingly optimized products and services, open and self-organizing communities could better be understood as the contingent outcome of ongoing political struggles among their stakeholders. Wikipedia is essentially shaped by the struggle between those who argue that it is crucial to have formal-rational structures and authorities in place in order to maintain the quality and the continuity of the project and to achieve its mission, and that this cannot be left to self-organization, and those that argue that any form of bureaucratic structure and authority is fundamentally “unwiki” and undemocratic. Each momentary form of Wikipedia’s organization could be considered as a contingent stage in this struggle. This struggle follows the original debate between Michels and Weber regarding democracy and domination. The concept of the self-organizing bureaucracy holds that this debate will be present in each open and self-organizing community that aspires to meet specific concerns, objectives and ambitions on the one hand, and that pretends to leave its governance to democratic self-organization on the other.

This research demonstrates that in the case of Wikipedia bureaucracy and democracy are closely related. Bureaucratic means serve to organize work efficiently and democratically, and it serves to legitimize authority in an as democratic way as possible. Besides

the bureaucracy there are, according to Weber, other “pure” types to legitimize power, including traditional and charismatic authority. Both of these alternatives to bureaucratic domination thrive on the individual whims of their leaders, which most participants of open and self-organizing communities would be principally opposed to. Charismatic authority is essentially transient, and traditional authority would be based on age-old customs and loyalties that would be an odd concept in allegedly radically new organizations. Hence that one of the fundamental aspects of self-organizing bureaucracies is that they turn from charismatic to bureaucratic organizations once they grow in size and complexity.

Despite their different viewpoints, the belief in the technical superiority of rational organization seems to be widespread amongst both the stakeholders who point at the necessity of authority and clearly defined procedures in order to safeguard the quality and the continuity and the mission of self-organization, and those that strongly contest the power concentration and bureaucratization of self-organization. Each extensively uses formal arguments and refers to or proposes or produces protocols, policies and guidelines in order to legitimize their actions and to avoid being blamed for being biased or for misusing power. A plausible explanation for bureaucracy (and technology) to play an essential role in the organization of open and self-organizing communities could be that bureaucratic organization is considered to be transparent, objective, predictable, reliable, and impersonal. Hence it could be accepted as a legitimate source of authority in an essentially democratic and inherently anti-hierarchic context. In cases that the results of bureaucratization are considered to have a negative influence on constituents or on endeavors to realize the WMF’s mission, new supposedly more effective and objective bureaucratic measures, institutions and tools are developed and deployed with the argument that these would better serve to meet the movement’s objectives while striving for “equality for the law,” and “minimization of domination.” As Weber remarked: “democratization by no means leads to the waning of domination” (Roth 2013:cvi).

The essence of the concept of self-organizing bureaucratization is that legal-rational organization emerges from a process in which both staff and constituents make efforts to realize and maintain an open and self-organizing community. According to Weber, bureaucratization generally follows from intentional efforts of legitimate bodies with qualified experts involved. Crucial aspect of self-organizing bureaucracies is that bureaucratization does not result from conscious and shrewd strategies from an organized elite, but rather comes as a by-product of individual actions of both elite and non-organized community members. Despite ideological concerns of openness and anti-authoritarianism, bureaucratic organization is being produced in an intentionally democratic organization, generally lacking a central command structure. By the concept of self-organizing bureaucratization I do not only aim to indicate how bureaucratization emerges from self-organization, but I aim to emphasize the fundamental interrelatedness of democratic self-organizations and bureaucracy as well, as bureaucratic means serve endeavors to guarantee minimization of domination in open and self-organizing communities.

Over time, Wikipedians and Wikimedians increasingly rely on technologies for automatic decision making to maintain their democratic ideals. One could imagine that this could be a general aspect of self-organizing bureaucratization, as technology is considered the ultimate representation of ideals of objectivity, predictability, reliability, impersonality and apoliticality. However, Wikipedians' and Wikimedians' increasing reliance on technology-enhanced means of governance could just as well be informed by predisposition among participants in online and technology-related projects, which generally tend to objectivity and rationality. Further research into self-organizing bureaucratization in open and self-organizing communities with more diverse constituencies could illuminate whether technologization is an essential aspect of self-organizing bureaucratization among open and self-organizing communities more generally.

A second point I wish to make regarding the bureaucratization and technologization of open and self-organizing communities is that these trends evidently hold the risk of compromising democracy and diversity in itself. Attempts to minimize domination and to safeguard equality for all by – ever more sophisticated, but essentially imperfect and biased – bureaucratic and technological means do not necessarily breach self-organizations' tendency towards homogenization and exclusion; i.e. these bureaucratic interventions do by no means guarantee that issues of race, gender and class are adequately dealt with, as, for example, practices and algorithms might be biased regarding specific groups, and as technologies might benefit those who are familiar with these. This observation puts issues that Wikipedia and Wikimedia face in broader debates, as present in, for example, science and technology studies, gender studies and in postcolonialism studies, on whether those advocating openness and neutrality and engaging in making communities more diverse might essentially contribute to the establishment and the conservation of exclusion and inequality.⁵¹ Thus, the reliance of open and self-organizing communities on formal-rational structures to safeguard their democratic ambitions might prove to be a democratic guise that reinforces power imbalances and that negatively affects the autonomy of constituents. As the challenge to counteract tendencies of power concentration and the confinement of the autonomy of constituents is (commonly yet paradoxically) approached by further bureaucratization and technological innovation, I tend to consider self-organizing bureaucratization as a self-reinforcing trend.

Reflexivity and conservativeness

Along with novel theoretical insights into the evolution of open and self-organizing communities, this dissertation provides Michels's and Weber's seminal theories in field of organizational evolution

⁵¹ Cf. Tkacz 2015:11-3 for an indication of how gender inequality, exclusion and subjugation are technologically and ideologically reproduced in Wikipedia.

with empirical detail. I demonstrate how power concentration and bureaucratization in democratic organizations are the outcome of self-organization and of political struggles, in which constituents play a decisive role.

An essential amendment to Michels's and Weber's theories based on the analysis of Wikipedia's evolution is that both representatives and constituents of intentionally democratic organizations should explicitly be considered as active and reflexive actors. Although both Michels and Weber do leave room for an interpretation in which constituents play a role in their organization's power concentration and bureaucratization, more often than not it is understood from their theories that these developments are deliberately deployed by functionaries upon the rank and file. Instead, the case of Wikipedia indicates that power concentration and bureaucratization are the essential outcome of political processes with all stakeholders involved, all of whom are committed to establish and sustain an open and self-organizing community according to their concerns. In various cases the rank and file appear to successfully operate as a countervailing force against their representatives' tendencies of oligarchization. Just as their constituents, the representatives (of this specific intentionally democratic and anti-hierarchic environment) regularly appear to be concerned about manifestations of power concentration, but while constituents endeavor to contest power concentration amongst those with formal and informal positions, representatives try to downplay and to legitimize their authority. I argue that this constant mutual reflexive endeavor to realize an organization that is as democratic and as leaderless as possible in fact leads to practices of disciplining and self-disciplining. The result is the bureaucratization of initially and intentionally democratic organization.

