# Crowdsourcing and Crowdfunding: Democratizing Societies in the 21st Century

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#### A. Introduction

In 2003, *Douglas Rushkoff* published his pamphlet 'Open Source Democracy – How online communication is changing offline politics'. Though at first expressing certain doubts about prior efforts to engage the public in the democratic process through internet mechanisms (which he describes as "···simply new versions of the public opinion poll."), the overall document is rather positive towards the possibilities which are derived from the internet's new means and possibilities of communication, organization and participation. *Rushkoff* bases his ideas on the model of the open source software movement.<sup>2</sup>

- \* Some examples and arguments in this article were previously presented at The Sixth Asian Conference on Ethics, Religion & Philosophy 2016, Art Center of Kobe, Kobe, Japan, 3/31/2016 4/3/2016: http://iafor.org/archives/conference-programmes/ACP\_ACERP/acp-acerp-2016.pdf. The author gratefully acknowledges the assistance of Mr. Philip Shigeo Brown for proofreading as well as numerous helpful comments on an earlier draft.
- 1 Douglas Rushkoff, Open Source Democracy: How Online Communication Is Changing Offline Politics (London [England]: Demos, 2003), 51, http://www. demos.co.uk/files/OpenSourceDemocracy.pdf.
- 2 Ibid., 56.

The way open source software is developed in turn is the prime example of and model on which crowdsourcing is based.<sup>3</sup> Crowdsourcing is the "··· practice of obtaining information or input into a task or project by enlisting the services of a large number of people, either paid or unpaid, typically via the Internet." Open source software is generally developed by communities on the internet rather than big for-profit developers like *Apple or Microsoft.* The resulting products are freely distributed and their source code is freely available for anybody to see, use or alter on internet platforms like *GitHub*. Any changes are uploaded by the individual who made them, and then the community decides which ones are good enough to be implemented back into the main fork of the project. If the

Jeff Howe, *Crowdsourcing: Why the Power of the Crowd Is Driving the Future of Business*, 1st paperback ed (New York: Three Rivers Press, 2009), 8.

<sup>4 &</sup>quot;Crowdsourcing - Definition of Crowdsourcing in English | Oxford Dictionaries," *Oxford Dictionaries* | *English*, accessed August 12, 2017, https://en.oxforddictionaries.com/definition/crowdsourcing. For a further analysis see section C. below.

Although these big developers have realized the potential of open code and are nowadays contributing heavily to the movement. For example, *Microsoft* now has its own *Linux* applications and opens up more and more of its products to the open source world. Steven J. Vaughan-Nichols, "Why Microsoft Is Turning into an Open-Source Company," ZDNet, June 9, 2016, http://www.zdnet.com/article/why-microsoft-is-turning-into-an-open-source-company/. *Microsoft* even has its own *GitHub* account under https://github.com/Microsoft (accessed August 11, 2017).

<sup>6</sup> https://github.com/, (accessed June 7, 2016).

A fork is a copy of the original code which anybody can create. Via a so-called pull request, changes to the new fork can be sent back to the original project. *GitHub* describes forking as being "···at the core of social coding on GitHub."; https://guides.github.com/activities/forking/ (accessed August 11, 2017).

community does not accept a certain change, each developer is free to create his own fork of a project. One of the oldest and biggest, ongoing and very successful open source software projects is the *Linux* operating system. Other important projects include the internet browser *Firefox* and the office suite *LibreOffice*.

Ideas from the open source software movement have also been implemented into other areas of crowdsourcing. The most successful and famous example is the internet encyclopedia *Wikipedia*, which is freely available to its users and again is a community in which anybody with spare time and knowledge may participate. Just like *Linux* in many respects has been shown to be a better operating system than *Windows* (such as performance on older or slower hardware, security, reliability, customizability and cost, though not ease of use and hardware compatibility), *Wikipedia* has in some respects been shown to be of a higher quality than classic encyclopedias like the *Encyclopedia Britannica* (such as accuracy, references and overall judgement, though not style and overall quality).

- 8 Howe, *Crowdsourcing*, 2009, 8; Gary Newell, "Fed Up With Windows 10? Here Are 10 Reasons Linux Might Be Better," *Lifewire*, accessed August 11, 2017, https://www.lifewire.com/windows-vs-linux-mint-2200609; "Linux vs. Windows," accessed August 11, 2017, https://www.computerhope.com/issues/ch000575.htm.
- 9 Imogen Casebourne et al., "Assessing the Accuracy and Quality of Wikipedia Entries Compared to Popular Online Encyclopaedias A Preliminary Comparative Study across Disciplines in English, Spanish and Arabic," 2012, 6, Research: Accuracy and quality of Wikipedia entries, https://commons.wikimedia.org/wiki/File: EPIC\_Oxford\_report.pdf.; it may be noted that the cited study has been initiated and funded by the *Wikimedia Foundation*, but carried out by *Epic* (a UK based e-learning company) in partnership with the University of Oxford, 5.

However, crowdsourcing is not limited to open source software or projects similar to Wikipedia. In fact, crowdsourcing methodologies can be applied to basically anything from simple design tasks to corporate or civic governance. The developments since the publication of Rushkoff's pamphlet may in hindsight show his ideas to be quite visionary. For instance, governments are still far from implementing a fully transparent and open new way of engaging the general public in political debate and decision-making processes. However, with the rise of crowdsourcing and crowdfunding over the last decade, we now have the tools to do so, the absence of which Rushkoff was previously criticizing. We truly have come a long way since the days of sole internet-based opinion polls. What started as private endeavors of participants in new emergent communities are also now increasingly catching on in the public sphere. These tools have marked the beginning of a new age of citizen participation. If further developed and implemented, they have the potential to change our modern understanding of representative democracy. The internet may be able to bring about an age in which direct participation of the general public can shape everything from local communities to large-scale political decision-making.

This paper will first explain the general background of crowdsourcing and crowdfunding before turning to the question of how they may be used as tools in the democratic process, with a focus on direct public engagement. Each section will first present specific examples of crowdsourcing and crowdfunding in the public sphere before turning to a discussion of the arguments for and against their application. Ultimately, it will be demonstrated that these new technologies have significant (and yet to be determined!) potential to engage the public in their communities, and may re-shape our current understanding of

representative democracy.

