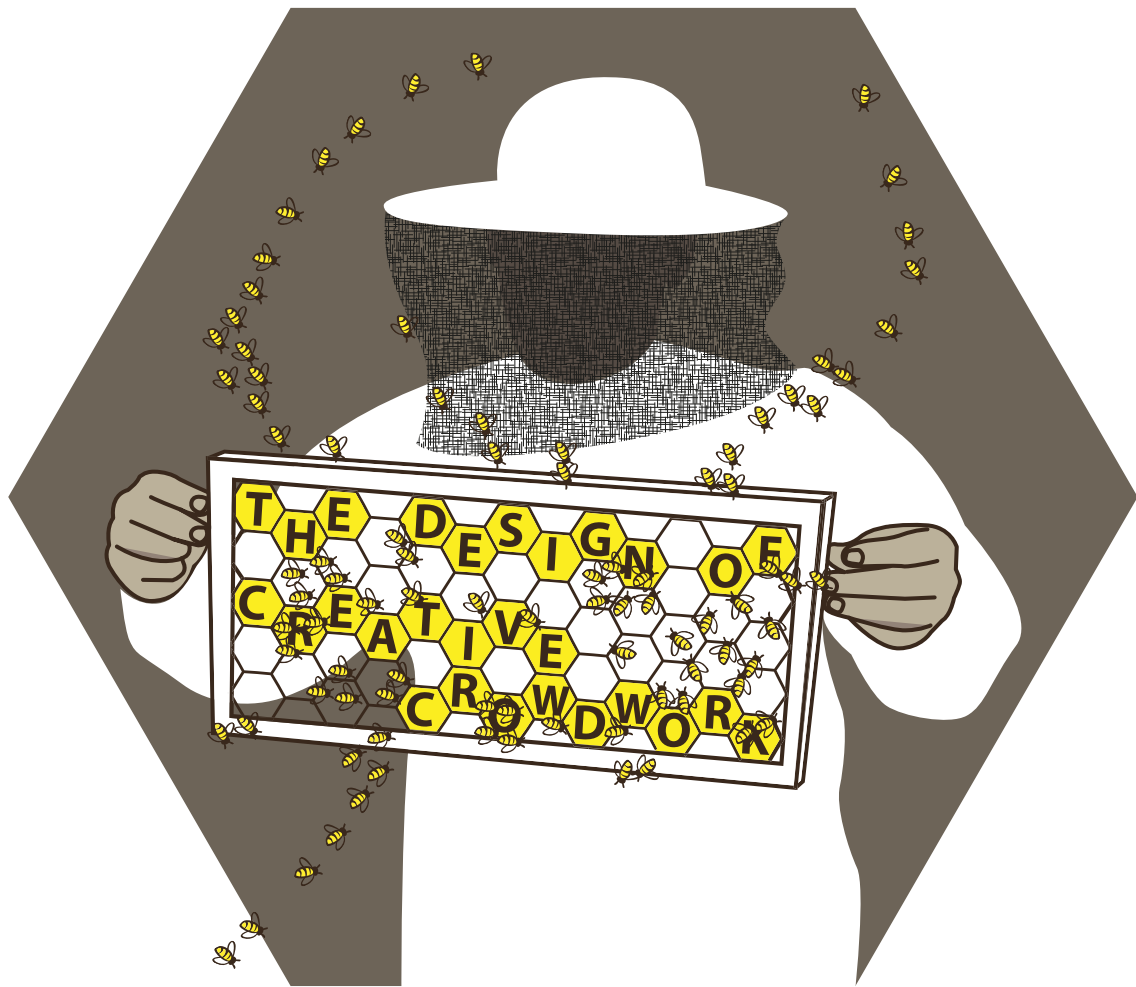




The Design of Creative Crowdwork

From Tools for Empowerment to Platform Capitalism

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Thesis submitted in partial fulfilment
for the degree of Doctor of Philosophy
at the Royal College of Art

June 2015

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Fig.1, cover illustration by Florian Alexander Schmidt, 2015.

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Florian A. Schmidt

June 2015

ABSTRACT: THE DESIGN OF CREATIVE CROWDWORK

The thesis investigates the methods used in the contemporary crowdsourcing of creative crowdwork and in particular the succession of conflicting ideas and concepts that led to the development of dedicated, profit-oriented, online platforms after 2005 for the outsourcing of cognitive tasks and creative labour to a large and unspecified group of people via open calls on the internet.

It traces the historic trajectory of the notion of the crowd as well as the development of technologies for online collaboration, with a focus on the accompanying narratives in the form of a discourse analysis. One focus of the thesis is the clash between the narrative of the empowerment of the individual user through digital tools and the reinvention of the concept of the crowd as a way to refer to users of online platforms in their aggregate form. The thesis argues that the revivification of the notion of the crowd is indicative of a power shift that has diminished the agency of the individual user and empowered the commercial platform providers who, in turn, take unfair advantage of the crowdworker.

The thesis examines the workings and the rhetoric of these platforms by comparing the way they address the masses today with historic notions of the crowd, formed by authors like Gustave Le Bon, Sigmund Freud and Elias Canetti. Today's practice of crowdwork is also juxtaposed with older, arguably more humanist, visions of distributed online collaboration, collective intelligence, free software and commons-based peer production. The study is a history of ideas, taking some of the utopian concepts of early online history as a vantage point from which to view current and, at times, dystopian applications of crowdsourced creative labour online. The goal is to better understand the social mechanisms employed by the platforms to motivate and control the crowds they gather, and to uncover the parameters that define their structure as well as the scope for their potential redesign.

At its core, the thesis offers a comparison of Amazon Mechanical Turk (2005), the most prominent and infamous example for so-called microtasking or cognitive piecework, with the design of platforms for contest-based creative crowdwork, in particular with Jovoto (2007) and 99designs (2008). The crowdsourcing of design work is organised in decidedly differently ways to other forms of digital labour and the question is why should that be so? What does this tell us about changes in the practice and commissioning of design and what are its effects on design as a profession? However, the thesis is not just about the crowdsourcing of design work: it is also about the design of crowdsourcing as a system. It is about the ethics of these human-made, contingent social systems that are promoted as the future of work. The question underlying the entire thesis is: can crowdsourcing be designed in a way that is fair and sustainable to all stakeholders?

The analysis is based on an extensive study of literature from Design Studies, Media and Culture Studies, Business Studies and Human-Computer Interaction, combined with participant observation within several crowdsourcing platforms for design and a series of interviews with different stakeholders.

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In memory of my good friend
Dr. Danny Pannicke,
whose big heart and great mind
I miss a lot.