It is a question whether the essential role of the constituents and the mutual reflexive disciplining among constituents and representatives are an outcome of the presumed revolutionary character of present-day open and self-organizing communities. That is, are these phenomena, for example, catalyzed by the democratization of information and communication technologies? Or were these

a blind spot in the sociological theories I applied in this research? Unmistakably, information and communication technologies facilitate reflection upon practices of governance, as these democratize the sharing and retrieval of information, the provision and claiming of transparency, and the organization of and participation in public consultations concerning these practices. Emancipatory evolutions of the last decade could have resulted in constituents feeling more entitled to hold others accountable and to voice their concerns and discontent, and that representatives feel more inclined to account for their deeds than at the times that Michels and Weber developed their theories. It could also be that representatives of the case of this study are dependent on the work and the compliance of volunteers, who might be more inclined to scrutinize their representatives and to regularly consult with themselves whether they are investing their time in a project and an environment that suits their values and ambitions or not. Nonetheless it seems highly unlikely that those who were engaged in the democratic organizations that these scholars describe did not sense any tendency to adjust the course of their organization or to make compromises in order further their missions and ambitions.

Thus, Michels's thesis that leadership corrupts and that those in power automatically become unaccountable to their mostly apathetic constituents appeared inapplicable to the evolution of Wikipedia. In the case of Wikipedia it appears that the thesis that the impetus of power concentration and bureaucratization would lie with conservative elites is invalid, as those in relative power in Wikipedia – its formal and informal representatives—consider Wikipedia's informal elite (the vocal minority of its 'civil society') to be conservative and a detrimental force regarding the responsibilities they feel they have and the objectives they aspire to achieve. The interventions of those in relative power are essentially meant to bypass the allegedly conservative community members in order to achieve the organization's democratic mission. These interventions, which cause reflexive counter-reactions, lead to new bureaucracy-based organizational contingencies.

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Tijdlijn van de Nederlandse geschiedenis –
Timarcha

Admin

Abbreviation of “administrator” or “systems administrator.” Person with extended privileges or manager of computer facilities. See *sysop*.

Agile software development

Methods and practices to support developers in collaboration, by which the goal is to operate as effectively as possible in complex, uncertain, and dynamic circumstances.

Annual Plan Grant (APG)

Funds that the Wikimedia Foundation allocates to local organizations in their pursuit to achieve the Foundation’s mission objectives. They are applied for through an application process that the WMF and the Funds Dissemination Committee oversee.

Arbitration Committee (ArbCom)

A panel of Wikipedia editors with the formal responsibility and authority to resolve a dispute between editors whenever the community cannot resolve the dispute itself.

Benevolent Dictator (BDFL)

An ironic designation of leaders or founders of open-source software communities who remain the final decision-maker within the project.

Bot

Shortened from “robot.” A software algorithm or script developed to execute tasks automatically.

Bug

A software-problem.

Chapter

Independent local organizations founded to support and promote the Wikimedia mission and projects in a specified geographical region. By April 2018, there were 37 Wikimedia-chapters. Chapters

can manage their own finances and press, and they can go to defense in a lawsuit.

Code review

The systematic examination of computer source code, in order to identify potential flaws.

Community

In this thesis I use the terms "community" and "Wikipedians" interchangeably. For reasons of clarity I distinguish these concepts from "Wikimedians." With community members or Wikipedians I mean to indicate volunteer contributors to Wikipedia's content, software and governance, and generally any other enthusiasts who participate in the production of Wikipedia. Wikimedians are staff and board members who serve as officials and representatives of the Wikimedia Foundation.

Creative Commons

A global nonprofit organization that provides free legal tools, especially licenses, that enable the sharing and reproduction of creativity and knowledge.

Crowdsourcing

Public consultation or engagement of an unidentified public of stakeholders for the sake of strategy, innovation, governance, or research.

CVS (Concurrent Versions System)

A system that provides insight in the status of and the changes to a set of files in the field of software development, which allows a distributed group of developers to collaborate.

Fork

Further independent and separate development on a copy of the source code of a software package. In practice this is often coincides with a split in the developer community.

Emergence

“To Goldstein [1999], emergence refers to “the arising of novel and coherent structures, patterns and properties during the process of self-organization in complex systems” (Corning 2001:7).

Free and Open Source Software (FOSS)

A license allowing users to run, copy, distribute, study, change and improve specific software.

Funds Dissemination Committee (FDC)

A committee of volunteer Wikimedians that provides the board of trustees with recommendations concerning requests for funding by eligible entities within the Wikimedia community.

GNU General Public License

A license for open-source software. “The GNU General Public License is intended to guarantee your freedom to share and change all versions of a program—to make sure it remains free software for all its users” (GNU 2007).

Hacker

Hackers are colloquially understood as people who are savvy with computer logic and coding who can therefore manipulate software in advanced ways. It is also an ethos of self-empowered, communal coding of software enthusiasts who believe that “information-sharing is a powerful positive good, and that it is an ethical duty of hackers to share their expertise by writing free software and facilitating access to information and to computing resources wherever possible” (Himanen 2001:vii). “In the hacker model, the individual simply starts creating, without any bureaucratic formalities, and passes

her or his creation on to others directly without any complicated legalese” (Himanen 2001:149).

HTML (Hypertext Markup Language)

Standard markup language for web pages and web applications.

IM (Instant messaging)

Real-time text transmission over the Internet.

IRC (Internet Relay Chat)

Text-based online communication protocol that functions as a interface for real-time discussion.

Meta-wiki (or Meta)

A platform for cross-wiki information and coordination related to Wikimedia and Wikipedia projects.

Opt-in

The option to choose to actively participate in something.

Opt-out

Actively having to express that one chooses not to participate in something. Opt-out implies that one is a participant by default.

Organization

Organization, as a concept, Weber argues, “exists so far as there is a probability that certain persons will act in such a way as to carry out the order governing the organization” (2013:49).

Patch

A piece of software designed to fix or improve an existing program.

Peer production (or mass collaboration)

The production of goods and services as the shared outcome of self-selective engagement of distributed individuals.

Power user

A person who uses a product or a service intensively. Power users are usually familiar with and capable to use a product or service's advanced functionality.

Prosumption

Production by consumers.

Query

A request for information or to perform an operation on data in a database.

Replication lag

The term for the time delay on the replica version of Wikipedia. In order not to affect or disturb Wikipedia and its sister projects, research and queries are performed on copies of the original site's content, and for technical reasons these replicas lag behind the actual project.

Root (or root access)

A high-level of access, describing accounts and user names that have access to the commands and files of an operating system.

Self-organization

The spontaneous emergence of an unforeseen and temporal order from the uncoordinated actions of distributed individual actors in a complex system.

Stable branch

A software release in which specifications, features and functionality are final for as long as this version is supported or updated. The final, most updated, functioning version of a branch of software.

State of the Wiki

Jimmy Wales' speech during the annual Wikimania conference.

Stigmergy

According to Heylighen, “a mechanism of indirect coordination in which the trace left by an action in a medium stimulates subsequent actions” (2015:4).

Sysop (abbreviation of system operator)

The administrator of an online platform or community. See *admin*.

Thread

A group of interlinked messages and replies in an e-mail service, on an Internet forum, newsgroup, mailing list of bulletin board.

Troll

A visitor to an online forum that deliberately interjects in discussions and activities for the purpose (fun) of provoking and upsetting community members.

UseModWiki

An early, free and open source wiki engine.

Wheel war

Ongoing, back-and-forth reverting of various editors' or administrator's actions.

Wiki

A group-edited series of pages hosted on a website that is usually centered on a specific topic.

Wikimania

The official annual conference of the Wikimedia Foundation.