#### B. The Wisdom of Crowds

In order to understand certain arguments about the benefits of crowdsourcing and crowdfunding for the democratic process, we first have to turn to some of the research on what *James Surowiecki* in 2004 called 'The Wisdom of Crowds'. His book of the same title is full of examples in which 'crowd intelligence' (that is the aggregated average of many individual solutions to a given problem) has proven to be superior to expert opinions. Initially presenting rather silly laboratory examples for this claim (e.g. the audience lifeline in the TV game show *Who wants to Be a Millionaire*<sup>10</sup>, and the average guess on the number of beans in a iar<sup>11</sup>), he also presents us with highly important real-life cases, which

- 10 In *Who wants to Be a Millionaire* the contestant can poll the studio audience on the answer to any given question. Statistics show that the audience gets the answer right 91 percent of the time. By comparison, the 'expert' of the 'phone a friend lifeline' (where the participant is allowed to call a pre-select person whom he thinks might know the answer) is right only 65 percent of the time; James Surowiecki, *The Wisdom of Crowds*, First Anchor Books Edition (New York, NY: Anchor Books, 2004), 3.
- 11 In the bean jar experiment an audience is asked to give an estimate on how many beans are in a glass jar. The average of these estimates is usually very accurate. Moreover, although there might be somebody in any given experiment who outperforms the crowd, if one runs a series of experiments, this 'expert' will likely not be the same person every single time. The average of all crowd members' estimates however, will usually deliver a very close estimate to the actual number; Ibid., 5.

exemplify his very "counterintuitive" argument that random crowds can outperform the experts of a certain field under the right conditions. These examples include 'decision markets' or 'future-prediction markets', a kind of betting market in which participants try to predict the outcome of certain events, such as an election. One such decision market, the *Iowa Electronic Markets (IEM)*, un by the University of Iowa, did predict the outcome of various U.S. elections between 1988-2000 much more accurately than polls by organizations like *Gallup*; and large corporations like *Hewlett Packard* use these mechanisms to predict future sales.

It might be hard to accept that the average intelligence of a random crowd of people might be better than the opinion of one or a group of several experts. And although research at first had set out to prove the opposite, 17 the results speak for themselves. Under the right circumstances 'crowds' are better at performing a given task than individuals or groups in which members interact with each other one-on-one. Depending on a group's size as well as its organizational structure, it may often be prone to 'confirmation bias' (i.e. the tendency "...which

<sup>12</sup> Ibid., 274.

<sup>13</sup> In the political market, a participant can buy and trade in shares of a specific candidate. Payoffs depend on the results of the election. Assuming one share equals one dollar and it is bought at 60 cents, then the payoff would be a profit of 40 cents. The price of each share reflects the markets estimate as to the likeliness of this specific candidate's chances of winning; "What Is the IEM? - Iowa Electronic Markets," *Henry B. Tippie College of Business*, accessed August 12, 2017, http://tippie.uiowa.edu/iem/media/summary.html; Surowiecki, *The Wisdom of Crowds*, 18.

<sup>14</sup> http://tippie.biz.uiowa.edu/iem/ (accessed August 12, 2017).

<sup>15</sup> Surowiecki, The Wisdom of Crowds, 17; Howe, Crowdsourcing, 2009, 160.

<sup>16</sup> Howe, Crowdsourcing, 2009, 165.

<sup>17</sup> Surowiecki, The Wisdom of Crowds., XII.

causes decision makers to unconsciously seek those bits of information that confirm their underlying intuitions"),<sup>18</sup> as well as 'group polarization' (i.e. the phenomenon, also observable in juries, that deliberation causes individual members to adjust their own opinions to the group's opinion).<sup>19</sup> These two difficulties are eliminated in unstructured crowds.

'Crowds' therefore are distinct from other kinds of groups in several ways. In order for them to work the way as described above (or in order for them to be 'wise'), *Surowiecki* lays out four ground rules:

"... diversity of opinion (each person should have some private information, even if it's just an eccentric interpretation of the known facts), independence (people's opinions are not determined by the opinions of those around them), decentralization (people are able to specialize and draw on local knowledge), and aggregation (some mechanism exists for turning private judgements into a collective decision)." <sup>20</sup>

Following this organizational (or maybe better, non-organizational) structure is what makes crowds so efficient. It should be clear to see, how the internet as a means for people to come together and organize themselves is the ideal platform for crowds. The internet, as a decentralized network, is still a place where people from various backgrounds can interact with each other more anonymously and with less barriers than in the real world. Anybody, no matter what background, expertise or status, can contribute to a *Wikipedia* entry, an open source code or a discussion on an internet forum or news site.

<sup>18</sup> Ibid., 178.

<sup>19</sup> Ibid., 184.

<sup>20</sup> Ibid., 10.

People may be influenced by feedback and another users' behavior, but such influence is more indirect and less personnel than in the real world. Lastly, aggregation of contributions is done in various ways, depending on the specific platform.<sup>21</sup> Through the internet, information technology over the last two and a half decades has given rise to a new way of bringing 'the wisdom of crowds' to almost any area: crowdsourcing.

# C. Crowdsourcing

The term crowdsourcing was coined in 2006 by *Jeff Howe* in an article for *Wired Magazine*, entitled 'The Rise of Crowdsourcing'.<sup>22</sup> Combining the terms 'crowd' and 'outsourcing', he described a new trend of non-professional enthusiasts in any certain field to make their work (or rather the results of their hobbies) available online for others to use for only a very small fee, much lower than the cost of a professional, or even for free. His first example is that of *iStockphoto*,<sup>23</sup> a platform for stock photography, selling images from one US\$ upwards, a small fraction of what professional stock photography used to cost.<sup>24</sup> Later, *Howe* rightfully

<sup>21</sup> For example, changes to open source software on *GitHub*, which have been re-submitted to the original project via a pull-request (see Fn 7), can either be accepted or rejected into the main fork. On *Wikipedia*, changes made by one person may be reversed, amended or adjusted by the next; for each subject exists only one article, resembling an ongoing work-in-progress.

<sup>22</sup> Jeff Howe, "The Rise of Crowdsourcing," *WIRED*, June 1, 2006, http://www.wired.com/2006/06/crowds/.

<sup>23</sup> http://www.istockphoto.com

<sup>24</sup> Howe, "The Rise of Crowdsourcing."

described this development in his book on crowdsourcing as "The Rise of the Amateur". <sup>25</sup> He also wrote a blog on the topic, in which he provided two definitions of 'crowdsourcing', both of which are still applicable today:

"The White Paper Version: Crowdsourcing is the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call.