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*What we are seeing with crowdsourcing
is the phenomenon of creative destruction
happening in near real time.*

JEFF HOWE, 2008¹

INTRODUCTION: COMING TO TERMS WITH CROWDSOURCING

Between 2002 and 2008 I studied communication design at the Berlin School of Art Weißensee. When I started, I wanted to become an illustrator: my artistic practice revolved around drawing; pencils were my favourite tools and I was guided by the naïve and romantic misunderstanding that I was about to learn a profession that would allow me to spend a lot of time away from the computer. Craftsmanship and artistic expression played an important role in the foundation courses that I attended and, with its mixture of Bauhaus ideals and socialist tradition, the former GDR art school in East Berlin seemed like the perfect place for me to learn the tools of the trade.

About two years earlier, at the turn of the millennium, the dot-com crash had happened, without me taking much notice.² I also missed the launch of Google, two years earlier as well as that of Wikipedia a year later. But during my six years of study, I was swept away by a surge of networked digital creative tools. In the beginning my fellow students and I still had to learn how to best compress images down to a few hundred kilobytes and painstakingly integrate them in different sizes into static, manually created HTML home pages. For a relatively brief period, Flash was all the rage, and led to playfully baroque and totally unusable websites with cinematic preludes, background music and animated buttons that made sounds when pressed. Later web design was all about streamlined, convenient content management systems, responsive design and integrated streaming audio and video. Around 2005, with the emergence of MySpace, YouTube, Flickr and Second Life, euphoria set in about the possibilities of user-generated content. The media landscape changed rapidly and the digital tools that were hitherto exclusive to communication designers and other media professionals suddenly became accessible to everyone. And with the tools came the promise of the empowerment of the individual user, who would no longer be restricted to the receiving end of media production but instead would become a sender and producer, too – finally, the emergence of the ‘Prosumer’ that Alvin and Heidi Toffler had marvelled about already in the early 1980s became reality.³

The design world had experienced its first digital revolution already around 1984 with the arrival of desktop publishing (DTP); there was also an early blossoming of amateur digital design culture when people started to create their own home pages on the world wide web in the mid 1990s.⁴

¹ Howe, Jeff. *Crowdsourcing: How the Power of the Crowd is Driving the Future of Business* (London: Random House Business, 2009).

² This historic speculative bubble in the technology industry reached its climax in March 2000.

³ Toffler, Alvin, *The Third Wave* (New York: Bantam Books, 1989), first published in 1980.

⁴ The terms ‘internet’, ‘net’, ‘web’ and ‘world wide web’ used to be capitalised to distinguish ‘The Internet’ as a proper noun from the many other internetworks out there. Over the time publications such as the *Times* and the *Guardian* adopted the lower-case spelling, arguing that it

However, it was the combination of broadband internet access, ubiquitous cheap digital production tools, access to user-generated tutorials and easy-to-use, dedicated platforms for the distribution of user-generated content, that lifted self-publishing and the so-called democratisation of design to a completely new level. There is no second chance to make a first impression; and when more and more people started to construct an online identity for themselves, for example on MySpace, that first impression was now created and mediated through DIY graphic design. Suddenly, everyone with a website or an online profile had to become a designer of sorts.

Professional designers had to make room for the arrival of the masses and started to reimagine their future role, now as toolmakers, facilitators, platform-builders, coaches, consultants, managers and thinkers. When seemingly everybody had to become a designer, designers had to become something else. Personally, I started to focus on theory and writing to make sense of the shifting landscape in which I found myself and my diploma in 2008 subsequently dealt with the ‘blurring line between amateur and professional in the field of design.’⁵ In 2009, I organised a conference with the title ‘Volkssport Design’ (design as a people’s sport);⁶ and through my research for that event, I first encountered the emerging new platforms for the contest-based crowdsourcing of design work. Immediately, I was intrigued as well as concerned by this new mode of creative production that, in spite of its initial resemblance to user-generated content and the production of open-source software, was strangely at odds with the ideals of these neighbouring fields. Subsequently, I invited some of the platform providers and their critics to the conference and the heated debate around crowdsourcing became the most important part of the event. Many of the 400 designers in the audience had not been aware of the rise of crowdsourcing and were shocked and outraged by what they perceived to be the erosion of their profession – in regard to the quality of design but also its economic basis. Since then I have spent a lot of time thinking and writing about the validity of these concerns and how crowdsourcing might impact the future of the design profession. It is safe to say now that crowdsourcing is not just another internet fad: it has evolved into a large industry that is still growing quickly and seems to be here to stay.

It is clear by now that I didn’t start my research from an impartial and detached position but as someone in the thick of it, fascinated by the free software and open-source movement (FLOSS), as well as the so-called ‘Web 2.0’, but also affected by crowdsourcing as one of its manifestations and critical of it. I was (and still am) enthusiastic about the widespread dissemination of digital tools for the production and publication of all kinds of media. I have always felt a great sympathy for all forms of amateurism and I am convinced that bashing amateurs to keep them at bay is a narrow-minded and pitiful way to claim and defend one’s status as a professional. I have been thinking about these issues since 2006 and I used to believe (and I certainly wasn’t the only one) that with the distribution or ‘democratisation’ of digital creative tools – the means of production, so to speak – we would also see

is a medium similar to radio or television, and I follow that argument here. See e.g. *Guardian* style-guides: <http://www.guardian.co.uk/styleguide/i#id-3026449>

⁵ Schmidt, Florian A., et al., *Kritische Masse von Profis und Amateuren im Design* (Berlin: form + zweck, 2010)

⁶ Schmidt, Florian A., ‘Volkssport Design – Live and Let Live?’, *eye magazine*, 2009

<<http://www.eyemagazine.com/opinion/article/volkssport-design-live-and-let-live>> [accessed 7 October 2014]

a redistribution of power towards a more egalitarian and less capitalist structure of the media landscape. It took me a while to understand that power today doesn't reside with those owning the tools but with those owning the platforms. In a sense, platforms are tools of a higher order, since they have multiple users with different roles and rights. At the same time, platforms are also virtual places, on which users meet to collaborate, publish and do business. A tool can be in full control of one user, platforms always have multiple stakeholders, some of which can typically exert control of others by means of the platform.

This thesis is an attempt to disentangle the many and different factors at play in the crowdsourcing of design work and, more importantly, in the design of crowdsourcing platforms. The text at hand is an analysis of the contradictory visions for the future of digital work, mediated via the internet, that various stakeholders are projecting on crowdsourcing as a new mode of production. In order to better understand the social imaginary around crowdsourcing and to not fall prey to the ever-quicker hype-cycles of networked technology, the thesis takes a long shot at capturing the phenomenon; it traces its historic roots as well as the contemporary discourse that stretches across a number of disciplines.

It is difficult and even risky to write about current internet phenomena because of the fast pace at which the technology and its uses evolve. Who wants to still read a book, let alone a PhD thesis, about MySpace, Second Life or Web 2.0? But waiting until the dust has settled – not doing research on current web-platforms – is not an option. Our understanding has to keep pace with the politics of the digital tools and platforms because they have become so omnipresent and influential in our daily lives. In order to counter their normative force, their undemocratic establishing of de-facto standards for social and economic interaction, academia has to deal with the Now today, even if that means risking that the research is yesterday's news already tomorrow.