Wikimedia Commons

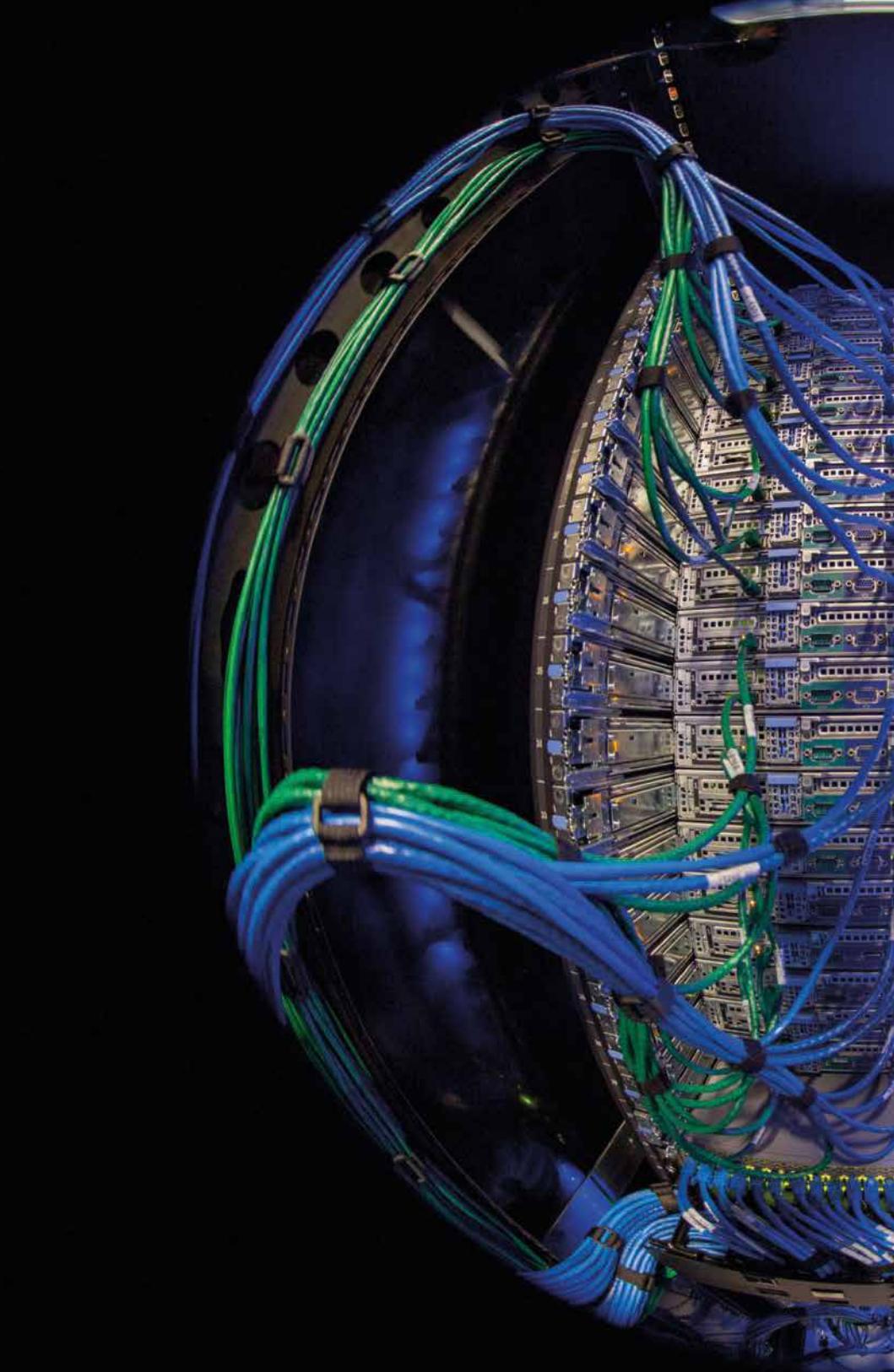
Wikimedia's repository on commons.wikimedia.org of freely usable media files to which anyone can contribute.

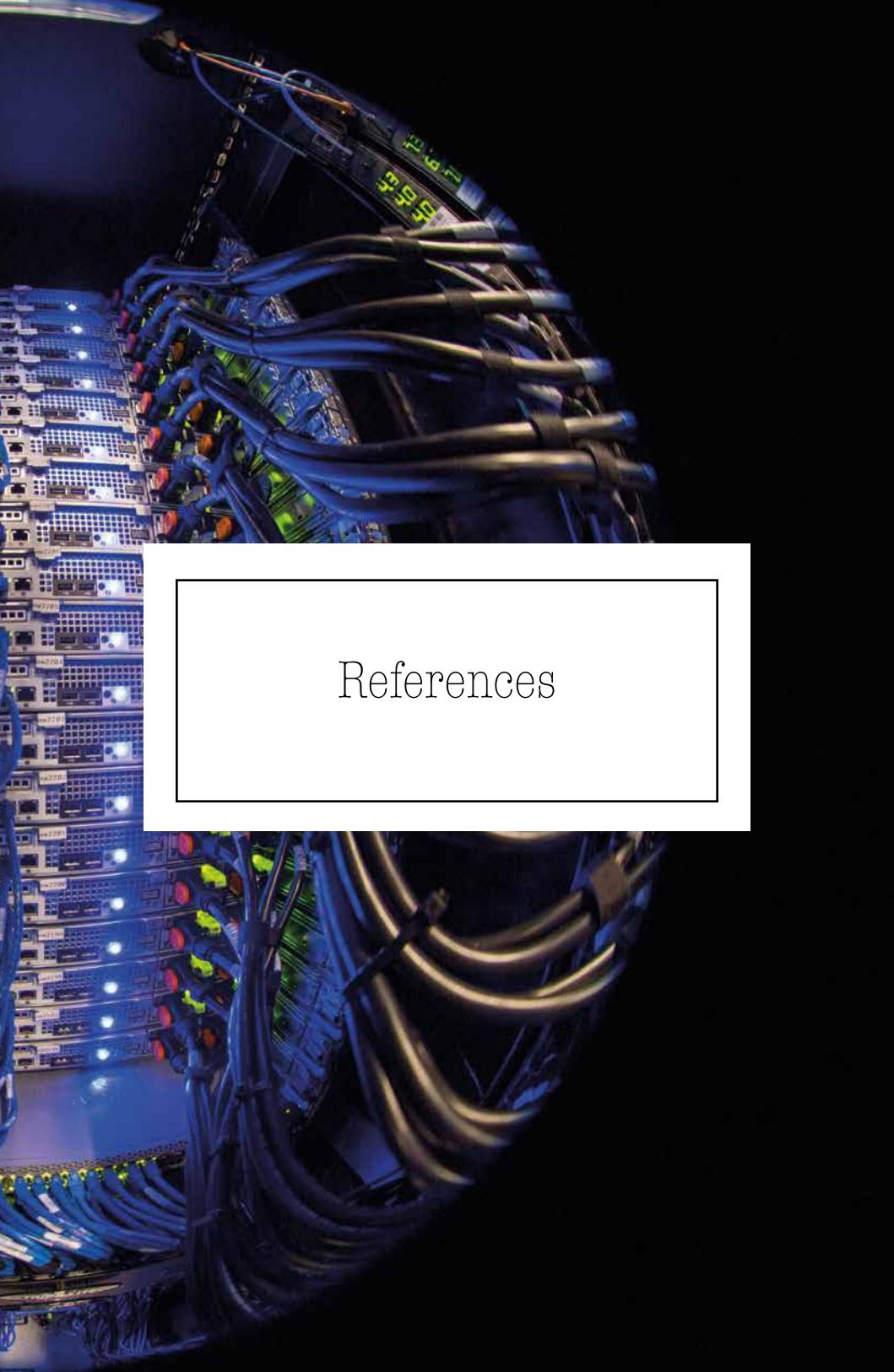
Wikimedia Foundation (WMF)

The non-profit and charitable organization that was founded in 2003 by Jimmy Wales in order to support and sustain Wikipedia and its sister projects. The WMF hosts and owns most of the domain names of the projects.