**The Soundbyte Version**: The application of Open Source principles to fields outside of software." <sup>26</sup>

Especially the second, much shorter definition, brings us back to the discussion in the introduction on the open source software movement. What he leaves out of his definition, though not in his thorough description of the phenomenon, is the importance of the internet as a platform for facilitation. The internet provides a new platform for something which at least in principle has been around for a long time, even before the rise of the age of information technology; "The Internet didn't make crowdsourcing possible – it just made it vastly more effective." Of course crowdsourcing may theoretically be used without new technologies (for example by polling a random audience), but in reality, only with the rise of information technology has crowdsourcing established itself as a viable means of creation and production.

The approaches to and results of various crowdsourcing projects are diverse. First, there are the aforementioned open source software and

<sup>25</sup> Howe, Crowdsourcing, 2009, 23.

<sup>26</sup> Jeff Howe, "Crowdsourcing," *Crowdsourcing*, accessed April 19, 2016, http://www.crowdsourcing.com/cs/., original emphasis; the last entry on the website is dated May 11, 2010.

<sup>27</sup> Howe, Crowdsourcing, 2009, 159.

likes of Wikipedia kind, also labeled 'commons-based peer production', in which the whole production process is outsourced to the crowd.<sup>28</sup> These projects are mostly non-profit endeavors, the achievements of which are freely distributed on the internet, for everybody to use, even by those who do not take part in the ongoing production process. Then there are those kinds of projects where the crowd is providing mainly feedback on a project, but decisions are taken by a central authority. These projects sometimes work with some kind of monetary incentive. Examples can be divided into those projects where the open call consists in some kind of competition, in which just one participant will receive a reward in the end (for example for the design of a new logo or for solving a complex problem) and those in which participants are paved for doing minimalistic work tasks (for example by working on Amazon's Mechanical Turk<sup>29</sup> or selling pictures on the already mentioned iStockphoto). This is just a very broad description though, there are many different varieties, new possibilities arise over time and no limit can be drawn concerning the potential. Various business models rely heavily on crowdsourcing and monetization via advertisement, for example the video platform Youtube or social media network Facebook. Another recent application of crowdsourcing is its application to the public sphere, to which the discussion shall turn next.

<sup>28</sup> Hélène Landemore, "Inclusive Constitution-Making: The Icelandic Experiment," *Journal of Political Philosophy* 23, no. 2 (June 1, 2015): 175, doi:10.1111/jopp.12032.

<sup>29</sup> https://www.mturk.com/mturk/welcome

#### 1. Crowdsourcing Democracy

Before turning to the arguments for the usage of crowdsourcing in the public sphere, first a few examples shall be considered, namely that of Iceland's crowdsourced constitution and several smaller projects of crowdsourcing legislation and public policy.

#### a. Crowdsourcing Constitution

The beginning of 2011 saw one of the greatest experiments in crowdsourcing democracy to date. The Republic of Iceland tried to crowdsource a new constitution. The methodology applied in doing so included the installment of a constitutional council consisting of 25 members who were chosen, not among professional politicians, but from a representative pool of 522 citizens. Every week the council would post draft clauses for the new constitution on the internet for people to comment on. Council meetings were streamed on the internet and for further interaction with the general populace social media platforms were used. Despite challenges in its implementation, no ne can only congratulate the council for implementing a process in which participation and transparency were the two most striking characteristics. The overall sentiment towards the process seemed to be rather positive. *The Guardian* 

<sup>30</sup> Haroon Siddique, "Mob Rule: Iceland Crowdsources Its next Constitution," *The Guardian*, June 9, 2011, sec. World news, http://www.theguardian.com/world/2011/jun/09/iceland-crowdsourcing-constitution-facebook; Hélène Landemore, "The Icelandic Experience Challenges the View That Constitutional Process Must Be Exclusionary and Secretive," *Democratic Audit UK*, July 23, 2014, http://www.democraticaudit.com/?p=6747.

<sup>31</sup> Landemore. "Inclusive Constitution-Making." 181.

quotes council member Thorvaldor Gylfason as:

"I believe this is the first time a constitution is being drafted basically on the internet," [...] "The public sees the constitution come into being before their eyes ... This is very different from old times where constitution makers sometimes found it better to find themselves a remote spot out of sight, out of touch." <sup>32</sup>

The final proposal was approved by a two-thirds majority of voters in a public referendum in October 2012 in which about half of Iceland's population participated. In the end though, the new constitution, which ultimately would have had to be approved by parliament, was not enacted.<sup>33</sup> *Gylfason*, describing his perception of the events, concludes that the outcome of the popular experiment was sabotaged by the political establishment further on in the process.<sup>34</sup>

Though not enacted, the case of Iceland's constitution gives us various insights into the possibilities for crowdsourcing public policy or specifically in this case, legislation. Landemore remarks that the Icelandic model "··· seems perfectly scalable." <sup>35</sup> Despite the fact that Iceland is a small country with a small and rather homogenous population, <sup>36</sup> she

<sup>32</sup> Siddique, "Mob Rule."

<sup>33</sup> Landemore, "The Icelandic Experience Challenges the View That Constitutional Process Must Be Exclusionary and Secretive"; Thorvaldur Gylfason, "Democracy on Ice: A Post-Mortem of the Icelandic Constitution," *OpenDemocracy*, June 19, 2013, http://www.opendemocracy.net/can-europe-make-it/thorvaldur-gylfason/democracy-on-ice-post-mortem-of-icelandic-constitution.

<sup>34</sup> Gylfason, "Democracy on Ice."

<sup>35</sup> Landemore, "Inclusive Constitution-Making," 188.

<sup>36</sup> A fact that can even be traced to the genetic level; Katie M. Palmer, "Why Iceland Is the World's Greatest Genetic Laboratory," WIRED, March 25,

suggests that in a much more heterogeneous society, the crowdsourcing model might even be more important to adopt due to its inclusiveness regarding differing points of view on the political spectrum. This inclusiveness will result in a much higher legitimacy of the process and its outcome.<sup>37</sup>

Surowiecki's first rule (diversity of opinion) could surely be implemented more thoroughly in a heterogeneous society like the United States. Therefore, crowdsourcing in these countries would not only be inclusive, the overall process would likely also benefit from the diversity and make the crowd wiser. Although it seems unlikely that a similar experiment will be carried out in a larger country anytime soon, there are smaller scale projects that warrant attention.

#### b. Crowdsourcing Legislation

In 2014, California saw the first successful crowdsourcing campaign for legislation using the commons-based peer production method. Assemblyman *Mike Gatto* set up a website using *Wikispaces* (a *Wikipedia*-like platform, easy to edit by anybody) in order to let the general public draft a new probate law bill (especially with regard to the assignment of a guardian to a pet after its owner had passed away).<sup>38</sup> The bill was passed by the assembly and senate, but later vetoed by California's governor. Even though the new bill was not enacted in the end, it can be

 $<sup>2015,\</sup> https://www.wired.com/2015/03/iceland-worlds-greatest-genetic-laboratory/.$ 

<sup>37</sup> Landemore, "Inclusive Constitution-Making," 189.