The problem is not only the short half-life of the technology and its uses: the terminology that accompanies the rapid change is metastasising at an even quicker rate. Nothing is older than yesterday's buzzwords. But unfortunately, we can't do without them. Not only is academia lagging behind the technological development, what complicates things further is that different academic disciplines adopt varying terms for very similar phenomena or use identical names for different phenomena. The talk is of collective intelligence, human computation, open innovation, crowdsourcing, commons-based peer production and the cognitive surplus, to name but a few of the terms: sometimes they are used interchangeably, on other occasions, the distinction is crucial (I will come back to this). It is difficult to decide which neologism to adopt because they all come with their own biases and connotations and are trapped somewhere between being over-hyped, hackneyed, or so specialised, technocratic and insular that only experts know what they mean by them. The language in this field is dominated by a US-centric group of start-up entrepreneurs, venture capitalist, technology evangelists, web gurus, IT-journalists and business-consultants – all competing to give 'the next big thing' a catchy title. Huge profits are being made from selling seemingly exclusive information about the latest online business trend to those who fear getting left behind. Those who are earning an arbitrage from being a step ahead in the 'hype-cycle', have a strong incentive to sustain a constant atmosphere of urgency. They are repackaging current trends in their very own, made-up, branded, googleable terminology.

The highly influential Silicon Valley-based publisher Tim O'Reilly is a prime example of such a spin-doctor. He popularised the term 'Web 2.0' and played a crucial role in rebranding Richard

Stallman's 'free software' into 'open source software' (see chapter three) and the DIY scene into the 'Maker Movement'. In 'The Meme Hustler', a lengthy and very confrontational article, Evgeny Morozov, a fierce critic of Silicon Valley, has analysed how what he calls 'buzzwordophilia' is being used by O'Reilly to frame the public dialogue about technology in a specifically business-friendly, dumbed-down, superficially optimistic way.⁷ Even O'Reilly himself speaks of his practice as 'meme-engineering'. The method is to come up with new, catchy but deliberately blurry umbrella terms such as 'Web 2.0' that can then be used to sell prophecies about the future of the internet in form of books, conferences, talks and consulting contracts. The challenge, for a slower paced academic text like this one, is that often there is hardly any neutral alternative to the volatile, contrived and sometimes even deceptive buzzwords such as 'cloud computing'. (Even though it is probably an advisable strategy to raise one's profile as a writer, I have refrained from adding my own neologisms to the buzzword noise and instead concentrated on debunking some of the existing ones.)

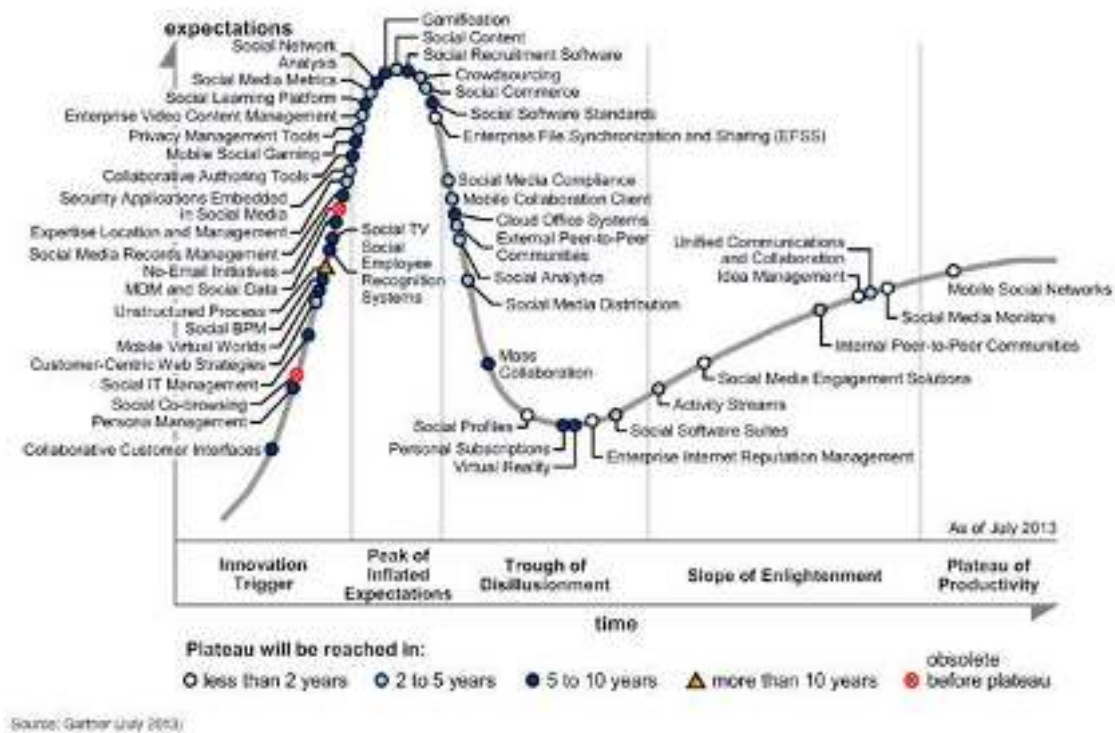


Fig. 2: Graph of the Gartner 'hype cycle' for social software, 2013.⁸

The concept of the 'hype cycle' itself is already part of this game. It is actually a curve, not a cycle, and it was introduced and branded by Gartner Inc., a firm that describes itself as 'the world's leading information technology research and advisory company.'⁹ Every year, it publishes a number of reports, such as the 'Hype Cycle for Social Software 2013', which maps the current position of

⁷ Morozov, Evgeny, 'The Meme Hustler: Tim O'Reilly's Crazy Talk', *The Baffler*, 2013 <http://thebaffler.com/past/the_meme_hustler> [accessed 23 April 2013]

⁸ 'Hype Cycle for Social Software, 2013' <<https://www.gartner.com/doc/2563715/hype-cycle-social-software>> [accessed 3 July 2014]

⁹ <<http://www.gartner.com/technology/about.jsp>> [accessed 3 July 2014]

emerging technologies, always on the exact same curve. The curve falls into five distinct phases which, according to Gartner, every new technology has to undergo: the *Innovation Trigger*, the *Peak of Inflated Expectations*, the *Trough of Disillusionment*, the *Slope of Enlightenment* and finally the *Plateau of Productivity*. In July 2013, Gartner estimated that ‘crowdsourcing’ just made it over the Peak of Inflated Expectations, and was now heading for Disillusionment. Crowdsourcing is scheduled to reach the Plateau of Productivity in two to five years.¹⁰ Although it is obviously very simplistic and unscientific, to plot everything new under the (Californian) sun onto that very curve, with the promise of reaching ‘Enlightenment’ later along the way, the ‘hype cycle’ is intuitively appealing – it has a strong ‘truthiness’ to it. Its steep rise and fall in the first half of the curve fits, in retrospect, to many of the technology buzzwords and concepts we were bombarded with in recent years. Yet, the number of words and concepts that eventually dissolved into nothingness seems to be much higher than Gartner’s optimistic curve suggests. As a quick look on Google Trends tells us, the usage of the term ‘Web 2.0’ peaked in June 2007 and has since then quickly fallen in popularity, while the frequency of people searching for ‘crowdsourcing’ is generally still rising since 2007, though on a lower level, and in 2012 it was overtaken by a steep rise in the popularity of the term crowdfunding, which is now all the rage and often leads to confusion between the two crowd-based business concepts. (The first one is about the platform-based aggregation of labour, the second one about the platform-based aggregation of money.)