WYSIWYG

Acronym for "what you see is what you get," defining a method of user-interface design. Used to edit content online in a way that the preview closely resembles the end result.





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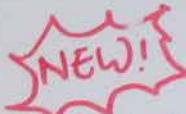
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FOUNDATION



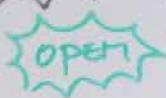
BDFL



SELF-ORG



NEW!
DEMOCRATIC!



~~DEMOCRATIC!~~
→ WILL OPEN + SELF
REMAIN OPEN AT

- * INL. - REVOLUTION! BUT NICHOLS / UBER →
- * BEFORE / UTOPIAN ORTHODOXY = DEMOCRATIZATION
GRAVITATEIVELY DIFFERENT. NEW USE POWER
OF FUNDAMENTAL DEMOCRATIC PROCESS...

- * THEROLOGY - SWARM / UNION OF CLOUD / CATS. →

- NICHOLS - OLIGARCHIZATION = INEVITABILITY
- SCOTT - DOMINATION - 3 LEGITIMACY
- WEBER - CHAOS = LIMITATION

SELF-ORG

- TRANSITION (GROWTH)
- DISEASE
- DARK SIDE

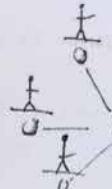
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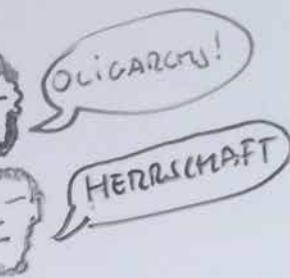
DIRECT DEMONSTRATION = ADAM

= TRANSITION
= CONFIRMATION

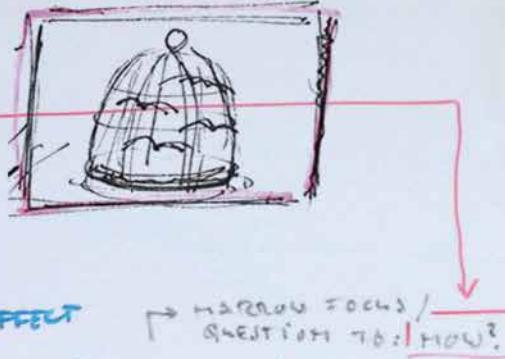
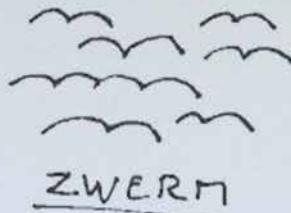
WHY???
TRANSITION
TRANSIENT? HOW?

EVOLVING

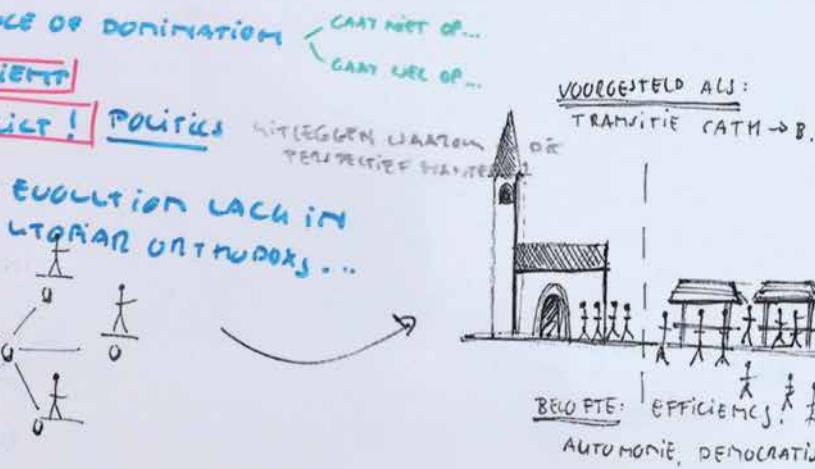




-ORG NETWORKS
AND SELF-ORG?



Samenvatting



In januari 2016 werd het vijftienjarig bestaan van Wikipedia gevierd. Sinds 2001 hebben honderdduizenden vrijwilligers zich ingezet voor deze “encyclopedie die iedereen kan bewerken,” met als resultaat een gratis toegankelijk online naslagwerk met een omvang van meer dan vijfenvierentig miljoen artikelen in meer dan driehonderd talen (begin 2018). Al jarenlang behoort Wikipedia tot één van de meest bezochte websites ter wereld, als vrijwel geheel door vrijwilligers gedragen non-profit organisatie tussen techreuzen. In 2015 ontving Wikipedia de prestigieuze Erasmusprijs. Deze erkenning was expliciet gericht aan de *community*, omdat Wikipedia een lichtend voorbeeld zou zijn van hoe met incrementele bijdragen van vrijwilligers zoets complex als de wereldwijde verspreiding van “de som van alle menselijke kennis” effectief en op democratische wijze georganiseerd kan worden.

Zowel binnen als buiten de wereld van Free en Open Source Software wordt Wikipedia beschouwd als een exemplarische *open* en *zelforganiserende* gemeenschap. Wikipedia is open, omdat het iedereen vrij staat om op basis van eigen inzicht en motivatie bij te dragen; en Wikipedia is zelforganiserend, omdat vrijwilligers participeren zonder dat ze hiertoe opdracht krijgen en zonder dat ze hier een financiële vergoeding voor ontvangen. De basis van het succes van Wikipedia is de “wiki,” server-side software die gebruikers, waar en wanneer zij maar willen, toestaat om op eigen initiatief en naar eigen inzicht de inhoud van een webpagina aan te passen. In het geval van Wikipedia kunnen gebruikers zoals u en ik niet alleen de inhoud van lemma’s aanvullen, aanpassen, en van foto’s of referenties voorzien; we kunnen ook meeschrijven aan financiële plannen, software, regels en strategiedocumenten.

De afgelopen jaren verschenen talloze populairwetenschappelijke publicaties waarin Wikipedia werd genoemd als geslaagd voorbeeld van een radicaal nieuwe, innovatieve en democratische vorm van organiseren. Dit soort vertegen voltrekt zich steeds volgens eenzelfde stramien: ontwikkelingen in informatie- en communicatietechnologie zouden het mogelijk maken dat mensen niet langer in opdracht en onder supervisie van een meerdere hoeven te werken in traditionele, starre, hiërarchische, gesloten en bureaucratische organisaties, maar

ervoor zorgen dat zij op eigen initiatief en naar eigen inzicht hun kennis en energie kunnen inzetten om producten en diensten voor zichzelf en hun gemeenschap te produceren.