<sup>38</sup> Brian Heaton, "Is Crowdsourcing the Future for Legislation?," July 2, 2014, http://www.govtech.com/internet/Experts-Predict-More-Legislation-Will-Be-Crowdsourced.html.

seen as a successful story, again only failing due to opposition from the political establishment.<sup>39</sup> *Gatto*, after being appointed Chairman of the Assembly Committee on Privacy and Consumer Protection, again tried to crowdsource legislation on privacy protection.<sup>40</sup>

Another often cited example of crowdsourced legislation is that of New York City Council Member *Ben Kallos*. *Kallos* uses the internet platform *GitHub*,<sup>41</sup> a platform for the development of open source software,<sup>42</sup> to let people comment on and edit legislation.<sup>43</sup> He also used other platforms, such as *Madison*, a platform run by the *Open Government Foundation*,<sup>44</sup> for the same purpose.<sup>45</sup>

A slightly different approach can be found in Finland with the *Open Ministry (Avoin ministeriö)*. The *Open Ministry Platform*, online since 2012 and itself developed as open source, <sup>47</sup> allows Finnish citizens to create an

- 39 Marilyn Marchello Bautista, "Crowdsourcing and Local Law Making: Closer to the People?," 2015, 2, http://sffwlaw.com/wp-content/uploads/2015/04/Crowdsourcing-and-Local-Law-Making\_Marilyn-Marchello-Bautista.pdf; ibid., 7.
- 40 Available for review and editing under: http://mikegatto.wikia.com/wiki/MikeGatto\_Wiki (accessed April 21, 2016).
- 41 Available at: https://github.com/benkallos (accessed April 12, 2016).
- 42 An example which highlights how well the tools originally developed to create open source software can be used in other areas of crowdsourcing.
- 43 Heaton, "Is Crowdsourcing the Future for Legislation?"; Bautista, "Crowdsourcing and Local Law Making: Closer to the People?," 2.
- 44 For example the Open Maps Act of 2014, available under: https://mymadison.io/docs/open-maps-act-2014 (accessed April 21, 2016).
- 45 Bautista, "Crowdsourcing and Local Law Making: Closer to the People?," 2
- 46 Finnish language website available under http://avoinministerio.fi/ (accessed August 27, 2017).
- 47 Available on GitHub under https://github.com/avoinministerio/

authenticated account, with which they can propose new legislation or discuss and support proposals, which are already on the platform. If a proposal gains at least 50,000 supporters it will be debated in parliament, which then has to vote on it, due to an amendment of the Finnish constitution in early 2012.<sup>48</sup> The first successful campaign was a proposed bill for marriage equality of same-sex couples, which gathered more than twice the required votes in just one day at the beginning of 2013. The bill was approved by parliament in 2014 and finally took effect from March 1<sup>st</sup>, 2017<sup>49</sup> – a slow process, but successful for the new crowdsourced bill.<sup>50</sup>

avoinministerio (accessed August 27, 2017).

- 48 Fruzsina Eördögh, "In Crazy Open-Source Project, Finnish Citizens Propose Laws for Parliament To Consider," Slate, November 5, 2012, http://www.slate.com/blogs/future\_tense/2012/11/05/open\_ministry\_finland\_s\_open\_source\_project\_to\_let\_citizens\_propose\_laws.html; Ross Dawson, "How Finland's Open Ministry Is Crowdsourcing Legislation," June 5, 2013, http://www.resultsfromcrowds.com/insights/how-finlands-open-ministry-is-crowdsourcing-legislation/.
- 49 "Petitioners Take Gay Marriage Bill to Parliament," Yle Uutiset, March 20, 2013, http://yle.fi/uutiset/petitioners\_take\_gay\_marriage\_bill\_to\_parliament/6544701; Nick Duffy, "Finland Finalizes Equal Marriage Laws... but Couples Still Face a Long Wait," February 18, 2016, http://www.pinknews.co.uk/2016/02/18/finland-finalizes-equal-marriage-laws-but-couples-still-face-a-long-wait/; Boris Dittrich, "Finland to Allow Same-Sex Marriage," Human Rights Watch, February 21, 2017, https://www.hrw.org/news/2017/02/21/finland-allow-same-sex-marriage.
- 50 Of course, other countries have similar mechanisms to allow for petitions by the public to end up in parliament if they can gather enough supporters; for example the UK (10,000 signatures needed): https://petition.parliament. uk/ (accessed August 15, 2017); Germany (no specific amount of supporters): https://epetitionen.bundestag.de/ (accessed August 15, 2017).

#### c. Crowdsourcing Public Policy

In 2014, several counties from North and South Carolina (USA) held a series of public forums in order to gather input from the people on the development of the region around Charlotte over the next 40 years, in which the region's population is supposed to grow to almost twice as what it is today.<sup>51</sup> These forums were actually designed for people to attend in person in order to participate in the process. Additionally, as part of the so called *CONNECT Our Future*<sup>52</sup> initiative for the region, an internet platform has been used in order to engage people in designing the future of their region. Here, the focus is on voting on certain priorities people have when it comes to the development of the Charleston region.<sup>53</sup> This is not a method as engaging as described above. Still, the project is very large scale and could serve as a model for future engagement of the people in policy-making.

In 2011 the city of Chicago crowdsourced its budget due to the initiative of Mayor *Rahm Emanuel*. The city hosted its own crowdsourcing platform on which citizens could participate in the budgeting process. Input from the crowd was moderated by town hall employees. On top of their own platform, the city of Chicago actively used social media services like *Facebook* and *Twitter* as well as the video portal *YouTube*. Even outside of

<sup>51</sup> Charles Warner, "North and South Carolina Counties Use Crowdsourcing to Plan Region," accessed April 21, 2016, http://www.govtech.com/internet/North-and-South-Carolina-Counties-Use-Crowdsourcing-to-Plan-Regions-Future.html?utm\_source=related&utm\_medium=direct&utm\_campaign=North-and-South-Carolina-Counties-Use-Crowdsourcing-to-Plan-Regions-Future.

<sup>52</sup> Available at: http://www.connectourfuture.org/ (accessed April 21, 2016).