As of late 2014, the most deceptive and endemic term emitted by technology start-ups and emblematic for the *new spirit of capitalism* is the so-called ‘sharing economy’ – a term that is used interchangeably with the less frequent but equally misleading terms ‘collaborative economy’ and ‘collaborative consumption’. The motto of the ‘collaborative economy’ is: *Sharing is the new buying!* In an age that is marked by high rates of unemployment, precarious labour, rampant debt, foreclosures and evictions in the US and harsh austerity programs in many parts of Europe, Silicon Valley has taken on the seemingly anti-capitalistic rhetoric of ‘buy less’, ‘sharing is caring’ and ‘love thy neighbour’. Yet, behind that rhetoric operates a global rent-extraction scheme on an unprecedented scale. The sharing economy’s greatest success stories currently come from the two Silicon Valley based platforms ‘Uber’, founded in 2009, and ‘Airbnb’, founded in 2008. These companies frame the renting out of private cars and homes as a social, decentralised, peer-to-peer exchange, based on sharing and collaboration, while in fact, they introduce a fierce neoliberal logic and conditions of precarious labour into areas of life which had hitherto not been part of the market. Every citizen is regarded as a potential ‘micro-entrepreneur’ by these schemes and even one’s own bed becomes an asset that can and should be capitalised. All the risk is outsourced to the individuals and regulations that society has installed to protect the individual, such as fire safety regulations in case of hotel rooms, insurances for drivers and passengers in case of public transport and generally all kinds of worker protections are ‘routed around’ by these new platforms. Most importantly, the platforms that are doing well in the sharing economy are quickly evolving into monopolies in their respective domains. As with Mi-

¹⁰ The curve is accessible for free online, but the 87 page report itself costs \$1,995 US Dollar, a sum that prevents me from finding out according to which method the positioning of the different technologies is done. ‘Hype Cycle for Social Software, 2013’ <<https://www.gartner.com/doc/2563715/hype-cycle-social-software>> [accessed 3 July 2014]

Microsoft, Facebook, Google, Amazon, Apple and eBay before, we are once again confronted with a winner-takes-it-all situation in which a single platform found a way to use network effects to become the de-facto global standard for a whole industry. Huge profits nowadays are made when one of these *lean* start-ups manages to *disrupt* a large industry in the physical world, with the help of little more than a highly scalable smartphone app, without having to own assets, by externalising all the risk to the crowd, and by taking a cut from every transaction that is being made via the platform across the globe. A common example is Instagram (now owned by Facebook), a platform that is achieving with 15 employees what Kodak Eastman once did with 140,000 – billions of dollars are still being made but they remain with the founders and venture capitalists and are not redistributed through wages.¹¹ Technology critics like the virtual reality pioneer Jaron Lanier convincingly argue that this is a general pattern of disruption that is leading to an erosion of the middleclass in the USA and in Europe.¹² Indicative of just how much profit is expected to be made at the top of the pyramid are the latest venture capital rounds by Airbnb, which raised 450 million US dollars on a ten billion US dollars company evaluation; and Uber, which raised \$1,4 billion dollars on a seventeen billion dollars company valuation.¹³ Since December 2014, Uber has been valued at over forty billion US dollars.¹⁴ It is no wonder that venture capitalists can't get enough of the 'sharing economy'. One of its most vocal advocates is the Silicon Valley business analyst Jeremiah Owyang who in 2013 founded the consulting firm Crowd Companies: 'The mission of Crowd Companies™ is to bring Empowered People & Resilient Brands together to collaborate for Shared Value.'¹⁵

The Collaborative Economy is an economic model where people are creating and sharing goods, services, space and money with each other in what is also known as the Sharing Economy. Some people are also building their own products, known as the Maker Movement. Combined, this movement means the crowd is getting what they need from each other. The bold question we'll ask and answer is 'What role do companies play if people get what they need from each other?'¹⁶

Even though I look at the online crowd phenomenon from a very different perspective than Jeremiah Owyang, he is actually asking the right question. The role that the successful companies play is that of the 'platform provider.' What at first sounds like just the neutral provision of a technological infrastructure, a humble service to support and connect the individuals in the sharing economy, is in fact

¹¹ Timberg, Scott, 'Jaron Lanier: The Internet Destroyed the Middle Class', 12 May 2013
http://www.salon.com/2013/05/12/jaron_lanier_the_internet_destroyed_the_middle_class/ [accessed 3 January 2015]. See also: Leslie, Ian, 'Kodak vs Instagram: This Is Why It's Only Going to Get Harder to Make a Good Living', *New Statesman*, 28 January 2014
<http://www.newstatesman.com/politics/2014/01/kodak-vs-instagram-why-its-only-going-get-harder-make-good-living> [accessed 3 January 2015]

¹² Lanier, Jaron, *Who Owns the Future* (London: Allen Lane, 2013)

¹³ Lunden, Ingrid, 'Airbnb Has Closed Its \$500M Round Of Funding At A \$10B Valuation, Led By TPG', *TechCrunch*
<http://techcrunch.com/2014/04/18/airbnb-has-closed-its-500m-round-of-funding-at-a-10b-valuation-led-by-tpg/> [accessed 7 July 2014]
 Lawler, Ryan, 'Uber Raises Giant \$1.2 Billion Funding Round At A \$17 Billion Valuation', *TechCrunch*
<http://techcrunch.com/2014/06/06/uber-1-2b/> [accessed 7 July 2014]

¹⁴ Bradshaw, Tim, 'Uber Valued at \$40bn in Latest Funding Round', *Financial Times*, 4 December 2014
<http://www.ft.com/cms/s/0/66a76576-7bdc-11e4-a7b8-00144feabdc0.html#axzz3NkXNV1gc> [accessed 3 January 2015]

¹⁵ <http://crowdcompanies.com/about.html> [accessed 7 July 2014] On what 'Empowered People' are: 'We used to call them 'consumers', but now they have the tools to get what they need from each other.'