Klassieke sociologische theorieën voorspellen echter dat organisaties die in basis en uit ideologische overwegingen open en zelforganiserend zijn, uiteindelijk toch vormen van machtsconcentratie en bureaucratische structuren ontwikkelen, die ten koste zouden gaan van de autonomie van de betrokkenen. Robert Michels en Max Weber betoogden al meer dan een eeuw geleden dat dit soort ontwikkelingen onvermijdelijk is wanneer organisaties groeien en complexer worden en het onmogelijk wordt om alle informatie met alle betrokkenen te delen en om elke beslissing in gezamenlijkheid te nemen. Op zo'n moment, zo betogen zij, doen arbeidsdeling en formalisering hun intrede, met als gevolg dat vertegenwoordigden autonomie verliezen aan hun vertegenwoordigers (experts), en dat zij hun bewegingsvrijheid in toenemende mate ingeperkt zien worden door een bureaucratisch keurslijf. Huidige technologische ontwikkelingen, die zorgen voor real-time beschikbaarheid van informatie, en die het mogelijk maken dat mensen van over de hele wereld en masse en in real-time kunnen communiceren en vanuit hun eigen interesse en motivatie kunnen samenwerken, zouden hier volgens de pleitbezorgers van open en zelforganiserende gemeenschappen een democratischer alternatief voor kunnen zijn. Tegen deze achtergrond onderzoek ik in deze studie hoe en waarom machtsconcentratie en bureaucratisering zich ontwikkelen in de paradigmatische open en zelforganiserende online gemeenschap van Wikipedia.

Na deze introductie in Hoofdstuk 1: *Wikipedia: harbinger of a radically new form of organization?*, laat ik in Hoofdstuk 2: *Democratic organization in the age of the wiki* zien dat aanhangers van de gedachte dat technologische ontwikkelingen een revolutie in bottom-up organiseren mogelijk maken – en dat Wikipedia daar één van de voorbodes van is – democratisering als één van de essentiële aspecten van zulke nieuwe organisaties beschouwen. Echter, de theorieën van Michels en Weber doen vermoeden

dat zo'n gedistribueerde, autonome, niet-hiërarchische en niet-bureaucratische vorm van organiseren wel eens van zeer tijdelijke aard zou kunnen zijn. Als Michels in zijn onderzoek naar de ontwikkeling van arbeidersbewegingen en socialistische politieke partijen – die zich explicet verzetten tegen de dominantie van elites en die streven naar een democratischere vorm van organiseren – vindt dat zelfs deze niet aan elitevorming en machtsconcentratie lijken te ontkomen, concludeert hij dat er een “ijzeren wet van de oligarchie” moet bestaan, en dat het dus een utopie moet zijn dat burgers hun eigen bewegingen en partijen democratisch zouden kunnen besturen. De wetmatigheden die hij ziet in de evolutie van organisaties die zich democratisch proberen te organiseren, zijn dat er zich 1) een elite van vertegenwoordigers (experts) ontwikkelt wanneer deze organisaties groeien in omvang en complexiteit; en 2) dat de kloof tussen deze professionals en degenen die ze vertegenwoordigen en ondersteunen steeds groter wordt, omdat de laatsten steeds minder in staat zijn hun vertegenwoordigers aan te sturen en te controleren. De elite zou zich steeds meer gaan bezig houden met het versterken van haar macht en de privileges en afwijken van haar initiële doelstelling, namelijk om de betrokkenen te dienen in hun zelfbestuur. Daarnaast concludeert Michels dat 3) slechts een beperkt deel van de vertegenwoordigden daadwerkelijk gebruik maakt van de mogelijkheden zich te mengen in democratisch zelfbestuur.

Weber, die Michels' mentor was, constateert dat zijn anarchistische pupil een wel heel rigide opvatting van ‘democratie’ hanteert, omdat hij elke vorm van representatie als een onderdrukkende vorm van machtsconcentratie ziet. Weber acht het productiever om niet een ideaaltypisch en moreel beeld van democratie, maar om de ontwikkeling van vormen van autoriteit als uitgangspunt te nemen voor studies naar de evolutie van organisaties. Wat hem betreft kent elke organisatie vormen van autoriteit (“Herrschaft”) – het vermogen om anderen te bewegen om bepaalde orders op te volgen of opdrachten uit te voeren, zonder dat daarbij sprake is van dwang (“Macht”). Twee van de drie “pure” of legitieme vormen van dominantie die hij onderscheidt en die van belang zijn in deze

studie zijn de charismatische en bureaucratische autoriteit. Charisma is een bijzondere eigenschap die aan leiders wordt toegedicht door hun volgers, de “charismatische gemeenschap.” Charismatische organisaties zijn structuurloos – ze kennen geen vastomlijnde plannen en posities en geen structurele bronnen van inkomen; er wordt *ad hoc* gereageerd op omstandigheden. Charismatisch leiderschap, dat we onder andere zien bij startende organisaties, is per definitie instabiel en tijdelijk omdat leiders het na verloop van tijd niet meer kunnen opbrengen om keer op keer hun uitzonderlijke kwaliteiten te moeten tonen, en omdat betrokkenen ertoe neigen om hulpbronnen, zoals inkomen en aanwas van nieuwkomers, op een structureelere en stabielere manier te organiseren. Volgens Weber gaat een dergelijke “routinisering” gepaard met conflict, omdat elke organisatie verschillende groepen met verschillende interesses kent, die hun eigen belangen proberen te verdedigen. Een veel voorkomende vorm van routinisering van charismatische organisaties is via bureaucratisering. Bureaucratieën zijn organisaties waarbij autoriteit is gebaseerd op formele, gestandaardiseerde en niet-persoonlijke structuren: hier volgt men helder omschreven regels en protocollen en meerderen die posities bekleden op basis van hun expertise en merites, en niet op basis van aan hen toegedachte uitzonderlijke vermogens. Weber beschrijft hoe democratische organisaties die groeien in omvang en complexiteit bureaucratische procedures ontwikkelen en autoriteiten aanstellen om principes als “minimalisering van dominantie” en “gelijkheid voor betrokkenen” te bewaken.

Beide auteurs betogen dat organisaties fundamenteel veranderen wanneer deze zich ontwikkelen. Zij benadrukken ook beiden dat dit mogelijk negatieve consequenties heeft voor de autonomie van betrokkenen: waar Michels wijst op de onvermijdelijkheid van oligarchisering, toont Weber hoe bureaucratieën kunnen verworden tot onpersoonlijke machines die de persoonlijke vrijheid van betrokkenen beknotten. Waar Michels deze ontwikkelingen als onvermijdelijk beschouwt en deze bestempelt als een fundamentele ondermijning van democratisch bestuur, ziet Weber ze als tijdelijke

uitkomsten van de politieke strijd tussen betrokkenen. Geen van beide auteurs biedt echter empirisch inzicht in hoe een dergelijke strijd verloopt en in hoe en waarom bureaucratische en machtsstructuren zich door de tijd heen ontwikkelen.

De vergankelijkheid van organisaties die streven naar democratisch bestuur; het politieke aspect van het streven naar als “het minimaliseren van dominantie” en “gelijkheid voor betrokkenen;” en de mogelijke negatieve aspecten van machtsconcentratie en bureaucratisering in deze ontwikkelende organisaties vormen de uitgangspunten van mijn kwalitatieve onderzoek naar de evolutie van Wikipedia. Hiermee draag ik bij aan 1) empirisch begrip van de ontwikkeling van deze als revolutionair voorgestelde online organisatie; aan 2) theorievorming rond de ontwikkeling van open en zelforganiserende online organisaties; en aan 3) reflectie op klassieke sociologische organisatietheorieën.