<sup>53</sup> Warner, "North and South Carolina Counties Use Crowdsourcing to Plan Region."

this particular campaign, Chicago uses social media and other internet services in order to engage its citizens in participatory policy-making.<sup>54</sup> *Aitamurto* describes the example of *SeeClickFix* in Richmond, Virginia (USA). Though not about designing or implementing public policy, it is still a valid example of how a city can make use of crowdsourcing in order to heighten the efficiency of its public services. Citizens who encounter problems like broken streetlights can create a service request on an online map. The city then knows where to send its workers to fix a given problem.<sup>55</sup>

#### 2. Crowdsourcing Democracy - Discussion

Crowdsourcing in the public sphere is an idea which has been gaining traction in various countries around the world since about 2012. It therefore is a very recent development, but one that, just like crowdsourcing in the private sphere, surely has the potential to grow into a full-fledged new era of citizen participation. Just like the private sector has learned from the open source movement, so can politics. *Clay Shirky* gave a *TED talk* in June 2012, addressing exactly the idea of crowdsourcing legislation via *GitHub*. The great contribution he makes

<sup>54</sup> Tanja Aitamurto, *Crowdsourcing for Democracy: A New Era in Policy-Making*, Publication of the Committee for the Future, 1/2012 (Helsinki: Parliament of Finland, 2012), 23, http://fsi.stanford.edu/sites/default/files/Crowdsourcing\_for\_DemocracyF\_www.pdf.

<sup>55</sup> Ibid., 10.

<sup>56</sup> Clay Shirky, *How the Internet Will (One Day) Transform Government*, accessed April 21, 2016, https://www.ted.com/talks/clay\_shirky\_how\_the\_internet\_will\_one\_day\_transform\_government.

in his presentation is the comparison of the way software is developed on *GitHub* to the way a new law is drafted by using open tools like *GitHub*. These crowdsourcing tools give people not only the ability to participate, but also create a never-before-witnessed level of transparency. On wikis, one can trace any edit that has been made and how, i.e. "...when a change was made, who made it, and what the change is." This of course is true not only for legislation, but any crowdsourcing project, including public policy. This characteristic of openness in crowdsourcing is also one of the reasons why it has the potential to enable a much higher level of accountability than possible before.

Nowadays, laws are frequently written by lobbyists, corporations or huge corporate law firms across a wide range of industries, for example finance<sup>58</sup> or agriculture,<sup>59</sup> rather than by elected representatives. Hence the very same people or corporations which are the addressees of a law may be the ones drafting it. This does not mean that the outcome is automatically a bad or one-sided law; one could claim that a certain expertise of the regulated area may be an advantage and therefore should involve the stakeholders to be regulated, however, it at least raises the question of a conflict of interest.

Another concern is that the process is not usually transparent or open.

<sup>57</sup> Ibid., ~15:10min.

<sup>58</sup> See for example the *New York Times* report on a Citigroup lobbyists redraft of a derivatives trading bill in 2013: "Wall St. Lobbyists and Financial Regulation," October 28, 2013, http://www.nytimes.com/interactive/2013/10/29/business/dealbook/29lobbyists-documents.html.

<sup>59</sup> Brian Riedl, "Agriculture Lobby Wins Big in New Farm Bill," *The Heritage Foundation*, April 9, 2002, http://www.heritage.org/agriculture/report/agriculture-lobby-wins-big-new-farm-bill.

The general public does not know, who is behind any certain piece of legislation or what agenda he pursues. Using crowdsourcing could change this. Just as in the example of California: "Gatto explained that if a special interest group proposes a law or changes legislation in a blatantly biased way, people would see right through it." <sup>60</sup> Depending on the design of the crowdsourcing method in use, one may easily trace who made certain proposals, amendments or changes. And even if proposals and changes would be introduced via the use of a third party, the crowd is at least able to evaluate, change or reject them. "··· [T]he open process creates a possibility for citizen empowerment, which can lead to the strengthening of political legitimacy." <sup>61</sup>

A further reason for a heightened accountability is the amount of support a crowdsourced piece of legislation can gather. If just a few people support a new bill and participation in any given project amounts only to a handful individuals, the reasonableness of rejecting a proposed bill in parliament might not be questioned. However, if a campaign gathers significant support, it will be harder for politicians to reject or ignore, especially without reasonable explanation to the electorate. If representatives in parliament are really that – representatives, then their responsibilities are first and foremost to serve the public electorate. The internet has given people the tools to make themselves heard and to organize many people into larger fractions which have to be taken seriously. The times in which professional politicians only had to worry every couple of years about their accountability to their voters can thus be over. Instead of just being a bystander to the political process, citizens

<sup>60</sup> Heaton, "Is Crowdsourcing the Future for Legislation?"

<sup>61</sup> Aitamurto, Crowdsourcing for Democracy, 20.

may now reclaim the position of an actor.<sup>62</sup>

Just as with most new developments, one may question the quality of crowdsourced legislation: Will an unorganized crowd of people be able to create bills which hold up to juristic scrutiny or may the process even be sabotaged? Research into crowdsourcing offers an answer to this, too. As described above, the results of crowdsourcing projects indicate that under the right conditions the crowd can come up with better results than experts. Furthermore, if somebody changes a Wikipedia entry for the worse or blatantly sabotages it, this attempt will soon be recognized by the crowd and corrected. 63 Also, the way in which a Wikipedia article is composed, shows how aggregating small contributions from different individuals with different skill-sets can result in a high quality encyclopedic entry. The first person creates an entry with only a small amount of information or maybe only creates an outline of a potential article (a so-called stub). The next one writes a little more, another one changes the text into more comprehensible language and again another person just corrects a spelling or punctuation mistake.<sup>64</sup> Apart from the aggregation of the right information for any given project, the crowd may even come up with ideas that nobody originally thought about. An

<sup>62</sup> Or, as Bautista frames it, "In crowdsourcing legislation, the citizen becomes a player", Bautista, "Crowdsourcing and Local Law Making: Closer to the People?", 1.

<sup>63</sup> Wikipedia has several mechanism in place for which it again relies on the help of the crowd; Ryan Singel, "Wikipedia Sleuths Win Journalism Award for Wired.Com," WIRED, September 10, 2008, https://www.wired.com/2008/09/wikipedia-sleut/.

<sup>64</sup> Clay Shirky, Here Comes Everybody: The Power of Organizing without Organizations: [With an Updated Epilogue] (New York; Toronto; London: Penguin Books, 2009), 109.

example would be the inclusion of the issue of segregation due to genomics in the Icelandic Constitution reform process. The wisdom of crowds can be harnessed in public crowdsourcing the same way that it can on *Wikipedia*, bringing about fruitful results while at the same time preventing misuse.