¹⁶ *Ibid.*

much more dominating than that – the platform is the place where the true power resides in this new economic landscape, and the valuations and the flow of venture capital leaves no doubt about that. Unlike for example Craigslist, a popular online site for classified advertisements, the role of the platforms in crowdsourcing and the sharing economy can't be reduced to mere matchmaking.¹⁷ The narrative of the digitally empowered self-sufficient individual doesn't accurately describe the actual power of the platform providers, who, as intermediaries, define the rules of interaction between the individuals, and take a substantial share of all financial transactions they funnel through their platform.

Another example of this type of business model and the distortion of language that comes with it is the San Francisco based start-up company TaskRabbit, which has existed in its current form since 2011. Its simple idea is to enable people to outsource bothersome tasks like shopping groceries, mowing the lawn or cleaning the shower to other people via an app that matches the two parties, based on location and price.¹⁸ TaskRabbit takes a twenty per cent cut without taking any of the risks and responsibilities that employers in the service industries normally have to bear (such as insuring its workers) and without owning any assets, such as lawnmowers, delivery trucks or cleaning material. The company evolved out of a previous company called RunMyErrand, founded by Leah Busque, an IBM software engineer, in Boston in 2008. By June 2013, the company had already received 37,5 million US dollars in venture capital but nonetheless fired twenty per cent of its sixty-five employees to become leaner and more profitable.¹⁹ The doublespeak in the rhetoric becomes particularly evident in the way the company addresses its external workforce: On the one hand, they are 'rabbits' having to underbid each other for the allowance to run other people's errands, on the other hand, CEO Leah Busque likes to refer to the runners as 'micro-entrepreneurs' – 'people setting their own schedules, setting their own rates, saying what skills they have and what they're good at.'²⁰

I only briefly mention the 'sharing economy', (or 'gig-economy', as it is more appropriately called),²¹ here in the introduction, as it is the latest in a series of interconnected fundamental shifts in the digital labour landscape, the pattern of which can already be observed in crowdsourcing. The difference is that in the gig economy workers are selected individually and work locally; they are not really an open online crowd (I will discuss later what that exactly means). What unites both groups of workers though, is that they provide not only their labour but also their tools, be it their laptop and

¹⁷ Craigslist, launched in 1995, is actually the exception that proves the rule. Its founder Craig Newmark and its CEO Jim Buckmaster insist that that 'maximizing profits has never been their goal', that they are 'only focussing on improving the service for the users' Hau, Louis, 'Newspaper Killer', *Forbes* <http://www.forbes.com/2006/12/08/newspaper-classified-online-tech_cx_lh_1211craigslist.html> [accessed 28 February 2015]

¹⁸ For an account of what TaskRabbits have to do to make ends meet see: Himelfarb, Randi, *Taskonomics*: 'Video web series about overextended New Yorkers hiring the underemployed to get stuff done' <<http://taskonomics.com/about/>> [accessed 11 July 2014] and: Stone, Brad, 'My Life as a TaskRabbit', *BusinessWeek: technology*, 13 September 2012 <<http://www.businessweek.com/articles/2012-09-13/my-life-as-a-taskrabbit>> [accessed 3 February 2014]

¹⁹ Taylor, Colleen, and Anthony Ha, 'TaskRabbit Confirms Layoffs As It Realigns To Focus On Mobile And Enterprise', *TechCrunch* <<http://techcrunch.com/2013/07/08/taskrabbit-confirms-layoffs-as-it-realigns-to-focus-on-mobile-and-enterprise/>> [accessed 8 October 2014]

²⁰ Dwoskin, Elizabeth, 'BossTalk: TaskRabbit Chief Aims to Recast Freelance Work', *Wall Street Journal*, 12 August 2014, section Management <<http://online.wsj.com/articles/bosstalk-taskrabbit-chief-aims-to-recast-freelance-work-1407886284>> [accessed 8 October 2014]

²¹ Kessler, Sarah, 'Pixel And Dime: On (Not) Getting By In The Gig Economy', *Fast Company* <<http://www.fastcompany.com/3027355/pixel-and-dime-on-not-getting-by-in-the-gig-economy>> [accessed 18 June 2014]; Boyd, Stowe, 'The Gig Economy Is Here, and It's Not a Pretty Picture', 2014 <<http://research.gigaom.com/2014/03/the-gig-economy-is-here-and-its-not-a-pretty-picture/>> [accessed 18 June 2014]

photo-editing software or a lorry and a lawnmower. The gig-economy is an important borderline-case of crowdsourcing, but too new for an appropriate analysis within this thesis, which will be focussed on comparatively older forms of crowdsourcing. However, I will return to the question of what an entrepreneur is and whether it actually makes sense to call everyone from the CEO down to the precarious errand boy or girl an entrepreneur.

As already indicated above, there is a wide array of overlapping but not necessarily interchangeable terms for the procedure of aggregating the cognitive capacities, the labour and the assets of large numbers of people using the internet: *Collective intelligence, cognitive surplus, human computation, co-creation, prosuming, produsing, distributed thinking, democratising innovation, open innovation, social product development, user-innovation, user-generated content, mass collaboration, mass creativity, we-think or wikinomics* – to name but a few. In chapter three, I will disentangle some of the origins, differences and nuances of these various labels and concepts in more detail, but for now, I will stick to the term most commonly used by all stakeholders in business and in research, the one that has made it into the dictionaries: Crowdsourcing.

According to the *Oxford Dictionary of English* ‘crowdsourcing’ is ‘the practice whereby an organisation enlists a variety of freelancers, paid or unpaid, to work on a specific task or problem’.²² Its appearance in the OED (which started out as a crowdsourcing endeavour in its own right, built on the work of hundreds of unpaid readers contributing thousands of supporting quotations²³) certainly indicates the currency of the term. But the sparse definition of the OED would also hold true for a classic design agency, carefully selecting a handful of paid freelancers or unpaid interns to do a job – this way, the crucial novelty and driving force behind the concept of crowdsourcing is lost. The missing point is, that through the format of an *open call over the internet*, it has become possible to tap into an external workforce of hundreds of thousands of people, keep them busy all at the same time, with very low transaction costs and by having to pay only very few employees. As it turns out, the crowd online is willing to work practically for free, and the organisations orchestrating the process don’t even have to preselect or *enlist* the individuals, because the people in the crowd are self-selecting the tasks that they want to work on, and can come and go whenever they please. Companies engaged in crowdsourcing not only save money in wages that they would otherwise have to pay regular employees; they also save expenses in ‘human resource’ management. Enabled by network technology now everybody – *the masses, the crowds* – can participate, a circumstance that leads to a fundamental change of magnitude in the division and distribution of labour.

In June 2006 the journalist Jeff Howe introduced the term crowdsourcing in an article for *Wired*. Under the title ‘The Rise of Crowdsourcing’ the lead went: ‘Remember outsourcing? Sending jobs to India and China is so 2003. The new pool of cheap labor: everyday people using their spare

²² ‘Crowdsourcing noun’ Oxford Dictionary of English. Edited by Angus Stevenson. Oxford University Press, 2010. Oxford Reference Online. Oxford University Press.