Hoofdstuk 3: Wikipedia and the Wikimedia Foundation, 1999-2017: toward a sociological analysis is de methodologische verantwoording van dit onderzoek. Anders dan in eerdere onderzoeken naar Wikipedia besteed ik structureel aandacht aan de rol van de Wikimedia Foundation (WMF). Deze stichting, in 2003 geïnitieerd door de oprichter van Wikipedia, Jimmy Wales, is onder andere verantwoordelijk voor de fondsenwerving, de softwareontwikkeling en het serveronderhoud van Wikipedia, en presenteert zich als dienstbaar aan het werk van de vrijwilligersgemeenschap. In 2017 haalde de WMF 80 miljoen dollar aan fondsen op, had deze een eigen vermogen van 80 miljoen en waren er 300 mensen in dienst. In dat jaar waren er 38 lokale Wikimedia-afdelingen of –chapters; onafhankelijke organisaties die Wikimedia-projecten in een specifieke geografische regio ondersteunen en promoten.

Het onderzoek valt uiteen in drie empirische delen, waarin een beschrijving en een sociaal-politieke analyse van de evolutie van Wikipedia's *financiële, infrastructurele* en *culturele* organisatie geboden worden. Voor elk van deze thematieken heb ik onderzocht hoe en waarom tendensen van machtsconcentratie en bureaucratisering zich manifesteren. Ik heb verschillende methoden gebruikt om

tot empirisch gefundeerde inzichten rond deze thema's te komen. Allereerst heb ik een uitgebreide literatuurstudie gedaan. Vervolgens heb ik interviews gehouden en bijeenkomsten bezocht van Wikimedia Nederland. Via deze weg heb ik inzicht ontwikkeld in belangrijke gebeurtenissen, ontwikkelingen en actoren in de evolutie van Wikipedia. Op basis hiervan heb ik specifieker gezocht naar bronnen en respondenten. Dat elke toevoeging of wijziging aan elke Wikipedia-pagina – of het nu een lemma, een beleidsstuk, een regel of een procedure, een financiële verantwoording of een verkiezing voor een bepaalde functie is – bewaard en doorzoekbaar is, maakt dat ik bepaalde ontwikkelingen en discussies en bijbehorende bijdragen en posities van betrokkenen via de methode van “trace ethnography” van begin tot einde heb kunnen volgen. Omdat hiermee alleen te vinden is wat daadwerkelijk is opgeslagen, heb ik mij ingespannen om via interviews mijn bevindingen te trianguleren, te onderbouwen en verder te ontwikkelen.

De Wikimedia Conferenties in Berlijn in 2016 en 2017 zijn een belangrijke bron van informatie en van respondenten geweest: jaarlijks komen Wikipedianen en Wikimedianen van over heel de wereld samen op deze bijeenkomsten om kennis en ervaringen uit te wisselen en om strategieën uit te denken. Ik heb hier negenenvijftig informele gesprekken en eenentwintig interviews gehouden. Deze interviews heb ik aangevuld met achttien Skype-, Hangout- en IRC gesprekken met niet-aanwezigen waarvan ik kon aannemen dat ze relevante kennis en informatie zouden hebben.

Elk van de drie empirische hoofdstukken – over Wikipedia's financiële, infrastructurele en culturele organisatie – is opgebouwd rond vier periodes: de tijd van Wikipedia's voorganger Nupedia en de eerste jaren van Wikipedia, voor de oprichting van de Wikimedia Foundation (1999-2003); de vroege jaren van de Wikimedia Foundation (2003-2007); de professionalisering van de Wikimedia Foundation (2007-2014); en de meest recente periode (2014-2017).

In Hoofdstuk 4: *Increasing formal confinement of Wikipedia's financial authority* beschrijf ik hoe Wikipedia's financiële organisatie wordt gekenmerkt door een voortdurende spanning tussen aan de ene

kant veelal centrale en bureaucratische initiatieven en praktijken om Wikipedia's hulpbronnen zo efficiënt en effectief mogelijk in te zetten om een duurzame en beheersbare organisatie te ontwikkelen en in stand te houden, en aan de andere kant initiatieven om tegelijkertijd ruimte te laten voor het autonome en zelforganiserende karakter van de gemeenschap. Om verschillende praktische, juridische en strategische redenen, eisen of nemen de Wikimedia Foundation en informele vertegenwoordigers van de Wikipedia-gemeenschap op verschillende momenten macht in Wikipedia's financiële beheer. Zij wijzen hierbij op de expertise en de verantwoordelijkheden die nodig zouden zijn om de financiën van Wikipedia te beheren en beheersen en om de groeiende en steeds complexere organisatie in stand te houden. Zij benadrukken dat dit huns inziens niet kan worden overgelaten aan de ongecoördineerde acties van vrijwilligers. Een deel van de gemeenschap verzet zich tegen deze centralisering, opvallend genoeg onder andere door hun vertegenwoordigers te onderwerpen aan bureaucratische verantwoordingsstructuren. Hiermee dragen zij van onderop bij aan de algemene tendens van toenemende bureaucratisering en vermindering van autonomie die Wikipedia's financiële organisatie tekent.

Degenen die door de jaren heen formeel of informeel betrokken zijn geweest bij Wikipedia's financiële organisatie, hebben zich bediend van bureaucratische middelen om zich tegenover elkaar en hun achterban te verantwoorden over hoe zij fondsen verwerven, verdelen en besteden. In de vroege jaren van Wikipedia werd deze bureaucratisering veroorzaakt door vrijwilligers die zichzelf op eigen initiatief op formele wijze probeerden te verantwoorden tegenover hun sponsors en hun gemeenschap voor hoe zij donorgeld spendeerden. Na verloop van tijd gaf de Wikimedia Foundation steeds meer formele doelstellingen mee aan vrijwilligers en lokale organisaties voor het verkrijgen van financiering voor projecten, en vereiste zij steeds meer bureaucratische verantwoording voor de aanwending van budgetten, om vrijwilligers en lokale organisaties te bewegen om effectief bij te dragen aan de missie van de centrale organisatie. Naast de schijnbaar breed gedeelde behoeftte aan verantwoordingsstructuren

is er een gedeelde overtuiging onder professionals en vrijwilligers dat een centrale en formeel georganiseerde organisatie effectiever zou zijn in fondsenwerving dan gedistribueerde vrijwilligersacties. Het uiteindelijke resultaat was een rigidere structuur met een beperktere autonomie van betrokkenen.

Opvallend is dat de toenemende bureaucratisering van het beleid en de praktijken om Wikipedia's financiële middelen te coördineren, controleren en verantwoorden niet alleen het gevolg zijn geweest van inspanningen van conservatieve functionarissen om de organisatie te doen voortbestaan, zoals klassieke sociologische theorieën suggereren. De bureaucratisering van Wikipedia's financiële organisatie blijkt het gevolg te zijn van inspanningen van allen die betrokken zijn bij de democratische organisatie van Wikipedia – zowel professionals als vrijwilligers. Ik introduceer het concept van 'zelforganiserende bureaucratisering' om dit verschijnsel te vatten.