# D. Crowdfunding

Crowdfunding, like crowdsourcing, is a newly coined term, but is not really a new idea. Crowdfunding has roots which date back long in history. In 1885, for example, there had been financial troubles with the ongoing construction of the *Statue of Liberty* and the pedestal could only be completed with the help of the publisher of the *New York World – Joseph Pulitzer*. He started a funding campaign and promised the publication of donors' names in the newspaper. But really, when talking about crowdfunding, today people think of *Kickstarter*, *Indiegogo*.

<sup>65</sup> Aitamurto, Crowdsourcing for Democracy, 19.

<sup>66</sup> Andreas Bareiß, "Filmfinanzierung 2.0: Funktionsweise und Rechtsfragen des Crowdfunding," Zeitschrift für Urheber- und Medienrecht 56, no. 6 (2012): 457; Jan Marco Leimeister, "Crowdsourcing: Crowdfunding, Crowdvoting, Crowdcreation," Controlling & management review: Zeitschrift für Controlling & Management 56, no. 6 (December 1, 2012): 389, doi:10.1365/s12176-012-0662-5; "Crowdfunding Lessons from History – The Statue of Liberty," Crowdfunduk, January 5, 2012, https://crowdfunduk.org/2012/01/05/crowdfunding-lessons-from-history-the-statue-of-liberty/.

<sup>67</sup> https://www.kickstarter.com/ (accessed August 14, 2017).

<sup>68</sup> https://www.indiegogo.com/ (accessed August 14, 2017).

GoFundMe<sup>69</sup>, and other dedicated internet platforms.

With the rise of information technology in peoples' daily lives. crowdfunding has become a new way for people with ideas to raise money in order to realize them. This is particularly true for those who are not able to persuade a bank, huge corporate investor or business angel to provide them with the required funding. Where in the past the journey ended here and their idea never was realized, now creators can just turn to the public and try to persuade the masses to provide money for their ideas. Individual investments or donations can be very low, due to the large number of people who give their money to any given cause. If Crowdsourcing is the "...application of Open Source Principles to fields outside of software". To then crowdfunding is the application of crowdsourcing principles to the area of finance. "Crowdfunding draws inspiration from concepts like micro-finance (···) and crowdsourcing (···), but represents its own unique category of fundraising, facilitated by a growing number of internet sites devoted to the topic." This section looks at crowdfunding in the public sphere.

# 1. Crowdfunding Democracy

Crowdfunding public goods and services is no different in principle, but the scope of projects as well as the motivation of donors is likely very different from that behind most Kickstarter campaigns. First, one has to

<sup>69</sup> https://www.gofundme.com/ (accessed August 14, 2017).

<sup>70</sup> Howe, "Crowdsourcing." (see above).

<sup>71</sup> Ethan R. Mollick, "The Dynamics of Crowdfunding: An Exploratory Study," *Journal of Business Venturing* 29, no. 1 (January 2014): 2, doi:10.2139/ssrn.2088298.

mention the absence of a direct reward. Though a reward might be seen in the usability of a newly established park bench, this is different from receiving a product or a ticket to a concert, as one may on *Kickstarter*. Therefore it is more accurate to call supporters of a civic projects donors rather than investors, sponsors or backers. People give their money for projects that may enhance their neighborhood, without getting an immediate reward in return. This sentiment of being rewarded as a member of one's own community is for example expressed by the platform *Spacehive*: <sup>73</sup>

"Because projects have to reach out to the community for support, the things that get built are much more likely to be valued by people. It's a process that binds people together and gives them a stronger sense of ownership over their area." <sup>74</sup>

As per the section on crowdsourcing, let us first start with describing a few examples. Afterwards the discussion will turn to further arguments in favor of crowdfunding in the public sphere.

#### a. The Example of Colorado Springs

In 2009, the city of Colorado Springs in the state of Colorado (USA) faced

<sup>72</sup> To be fair, *Kickstarter* by now has also established categories like 'Civic Design', in which projects clearly come with only minimal rewards and the focus is on gathering funding for civic projects. A recent example is a campaign to raise money for an eco-friendly transformation of a run-down Detroit neighborhood, "Kickstarter: AVALON VILLAGE – From Blight to Beauty," *Kickstarter*, accessed May 31, 2016, https://www.kickstarter.com/projects/440111044/avalon-village-from-blight-to-beauty.

<sup>73</sup> Further discussion of Spacehive and another platform follows below (b).

<sup>74 &</sup>quot;Spacehive: How It Works," accessed May 17, 2016, https://www.spacehive.com/Home/HowItWorks.

a serious budgeting problem. The city would not be able to pay its bills in the following year unless it raised more money or cut public services. The problem arose due to its reliance mainly on sales taxes, rather than other forms of taxation, e.g. property taxes. The 2008 financial crisis had resulted in people not having enough money to spend, therefore the city gained less tax-revenue. Colorado Springs, like the state of Colorado, had implemented a so called 'Taxpayer Bill of Rights (TABOR)', which did not allow the city government just to raise taxes, but required that the people vote on any proposed tax-raise. In this case the people voted against a raise and the city had to opt for the cancellation of public services. Street lights were turned off, gardening in public spaces was limited, public pools and restrooms were closed and trash cans removed. Even more severe cuts were made, such as lay-offs of policemen and firefighters or cutting of public transport.

What at first sounds like a scene from the introduction to a dystopian science fiction story can also be seen as an example of citizen engagement in the matters of their local communities. After the described measures took effect, citizens moved in to fill the gaps in those places they felt most compelled to; volunteers stepped in to run pools and community centers, funds were raised from local companies and

<sup>75</sup> The state's TABOR is currently being challenged in an ongoing battle for its constitutionality; Mark Matthews, "Supreme Court Sends TABOR Lawsuit Back to Appeals Court," *The Denver Post*, June 30, 2015, http://www.denverpost.com/2015/06/30/supreme-court-sends-tabor-lawsuit-back-to-appeals-court/.

<sup>76</sup> The states TABOR has since been challenged ...