²³ Matthew, H. C. G., and B. Harrison, eds., *The Oxford Dictionary of National Biography* (Oxford: Oxford University Press, 2004) <http://www.oxforddnb.com/templates/article.jsp?articleid=35163&back=#cosubject_35163> [accessed 22 July 2014]; see also: Lanxon, Nate, ‘How the Oxford English Dictionary Started out like Wikipedia’, *Wired UK*, 2011 <<http://www.wired.co.uk/news/archive/2011-01/13/the-oxford-english-wiktionary>> [accessed 5 February 2014]

cycles to create content, solve problems, even do corporate R & D'.²⁴ Howe had realised that a new source of value creation was emerging online that now included the contributions of hitherto seemingly passive internet users into the value chain – not as a side effect but as the core of a new type of business model.²⁵ Even though Howe didn't invent the phenomenon, he gave it the name that stuck.²⁶

There is a close connection but also a notable shift in emphasis between Tim O'Reilly's description of web trends in 2004, which led to the introduction of the term 'Web 2.0' and Howe's observations in 2006, which led to the term crowdsourcing.²⁷ 'Web 2.0' was a marketing term that emphasised the empowerment of the individual user,²⁸ who now acquired a voice, became an active contributor and was provided with various tools for media production, publication and public self-expression – for example through citizen journalism on blogs or by creating videos for YouTube. The term crowdsourcing, however, shifted the perspective from the *individual user* towards *masses of users* and especially towards methods that allowed the aggregation of their myriad contributions. The coinage of the term crowdsourcing made visible, and at the same time amplified, the endeavour to take commercial advantage of the surplus cognitive and creative capacities of the crowd online. Both concepts went through a media-hype, but while the term Web 2.0 withered away over time, the term crowdsourcing stayed: its meaning, however, continues to oscillate. Already at its inception, there was confusion about what exactly it would entail. Jeff Howe himself provided two definitions for crowdsourcing, the 'white paper version', very concise and apt, and the 'sound bite version', catchy but misleading:

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 Sound Bite Version: The application of Open Source principles to fields outside of software.²⁹

Right at the root of the original definition, we thus find the source of an enduring conflict, caused by the entanglement of two seemingly very similar concepts, which however must not be used interchangeably. The sound bite version is misleading because there are several fundamental differences between the principles of crowdsourcing and the principles of 'Free/Libre and Open Source Software'

²⁴ Howe, Jeff. 'The Rise of Crowdsourcing', *WIRED*, June 14, 2006. <http://www.wired.com/wired/archive/14.06/crowds.html>.

²⁵ The inventor of the world wide web, Tim Berners-Lee as well as the net artist and researcher Olia Lialina strongly reject the notion that users were passive before the advent of Web 2.0. For Berners-Lee, user-participation is the core of the www and Lialina shows in her research that users were very inventive in the 1990s, when they designed their homepages from scratch. See: Lialina, Olia, Dragan Espenschied, and Manuel Buerger, *Digital Folklore: to computer users, with love and respect*, (Stuttgart: Merz & Solitude, 2009) and: Lialina, Olia, and Dragan Espenschied, 'One Terabyte of Kilobyte Age: Digging through the Geocities Torrent' <<http://contemporary-home-computing.org/1tb/>> [accessed 25 March 2014]

²⁶ As he wrote later, Howe developed the term already in 2005 together with his colleague and co-editor Mark Robinson in preparation for the article in *Wired*.

²⁷ In both cases, others were involved in the coinage too: Dale Dougherty in the case of 'Web 2.0' and Mark Robinson in the case of 'crowdsourcing'.

²⁸ An attitude not unlike that represented in the 'Cluetrain Manifesto' by David Weinberger et al. from 1999.

²⁹ Howe, Jeff, 'Crowdsourcing: A Definition', 2006 <http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html> [accessed 22 January 2013]

(FLOSS).³⁰ Variations of the sound bite version even suggested that crowdsourcing is ‘like Wikipedia, but with everything’ – an interpretation also at the core of Don Tapscott’s management book *Wikinomics*.³¹ The problem with the sound bite version is that it conflates crowdsourcing with what Yochai Benkler has defined as *commons-based peer production*, already in 2002.³² I will come back to this important point in chapter three. For now it should suffice to say that the results of crowdsourcing are typically neither open nor do they become part of the commons at the end of the creation process. The contributors in crowdsourcing – *the crowdsourcees* or *crowdworkers* – do not produce something primarily for themselves, their peers or the greater public but for *the crowdsourcer*, a private entity, typically a company, which is not part of the crowd but hires its members from an outside position. The crowd is encouraged to produce something according to someone else’s *brief* and in a predefined *time frame*. In *commons-based peer production*, self-organised individuals solve problems and produce things for themselves and for their community of peers, the fruits of the labour become part of the commons. This difference can thus be distilled as: peer-to-peer vs. crowd-to-company – or – many-to-many vs. many to few.

Even though there is a grey area at the intersection of both concepts and even though many people understand crowdsourcing in the sense of the sound bite version as an overarching concept, I argue that it is crucial to maintain and emphasise the distinction. I will therefore build on the ‘white paper version’ of the definition, also because it makes clear that crowdsourcing is about work that once had the form of a regular job and is now being outsourced to a *large, undefined* and *open* group, the important parameters lost in the OED definition. While Howe’s double definition causes some confusion, his original article in *Wired* made unmistakably clear that it was not commons-based peer production that he had in mind. With its etymological roots in ‘outsourcing,’ the term crowdsourcing has a lineage of cheap labour written right into its DNA:

Welcome to the age of the crowd, (where) [...] distributed labor networks are using the Internet to exploit the spare processing power of millions of human brains. [...] The labor isn’t always free, but it costs a lot less than paying traditional employees. It’s not outsourcing; it’s crowdsourcing.³³

Howe’s book *Crowdsourcing: How the Power of the Crowd is Driving the Future of Business*, which followed his article three years later, continued this emphasis on the commercial exploitation of the crowd’s labour.³⁴ As a consequence of understanding crowdsourcing in this narrow sense of outsourcing labour to an online crowd for commercial purposes, I will exclude several similar phenomena, such as ‘crowdfunding’ and the ‘sharing economy’ from the detailed discussion in this thesis. Even though they are often mixed up, I regard it as crucial for the debate to keep them separate. In the beginning of chapter three, I will briefly map out the adjacent concepts surrounding crowdsourcing and

³⁰ ‘Free Software’ is the older term, developed and propagated by Richard Stallman, ‘Open Source Software’ has a different emphasis and was popularised by Tim O’Reilly. There is an on-going dispute between the two camps. ‘FLOSS’ is the all-encompassing politically correct term now sometimes used. See also chapter 2.6 in this thesis.

³¹ Tapscott, Don, and Anthony D Williams, *Wikinomics: How Mass Collaboration Changes Everything* (London: Atlantic, 2008)

³² Benkler, Yochai. ‘Coase’s Penguin, or Linux and the Nature of the Firm’. *The Yale Law Journal*, 112 (2002).