Net als dat Wikipedianen de encyclopedische inhoud van Wikipedia ontwikkelen op basis van hun persoonlijke inzichten en interesses, is de wiki-software die dat mogelijk maakt in eerste instantie het product van de autonome inzet van softwareontwikkelaars. En net als bij Wikipedia's financiële organisatie zijn het ook Wikipedia's vrijwilligers die de eerste bureaucratische structuren ontwikkelen: om hun groeiende hoeveelheid werk te kunnen beheren stelden zij bijvoorbeeld protocollen op, zodat niet elke nieuw stuk software onderwerp hoefde te worden van eindeloos debat, en zodat nieuwkomers niet continu ingewerkt hoefden te worden door overbelaste ontwikkelaars. In Hoofdstuk 5: *Institutionalization of the production of Wikipedia's editing infrastructure* zet ik uiteen hoe Wikipedia's software is voortgekomen uit de spontane inspanningen van vrijwilligers, en dat dit meer en meer het product is geworden van centraal gecoördineerde, geformaliseerde professionele en strategische operaties van de Wikimedia Foundation. De oorspronkelijke open en gedistribueerde aard van de softwareontwikkeling van Wikipedia wordt in de loop der tijd opgeofferd aan de behoefte van functionarissen om controle te hebben over het functioneren van de software: omdat de site op elk moment van de dag door

talloze bezoekers wordt geraadpleegd, en omdat bewerkers elke seconde wijzigingen aanbrengen, zou het niet functioneren van de software talloze betrokkenen treffen. Daarnaast wordt Wikipedia's software meer en meer gezien als een instrument om de missie van de Wikimedia Foundation te realiseren: de stichting heeft als doel om de software van Wikipedia zo aantrekkelijk mogelijk te maken om een zo groot en divers mogelijk publiek van nieuwe lezers en bewerkers aan zich te binden, en om zo de ontwikkeling van het project in stand te houden. Ondanks kritiek van Wikipedianen die reeds langer intensief betrokken zijn bij het project op de centralisering van de softwareontwikkeling en –implementatie kiest de Foundation er bewust voor de bezwaren van deze groep naast zich neer te leggen, met het argument dat zij ook “nog niet bestaande doelgroepen” wenst te bedienen. Toch weet de gemeenschap zich een aantal malen succesvol te verzetten tegen pogingen van de Wikimedia WMFn om centraal ontwikkelde software te implementeren. Dit heeft de Foundation ertoe bewogen om formele structuren te ontwikkelen om de input, bijdragen, steun en draagvlak van de gemeenschap voor aanpassingen aan haar kerninfrastructuur te organiseren. Ook hier spreek ik van ‘zelforganiserende bureaucratisering,’ om aan te geven dat formeel-rationele structuren die zich ontwikkelen bij de organisatie van Wikipedia's *editing infrastructure* voortkomen uit pogingen van zowel vrijwilligers als functionarissen om deze én stabiel en betrouwbaar en toegankelijk te laten zijn, én om deze zo veel mogelijk een product van de community te laten zijn.

Hoofdstuk 6: *Coordinating culture: regulating volunteers in Wikipedia's distributed system* gaat over het vormgeven en bewaken van een gezonde en productieve samenwerkingscultuur. Net als in de voorgaande twee hoofdstukken zien we dat inspanningen hiertoe gekenmerkt worden door een voortdurend balanceren; een strijd tussen een pragmatische behoefte aan centrale controle en een ideologische overtuiging dat de ontwikkeling van deze samenwerkingscultuur overgelaten zou moeten worden aan de vrijwilligersgemeenschap. Wikipedia's samenwerkingscultuur wordt aanvankelijk ontwikkeld en onderhouden door haar charismatische

gemeenschap. In eerste instantie gaven Wikipedianen zelf actief en op basis van gedeelde standaarden hun samenwerkingsomgeving vorm. Echter, vanaf het moment dat het project begon te groeien in omvang en in complexiteit, en toen nieuwkomers en masse begonnen te participeren, raakten degenen die betrokken waren bij het handhaven van een gezonde en productieve cultuur meer en meer geneigd de normen van het project te formaliseren en te automatiseren. Overbelaste editors en kwaliteitsbewakers begonnen in toenemende mate bureaucratische procedures en geautomatiseerde disciplinering van peers als een effectieve en acceptabele strategie te beschouwen om de kwaliteit van het project te waarborgen, om vandalisme te bestrijden en om Wikipedia's continuïteit te garanderen.

In de loop van de tijd raakten de structuren die Wikipedia's samenwerkingscultuur definieerden en stuurden meer en meer geïnstitutionaliseerd, waardoor het moeilijker werd om hier aan bij te dragen en om een formele positie te verwerven. Wikipedia's bureaucratisering en rigiditeit lijken het bijproduct te zijn van talloze gedecentraliseerde en informele overwegingen en handelingen van leden van de gemeenschap, personeel en bots, in plaats van dat deze het resultaat zouden zijn van een centraal gecoördineerde strategie van een onthechte en een door eigenbelang gedreven elite. Hierom spreek ik ook in dit hoofdstuk van zelforganiserende bureaucratisering.

De WMF initieert projecten om de onvoorziene en ongewenste resultaten van zelforganisatie – zoals vermeende geslotenheid en gebrek aan diversiteit – tegen te gaan, echter zonder veel resultaat: de actieve inzet van de Foundation om een gezondere, uitnodigendere en heterogenere omgeving te creëren, blijken relatief inefficiënt en onsuccesvol te zijn, omdat deze door intensieve persoonlijke betrokkenheid van functionarissen niet schaalbaar zijn. Vandaar dat de ontwikkeling en de handhaving van een gezonde en productieve samenwerkingscultuur in toenemende mate wordt overgelaten aan technologie en – met behulp van financiële prikkels – aan de gemeenschap zelf.

In Hoofdstuk 7: *Conclusion: self-organizing bureaucratization* bied ik een analyse van de empirische bevindingen; lever ik een

bijdrage aan de theoretisering van open en zelforganiserende gemeenschappen; en reflecteer ik op de betekenis hiervan voor Michels' en Webers klassieke sociologische theorieën. Ik constateer dat de organisatorische evolutie van Wikipedia wordt gekenmerkt door opeenvolgende momenten van machtsconcentratie en decentralisatie: allereerst komt machtsconcentratie voort uit het feit dat bepaalde participanten actiever betrokken zijn bij het project dan anderen; hun activiteiten zijn zichtbaarder voor anderen en zij gedragen zich of zij worden gezien als informele autoriteiten. Daarnaast trekken zij die verantwoordelijk zijn of die zich verantwoordelijk voelen voor de kwaliteit en continuïteit van het project en de realisatie van haar missie bij tijd en wijle meer macht naar zich toe. Deze vorm van machtsconcentratie wordt in verschillende gevallen met succes bestreden door leden van de vrijwilligersgemeenschap. Daarnaast constateer ik dat de organisatorische evolutie van Wikipedia wordt gekenmerkt door toenemende bureaucratisering: formeel beleid en formele posities en procedures worden ontwikkeld en gecultiveerd om de groeiende en steeds complexere hoeveelheid werk te organiseren én om autoriteit te organiseren op een zo democratisch mogelijke manier. Ten gevolge van deze voortschrijdende bureaucratisering raken betrokkenen bij deze open en zelforganiserende gemeenschap steeds meer ingekapseld in (en geconditioneerd door) de formele structuren van de centrale organisatie, evenals in de uitvoering van haar missie. Hiermee wijkt de open en zelforganiserende Wikipedia-gemeenschap af van de ideaaltypische vorm van open zelforganisatie, waarbij de organisatie volledig wordt overgelaten aan de onbepaalde uitkomsten van zelfgekozen inspanningen van participanten.