<sup>77</sup> Zach Patton, "Colorado Springs' Do-It-Yourself Government," September 2010, http://www.governing.com/topics/mgmt/Colorado-Springs-DIY-government.html.

citizens, and the city initiated 'Adopt a Streetlight' and 'Adopt a Trashcan' programs (in which citizens pay for individual streetlights to be turned on at night and individual trashcans to be placed back on the streets or inside public parks). Although a 2017 evaluation of the Colorado Springs experiment found a rather mixed to negative outcome, the example of Colorado Springs clearly shows that limiting the government's spending power does not have to go hand in hand with the end of civilization. People care for their local communities and may be willing to pay for certain services or do the necessary work themselves. This do-it-yourself attitude combined with the internet's new means of cooperation may just be what local communities need. Especially in places with budgeting problems, crowdfunding via dedicated internet platforms can be a powerful tool in order to help facilitate people's needs and engagements.

#### b. Spacehive and Citizinvestor

Two noteworthy platforms have to be mentioned when talking about crowdfunding public services; *Spacehive*<sup>80</sup> in the UK, and *Citizinvestor*<sup>81</sup> in the US. Both platforms facilitate crowdfunding for projects in the public interest, but use a very different methodology.

<sup>78</sup> Ibid.; Jordan Raynor, Crowdfunding Government: Jordan Raynor at TEDxTampaBay, 2012, https://www.youtube.com/watch?v=9Vw37XmL\_EM.

<sup>79</sup> Or, to be more precise, of the political climate of running a city like a business prevalent in the city in the aftermath of the budget cuts and following elections; Caleb Hannan, "The Short, Unhappy Life of a Libertarian Paradise," POLITICO Magazine, accessed July 5, 2017, http://politi.co/2sYcr5e.

<sup>80</sup> Available at: https://www.spacehive.com/, (accessed May 17, 2016).

<sup>81</sup> Available at: http://www.citizinvestor.com/, (accessed May 17, 2016).

*Spacehive* is a much more open platform. Anybody can start a campaign and there are no limits as to the scope or usefulness of the project, as long as it is "···in a public space···". Accordingly, projects range from rather silly, just-for-fun examples, like the transformation of Bristol's Park Street into a huge water slide, <sup>83</sup> to more serious and ambitious projects, such as trying to convert a concrete flyover in Liverpool into a public park. <sup>84</sup>

Citizinvestor on the other hand is only available for official local government projects. Only local governments or their partners are able to start a campaign and donations are tax deductible.<sup>85</sup> Accordingly, projects are more oriented towards those, which are seen as 'real' civic projects, such as building a new bicycle parking space in front of a school<sup>86</sup> or cleaning up a public park.<sup>87</sup> One might even say, these projects would usually fall under the responsibility of those same local governments, but they are not realized due to a lack of funding.

Both models have advantages and disadvantages. The open model is truer to the crowdfunding spirit of people taking matters into their own

<sup>82 &</sup>quot;Spacehive: How It Works."

<sup>83 &</sup>quot;Spacehive: Park and Slide," *Spacehive*, accessed May 17, 2016, https://spacehive.com/parkandslide.

<sup>84 &</sup>quot;Spacehive: The Flyover Liverpool," *Spacehive*, accessed May 17, 2016, https://spacehive.com/theflyoverliverpool.

<sup>85 &</sup>quot;Citizinvestor: About," accessed May 17, 2016, http://www.citizinvestor.com/about.

<sup>86 &</sup>quot;Citizinvestor: Sheldon High School Bike Parking," accessed May 17, 2016, http://www.citizinvestor.com/project/sheldon-high-school-bike-parking.

<sup>87 &</sup>quot;Citizinvestor: Clean Up CF: New Bins in Jenks Park," accessed May 17, 2016, http://www.citizinvestor.com/project/clean-up-cf-new-bins-in-jenks-park.

hands. The restricted model has a clearer focus on civic projects and donors know that their local government stands behind an idea.

### 2. Crowdfunding Democracy - Discussion

As per crowdsourcing described above, crowdfunding the public sphere gives people a say in what is happening to their local communities. So far, civic crowdfunding is focused mainly on local areas, and this model is successful because people identify with their communities and understand them. They know whether it would be a good idea to hold a certain festival, if a nearby park needs a new bench, or if walkways in their neighborhood need a makeover. Furthermore, citizens can see the direct results of their funding and experience a feeling of empowerment. In contrast, crowdfunding on a much larger, nationwide scale would be much more difficult to realize, if not impossible. People might feel a sense of detachment towards any given project, especially towards those which will be realized hundreds of miles away from their home.

Not so much of an obstacle to successful funding is the size or scope of a certain project. As the crowdfunding of the pedestal for the Statue of Liberty clearly shows, even very grand schemes can be financed by the masses, assuming that it is something people really care about. In the past, projects like these could only be realized by wealthy individuals (the so-called philanthropists), whereas now, with the help of crowdfunding, every citizen can now be a micro-philanthropist.<sup>88</sup>

In crowdfunding the public sphere, once again the 'wisdom of crowds' is a crucial factor. For the private sphere *Aitamurto* notes:

"Crowdfunding can be seen as a manifestation of collective intelligence: by investing or donating money, the crowd indicates the technologies or companies they believe in and the kind of societal problems they think are worth investigating, the kind of books they feel are worth writing, and so on." 89

For the public sphere, the same logic holds true. If people decide for themselves which projects are going to be realized, their passion will drive the development of local communities rather than plans of the city council, which in many cases may have been made without any input from the public.

The empowerment of citizens to decide what happens to their local communities also comes with a certain risk, namely that things get left undone. In order for projects to be initiated in the first place, one already needs a certain level of civic awareness and engagement. There have to be some people who walk around their neighborhoods, realize that there is a problem, a chance for improvement or even something missing which could be created anew. These people, instead of just keeping their ideas for themselves, also have to initiate the projects and raise a large enough following in order to realize them. To give money to a project is easy, it only takes a few mouse-clicks. But to come up with an idea in the first place and then invest the time and energy to see it through till the end, is something completely different. Where usually a citizen's responsibility ends at the ballot every couple of years, using crowdfunding in the above-described way creates a new public sphere in which every citizen is responsible for the affairs of the community. If crowdfunding were to be implemented on a scale that allowed for a reduction of taxes, this responsibility would be heightened even more. The aforementioned model of the platform *Citizinvestor* alleviates this problem to a certain extent since the projects are chosen by local governments to begin with.

What also may be left undone are projects which only benefit a small minority or exactly those parts of the population which do not have enough money to give. Who wants to donate money to a project with the aim of renewing parts of an impoverished neighborhood, if they do not live there themselves? This is a valid concern and there is not yet a clear answer. However, the existence of platforms like *GoFundMe*<sup>90</sup> or *Kiva*<sup>91</sup> indicate that the impact of charity-crowdfunding should not be underestimated.