³³ Howe, Jeff. ‘The Rise of Crowdsourcing.’ *Wired*, June 14, 2006. <http://www.wired.com/wired/archive/14.06/crowds.html>.

³⁴ Howe, Jeff. *Crowdsourcing: how the power of the crowd is driving the future of business*. London: Random House Business, 2009.

make clear distinctions between the different branches. They are rich fields of research in their own right, but this thesis is concerned primarily with the crowd as a source for creative labour and ideas.

When trying to understand how crowdsourcing evolved so quickly from a niche web phenomenon to a global industry that now affects millions of workers, it is important to keep the bigger picture of the last economic crisis after 2008 in mind. In their much discussed paper ‘The Future of Employment’, two researchers from the Engineering Science department at Oxford University, Carl Benedikt Frey and Michael A. Osborne asked the question: ‘How susceptible are jobs to computerisation?’³⁵ They showed that in the time after the meltdown of the financial industry in late 2008, the global economy, and especially that of the US, experienced a ‘jobless recovery’. Productivity and profits of the economy have recovered quickly and are now higher than before the crisis, while unemployment rates across the world are still very high. Out of necessity, companies in the developed world found ways to achieve more with less – essentially more profit with less people. Frey and Osborne argue, that this was made possible by an unprecedented degree of automation through advanced computerisation and they see this as a trend that continues to gain momentum. In their analysis, they look at the entire spectrum of job sectors in regard to the extent to which each sector can probably be automated in the next two decades. For this, they built on the task categorisation of David H. Autor, professor for economics at MIT, who ‘distinguishes between workplace tasks using a two-by-two matrix, with routine versus non-routine tasks on one axis, and manual versus cognitive tasks on the other.’³⁶ Previously, it had predominantly been the manual, routine tasks that were suited for automation, but through substantial advances in – and the combination of – ‘big data’, sensor-technology, robotics and algorithms, also non-routine and cognitive tasks are more likely to get automated. Google’s new fleet of self-driving cars is just one vivid example of this trend, and also Uber announced that it is working towards getting rid of the human drivers at some point.³⁷ Likewise, Foxconn, the infamous Apple-manufacturer, has revealed its plans to replace parts of its suicidal workforce in China with ten thousand ‘Foxbots’.³⁸ As Terry Gou of Foxconn told reporters in July 2014, ‘Cheap labor no longer exists. Wages are the same everywhere due to the free flow of information through the Internet [...] We hope to use robots to make robots in 5 to 10 years.’³⁹ Frey and Osborne put emphasis on the fact, that they are not in the business of making technological predictions (which have a very bad track record anyway) but that they are trying to figure out very systematically which jobs could *potentially* get totally automated. The number they come up with is 47% in the next twenty

³⁵ Frey, Carl Benedikt, and Michael A. Osborne, ‘The Future of Employment: How Susceptible Are Jobs to Computerisation?’ Oxford: Oxford University Department of Engineering Sciences, 17 September 2013)

³⁶ Autor, David H., Frank Levy, and Richard J. Murnane, ‘The Skill Content of Recent Technological Change: An Empirical Exploration’, *The Quarterly Journal of Economics*, 118 (2003), 1279–1333 <<http://dx.doi.org/10.1162/003355303322552801>>

³⁷ Biggs, John, ‘Uber Opening Robotics Research Facility In Pittsburgh To Build Self-Driving Cars’, *TechCrunch* <<http://social.techcrunch.com/2015/02/02/uber-opening-robotics-research-facility-in-pittsburgh-to-build-self-driving-cars/>> [accessed 28 February 2015]

³⁸ In 2010, more than a dozen Foxconn workers at the company’s largest plant in Shenzhen committed suicide by jumping from the factory rooftops – arguably because of the harsh working conditions. Foxconn reacted with installing safety nets around its buildings and by making the workers sign an agreement not to kill or harm themselves. See: Johnson, Joel, ‘1 Million Workers. 90 Million iPhones. 17 Suicides. Who’s to Blame?’, *Wired*, 28 February 2011 <http://www.wired.com/2011/02/ff_joelinchina/all/> [accessed 15 January 2015]

³⁹ Luk, Lorraine, ‘Foxconn Plans to Make Its Own Industrial Robots’, *Wall Street Journal*, 2014 <<http://online.wsj.com/articles/foxconn-plans-to-make-its-own-industrial-robots-1405090473>> [accessed 28 July 2014]

years. Interestingly, according to their analysis, the remaining 53% ‘are occupations that involve complex perception and manipulation tasks, creative intelligence tasks, and social intelligence tasks, which are unlikely to be substituted by computer capital over the next decade or two.’⁴⁰ Frey and Osborne describe these three areas as ‘engineering bottlenecks for computerisation’ and from the perspective of the design profession, these findings are good news.⁴¹ Arguably, good designers are by training situated right at the intersection of the three ‘engineering bottlenecks’ that prevent automation. In the words of the two researchers from Oxford:

Because creativity, by definition, involves not only novelty but value, and because values are highly variable, it follows that many arguments about creativity are rooted in disagreements about value. Thus, even if we could identify and encode our creative values, to enable the computer to inform and monitor its own activities accordingly, there would still be disagreement about whether the computer appeared to be creative. In the absence of engineering solutions to overcome this problem, it seems unlikely that occupations requiring a high degree of creative intelligence will be automated in the next decades.⁴²

But automation is only one of the macro-trends transforming the labour landscape at the moment. Tasks that can’t be automated can often be outsourced, not only to companies but also to the masses of freelancing crowdworkers online; globalisation, recession and jobless growth make it likely that somewhere around the world there is always a crowd willing to work for pennies. So, cheap labour continues to exist after all. Crowdsourcing and automation go hand in hand, with the former often preparing the way for the latter (see chapter three); and while creative labour is not well suited for automation, it is all the more susceptible for crowdsourcing (see chapter four).

*

Similar to the many overlapping but not fully interchangeable concepts that the tech-industry is using to describe new forms of content production and aggregation on the internet, there is also an array of terms, often stemming from a Marxist and Autonomist reading of these new forms of value creation: *Cognitive Capitalism* (Carlo Vercellone), *the New Spirit of Capitalism* (Eve Chiapello and Luc Boltanski), *Network Capitalism, Network Society and Information Economy* (Manuel Castells), *the Social Factory* (Mario Tronti), *Immaterial Labour* (Maurizio Lazzarato), *Free Labour* (Tiziana Terranova), *Affective Labour* (Michael Hardt), or *The Soul at Work* (Franco ‘Bifo’ Beradi).⁴³ To disen-

⁴⁰ Frey and Osborne p. 27.