Ook hier stelt mijn concept van 'zelforganiserende bureaucratisering' mij in staat om dit fenomeen te duiden. Het biedt een analytisch kader om de evolutie van open en zelforganiserende gemeenschappen in het algemeen mee te begrijpen. Tevens toon ik hiermee hoe zelforganisatie en bureaucratisering samenhangen, in plaats van dat het tegengestelde organisatiemodellen zijn. Op basis van dit onderzoek concludeer ik dat hier twee oorzaken voor zijn. Allereerst blijken bureaucratische ingrepen beschouwd te worden

als manier om effectief om te gaan met de groei en de toenemende complexiteit van een veranderende open en zelforganiserende gemeenschap. Daarnaast worden formele en rationele structuren beschouwd als legitieme middelen om om te gaan met de politieke conflicten die open en zelforganiserende gemeenschappen kenmerken. Het gaat hierbij om de strijd tussen degenen die zich macht toe-eigenen om op pragmatische wijze de uitdagingen en doelstellingen van het project te verwezenlijken, en diegenen die zich vanuit ideologische overwegingen inzetten om de autonomie van gemeenschapsleden en hun democratische en zelforganiserende karakter te bewaken. Zowel betrokkenen in formele en informele posities als leden van de vrijwilligersgemeenschap in een principiële anti-hiërarchische en anti-bureaucratische omgeving lijken formele en rationele structuren te beschouwen en toe te passen als legitieme vormen van autoriteit in hun streven “minimalisering van dominantie” en “gelijkheid voor betrokkenen” te realiseren. De reden om te spreken van zelforganiserende bureaucratisering is dat bureaucratisering een voortdurend proces is dat niet wordt bedacht en ingezet door functionarissen van bovenaf, maar dat lijkt voort te komen uit de interactie tussen alle betrokken belanghebbenden, zowel degenen met formele en informele posities als leden van de vrijwilligersgemeenschap. Het concept van zelforganiserende bureaucratisering laat zien dat bureaucratisering – in het geval van open en zelforganiserende gemeenschappen – het doel van een democratische organisatie dient, terwijl het tegelijkertijd een essentieel wantrouwen – of op zijn minst een sterke neiging om te interveniëren – in (de resultaten van) zelforganisatie blootlegt. Omdat bureaucratisering en technologische innovatie geëigende middelen blijken te zijn om tendensen van machtsconcentratie en de inperking van de autonomie van gemeenschapsleden tegen te gaan, beschouw ik zelforganiserende bureaucratisering als een zichzelf versterkende trend: steeds worden nieuwe bureaucratischere interventies gepleegd om de organisatie democratischer te laten functioneren.

Naast theoretisch inzicht in de evolutie van open en zelforganiserende gemeenschappen verschafft dit proefschrift een empirische aanvulling

op Michels' en Webers baanbrekende theorieën op het gebied van organisatie-evolutie. Ik laat zien hoe machtsconcentratie en bureaucratisering in organisaties die in basis en uit ideologische overwegingen democratisch zijn, het resultaat zijn van zelforganisatie en van politieke strijd, waarbij betrokkenen van onderaf een cruciale rol spelen. Op basis van mijn analyse van de evolutie van Wikipedia is een essentiële aanvulling op deze theorieën dat zowel de leden van de vrijwilligersgemeenschap als hun vertegenwoordigers in dergelijke democratische organisaties als actieve en reflexieve actoren moeten worden beschouwd. Ofschoon Michels en Weber ruimte laten voor een interpretatie waarin spelers van onderaf een rol spelen in de machtsconcentratie en bureaucratisering van hun organisatie, wordt uit hun theorieën meestal begrepen dat deze tendensen van bovenaf worden ingegeven. De casus van Wikipedia toont aan dat machtsconcentratie en bureaucratisering de uitkomst zijn van politieke processen waarin betrokkenen met verschillende belangen en vanuit verschillende overtuigingen zich inspannen om een open en zelforganiserende gemeenschap op te zetten en in stand te houden. In verschillende gevallen verzetten gemeenschapsleden zich met succes tegen de oligarchiseringstendenzen van hun vertegenwoordigers. En tegelijkertijd blijken de vertegenwoordigers van deze vrijwilligersgemeenschap zich terdege bewust te zijn van en bezorgd te zijn om (vermeende) manifestaties van machtsconcentratie: terwijl gemeenschapsleden de machtsconcentratie van hun vertegenwoordigers proberen in te perken door degenen met formele en informele posities te onderwerpen aan bureaucratische processen en verantwoordingsstrukturen, proberen formele en informele autoriteiten hun posities te bagatelliseren en hun autoriteit te legitimieren, onder andere door zich aan bureaucratische structuren te onderwerpen en door de deelname van gemeenschapsleden aan hun eigen bestuur te vergemakkelijken om elke aantijging te voorkomen van onwettig of ongewenst gebruik van macht. Ik stel, kortom, dat dit constante wederzijdse en reflexieve streven om een zo democratisch en zo leiderloos mogelijke organisatie te vestigen en in stand te houden, leidt tot praktijken van constante disciplinering

en zelfdisciplinering, die de oorzaak zijn van de voortdurende bureaucratisering van een democratische organisatie.



The background of the image shows a steep, snow-covered mountain slope. The snow is uneven, with many patches of brown and tan vegetation, likely lichen or small shrubs, poking through. The lighting suggests a bright day with shadows cast by the rocky terrain.

About the author

In 2000 Emiel Rijshouwer graduated as an industrial design engineer from the Technical University Delft. In his graduation project for the renowned Dutch office furniture company Gispen he explored how psychological and sociological aspects of flexworking could inform his designs.

For seven years he worked as a spatial designer at the international strategic design company Fabrique, where he got the opportunity to be part of several award-winning projects. Nevertheless, at an early stage in his career he felt that he was more of a researcher than a designer. He approached his former TU professor with the request for a PhD position, but he was told that there was no room to hire any staff as the new housing of the faculty had largely exceeded the budget. When he applied again several years later, he learnt that they preferred trained psychologists and sociologists to perform the research he was interested in.

In 2007 Emiel got the chance to work as a visual trend analyst at Philips Design. Again he felt that it were psychologists and sociologists who had the most interesting jobs, so that is when he decided to get back to university to become a sociologist himself. He always tended to inspire and inform his designs, reports, and scenario's by societal issues and concerns, and he had the urge to gain a more solid scientific background with regard to these themes. In the mean time he worked as a future explorer at the Antwerp based studio Pantopicon.

In 2012 Emiel graduated *cum laude* on a thesis on self-organizing bureaucratization in the online communities of Wikipedia, Linux and Anonymous. In 2013 his professor, Justus Uitermark, offered him the opportunity to further explore this topic, at the Erasmus University Rotterdam, at the department of sociology, of which this dissertation – on oligarchization and self-organization in the open and self-organizing community of Wikipedia - is the result. During his employment at this university Emiel also performed research for the city of Amsterdam. He studied the city's ambitions and interventions to motivate citizens to establish and to partake in citizens initiatives. The outcomes of an investigation into how 50

Amsterdam community centers endeavor to realize the ambition to transform into community enterprises was published as a chapter with the title ‘Citizenship as Enterprise’ in a book titled ‘Entrepreneurial Neighborhoods’ in Edward Elgar’s Entrepreneurship, Space and Place series. Besides that, during the past four years, he supervised masters’ theses and working groups in a class on political sociology, in which he gave, amongst others, lectures on the politics of real-time cities.

By the end of his PhD project Emiel explored ways how to combine and to further develop his passions, knowledge and experience in the fields of qualitative social-political research, technological innovations, futures studies and (speculative) design. He got the opportunity to work in these fields as a project leader of UNSense, a tech-startup of the famous Dutch architecture firm UNStudio. Currently he is employed as a postdoctoral researcher at the Erasmus University, where he explores the theme of “data empowerment” in smart cities.