Another big concern which has to be addressed is the project budget and what will happen if the initial estimate was too low or too high. If too much money was raised there can easily be a refund or, more likely and truer to existing crowdfunding schemes, there is not just one fixed goal but many, depending on the amount of money that is raised. For example, the initial goal would be a new bench in a nearby park which costs a certain amount of money. If more than that amount is raised a sunshade above the bench would be added, and even more money would bring about a concrete foundation for the bench, and so on.

If a project goes over budget, as is a frequent source of citizen scorn for

<sup>90</sup> Many projects on *GoFundMe* are about asking for help in order to pay medical bills or for educational purposes.

<sup>91</sup> A micro-loan facilitation platform on which one can choose which specific charitable course to support; https://www.kiva.org/ (accessed August 16, 2017).

big public projects, 92 there usually is no claim against the original donors of a crowdfunding project to give more money. Of course, the initial budget has to be thoroughly calculated beforehand, and if a private company is contracted to make an estimate on any given project, this company would be in breach of contract for going over budget and likely would have to accept the loss. Also, small civic crowdfunding projects like our returning park bench, are easily calculated and cannot be compared to huge public infrastructure projects in which so many varying factors and a realization plan of several years include many factors which are hard to calculate in advance. For now, crowdfunding for small civic projects is likely excluded from this problem, but it at least has to be kept in mind in case projects grow in size in the future.

## E. Conclusion

Democracy has its roots in ancient Greece. Particularly in the city state of Athens. The model of the polis<sup>93</sup> in Athens was that of a direct democracy. Every citizen was called upon to take part in the matters of the polis. Citizens met at the Pnyx, a hill for public gatherings in the city

<sup>92</sup> Daniel Kitts, "Why Infrastructure Projects Are Chronically over Budget," *TVO*, accessed June 1, 2016, http://tvo.org/article/current-affairs/the-next-ontario/why-infrastructure-projects-are-chronically-over-budget.

<sup>93 &#</sup>x27;Polis' is the originally Greek word for a "···city state in ancient Greece, especially as considered in its ideal form for philosophical purposes."; "Polis - Definition of Polis in English | Oxford Dictionaries," *Oxford Dictionaries* | *English*, accessed August 14, 2017, https://en.oxforddictionaries.com/definition/polis.

center, west of the Acropolis. Everybody was allowed to put things on the agenda for the day and everybody was allowed to address his fellow citizens and try to persuade them with the force of his arguments. <sup>94</sup> This kind of direct democracy in the ancient world could only derive in the city state, where people knew each other directly. One of the problems that direct democracy faces today is the size of modern day nation states. One may make the argument that direct democracy might very well work on a local, but not on a nationwide level, since it is impossible for everybody to have a voice. This may have been true for the past, but it surely is not true anymore. The internet is our modern day Pnyx, a place where anybody can go and utter his thoughts to his fellow human beings. Anybody can try to use the internet to make his voice heard and persuade others.

There is of course a certain amount of opposition towards the idea of direct democracy in general. For example, it is feared that the process might be misused by populists, results may turn out one sided, there is a chance of opposing propositions to succeed and people might not be informed or educated enough to evaluate the scope of their decisions.<sup>95</sup> It

<sup>94</sup> Uwe Wesel, Geschichte des Rechts in Europa: von den Griechen bis zum Vertrag von Lissabon (München: Beck, 2010), 20.; For the sake of argument, this paper will completely ignore the fact that women, minors and slaves were not considered citizens and that the voting populace of Athens really only consisted of roughly 10-20% of the people actually living in Athens at the time. There were many problems, but they do not play a significant role for the discussion at hand.

<sup>95</sup> Peter Bozzo and Andrew Irvine, "The Dangers of Direct Democracy," *Harvard Political Review*, June 1, 2010, http://harvardpolitics.com/united-states/the-dangers-of-direct-democracy/.

would lead to chaos and mob rule, its critics say. Yet, what the critics are usually talking about is exactly not what crowdsourcing and crowdfunding is. The criticism towards direct democracy is exactly the same criticism addressed by *Rushkoff* in his 'Open Source Democracy'; it is criticism of the 'public opinion poll', in which people are faced with a yes/no, take-it-or-leave-it kind of decision. However, the new interactive forms of crowdsourcing and crowdfunding are not just about voting on any certain proposal, they are about actively shaping matters in the public sphere. In these models, most of the dangers of a mere 'voting on proposals' scheme are alleviated.

Furthermore, research into group intelligence and group behavior, particularly into crowd-dynamics, as described above, highlights that under the right conditions, unorganized crowds are able to produce excellent results. As the examples above have shown, there is great potential to create better communities by engaging the public. Maybe it is time for more professional politicians to recognize this potential, put greater trust in the people, and hand over more power and responsibility to the general populace. If democracy really means rule of the people by the people, it might be a good idea to put a little bit more trust into these same people.

Technological advancements on the internet have created the tools for engaging the public in the democratic process in various ways. May it be for drafting new legislation, setting public policy for their communities, or giving money to civic projects they care about.<sup>97</sup> The described

<sup>96 &</sup>quot;The Perils of Extreme Democracy," *The Economist*, April 20, 2011, http://www.economist.com/node/18586520.

<sup>97</sup> One distinction has to be made. In crowdsourcing public policy, all the

examples of crowdsourcing and crowdfunding have the potential to lead to increased transparency of the political process, hold governments more accountable, empower citizens and engage them further in matters of their modern polis. At the same time, it means that citizens' responsibility towards their communities can be heightened. The famous quote "With great power comes great responsibility". 98 translates well into the Athenian idea of democracy in which citizens were supposed to participate in the guarrels about matters of the polis, whereas in modern representative democracies this participation oftentimes ends at the ballot box every few years. Taking the idea of crowdsourcing and crowdfunding the public sphere seriously requires people to take matters into their own hands and accept the responsibility that comes with more freedom, power and self-determination. The examples presented above show that people are willing and eager to take up this responsibility and that the risks involved, namely that things may be left undone and that the open processes may be misused, can be overcome.

way up to legislation, geographical boundaries are superfluous. Crowdfunding however, still is limited to local projects, since its usefulness for the individual donor depends heavily on its accessibility. A nationwide civic crowdfunding project, the results of which will only be noticeable in one area, has yet to be successfully carried out.

98 Though to today's pop-culture generation best known from the *Spider-Man* comic books, the origins of the quote can be traced back to the French revolution; "With Great Power Comes Great Responsibility | Quote Investigator," accessed June 1, 2016, http://quoteinvestigator.com/2015/07/23/great-power/.