⁴¹ With ‘design profession’, I mean the sum of all people who make a living by designing things, products and services, for whom these creative activities are the main source of income and a vocation with common standards. Closely connected to the design profession are its professional bodies, such as the AIGA, as well as the schools teaching design and the trade journals writing about design – all these institutions have an influence on the common standards. But I also count in people without formal training in design, autodidacts, disconnected from the established institutions, who still generate their main source of income through designing things. In contrast, when I use the term ‘amateur’ in the context of design, I mean those who design things as a hobby without serious intention to make a living from it. I use both terms, professional designer and amateur designer without a value judgement – both groups can produce design of high or low quality, depending on the context.

⁴² *Ibid.* pp. 25-26.

⁴³ Vercellone, Carlo, ‘From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism’, *Historical Materialism*, 15 (2007), 13–36 <<http://dx.doi.org/10.1163/156920607X171681>>; Boltanski, Luc, and Eve Chiapello, *The New Spirit of Capitalism* (London; New York: Verso, 2007); Castells, Manuel, *The Rise of the Network Society, The Information Age:*

tangle these different terms is beyond the scope of this thesis, and a discussion of the different historic and contemporary versions of Marxism would put the thesis off stroke. I do acknowledge, that the theories of Marx still have a lot of explanatory power but I must reduce myself here to referring to scholars who have studied the history of Marxism and its relevance for today's (digital) economy in appropriate depth.⁴⁴

During the first phase of my research, I was trapped in the 'filter bubble' of management literature praising only the innovative power of the new technologies; from the perspective of Silicon Valley, the labour discourse seems to happen on the dark side of the moon, and is practically never mentioned. The most active discourse engaging with these questions that I encountered during my research is happening under the term *digital labour* (Trebor Scholz), the most important aspect of this concept is, that work and play on the internet have become almost indistinguishable forms of value creation.⁴⁵ I regard *crowdsourcing* in general and *crowdwork* in particular as core methods used to organise *digital labour* (for a detailed distinction see chapter three). My work is certainly connected to or even situated within the digital labour discourse, however, I keep thinking that being 'digital' is only one important prerequisite, but not the crucial novelty about the new forms of labour that this thesis is about. After all, the design work that I did ten years ago was also digital and I uploaded it onto my website or transferred it via email – but it wasn't initiated, orchestrated and harvested through centralised platforms on the internet. Thus, in order to emphasise the structural novelty (new as in ten years old) in the way work and play is organised via the internet, I decided to adopt the novel and yet relatively undefined term *platform capitalism*. To my knowledge, the term first appeared in a presentation by Martin Kenney, Professor of Human and Community Development at the University of California Davis, who wrote, addressing questions of digital labour, crowdwork, the 'sharing economy' and the gig economy: 'The assembly line gives you the corporate capitalist (and industrial union). The Cloud gives you the platform capitalist (and contingent labor).'⁴⁶ The term was then picked up by the German journalist, internet expert and business consultant Sascha Lobo in a column for

Economy, Society, and Culture, v. 1, 2nd ed., with a new pref (Chichester, West Sussex ; Malden, MA: Wiley-Blackwell, 2010); Lazzarato, Maurizio, 'Immaterial Labor', *Generation Online*, 1997 <<http://www.generation-online.org/c/fcimmateriallabour3.htm>> [accessed 14 January 2013]; Terranova, Tiziana, 'Free Labor: Producing Culture for the Digital Economy', *Electronic Book Review*, 2003 <<http://www.electronicbookreview.com/thread/technocapitalism/voluntary>> [accessed 17 January 2013]; Berardi, Franco, *The Soul at Work: From Alienation to Autonomy*, Semiotext(e) Foreign Agents Series (Los Angeles, CA: Semiotext(e), 2009); Hardt, Michael, 'Affective Labor', *Boundary 2*, 26 (1999), 77–88

⁴⁴ Piketty, Thomas, *Capital in the Twenty-First Century* (Cambridge Massachusetts: The Belknap Press of Harvard University Press, 2014); Fuchs, Christian, *Digital Labour and Karl Marx*, 2014; Fuchs, Christian, and Sebastian Seignani, 'What Is Digital Labour? What Is Digital Work? What's Their Difference? And Why Do These Questions Matter for Understanding Social Media?', *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, 11 (2013), 237–93; Neilson, Brett, and Rossiter, 'FCJ-022 From Precarity to Precariousness and Back Again: Labour, Life and Unstable Networks', *The Fibreculture Journal*, 2005 <<http://five.fibreculturejournal.org/fcj-022-from-precarity-to-preciousness-and-back-again-labour-life-and-unstable-networks/>> [accessed 27 March 2015].

⁴⁵ Scholz, Trebor, 'What the MySpace Generation Should Know about Working for Free', 2007 <<http://collectivate.net/journalisms/2007/4/3/what-the-myspace-generation-should-know-about-working-for-free.html>> [accessed 12 April 2013]; Scholz, Trebor, *Digital Labor: The Internet as Playground and Factory* (New York: Routledge, 2013); Scholz, Trebor, 'Digital Labor: Sweatshops, Picket Lines, Barricades', conference at *The New School*, Nov. 2014 <<http://digitallabor.org/>> [accessed 27 March 2015]

⁴⁶ Kenny, Martin, 'Rethinking Labor (and Capital) in the Era of the Cloud', 2014 <<http://www.etla.fi/wp-content/uploads/BRIE-ETLA-29-Aug-2014-Pres-2-Kenney.pdf>> [accessed 1 December 2014]

Spiegel Online, partly building on a blog-post by the German journalist Julius Endert;⁴⁷ it was then further discussed by the German media scholar Sebastian Olma on the website of the Amsterdam-based Institute of Network Culture.⁴⁸ Analysing the digital economy through the lens of platform capitalism shifts the focus of the debate to this new form of centralised power. It is the maintenance of a global internet platform that unites almost all successful online businesses from Google, Amazon, Facebook and Apple to Uber and Airbnb. These corporations do not simply provide marketplaces, within which buyers and sellers can do business on their own terms; instead they aggregate all sellers of products and services on one side of the platform and sell their clients access to these online crowds, to conditions that the platform providers determine and for a ‘rake’, or percentage of all transactions that go through the platform. Apple, for example, takes thirty per cent of all sales developers make by selling applications through the App store, but the company from Cupertino also controls what can be sold and what users are allowed to install on their Apple products. Uber is determining the price that its drivers are allowed to charge as well as the percentage that it takes from the drivers.

In platform capitalism, there are always three groups of stakeholders: The platform providers (the tiniest and strongest party, owning the software, making the rules, controlling the communication, taking a fee, often from both other parties), its clients are the buyers (who profit from the cheap supply of labour and the convenience the platform offers them), and the sellers or crowds, who despite of being the largest group are also the weakest, most disadvantaged, because the individuals in this group all stand in direct competition and have to underbid each other. The platforms make it very easy for anyone to become a driver, an app-developer, a designer, a hotelier etc. – and through that, amateurism is flourishing and is putting a lot of pressure on professionals in all of these areas. The result is a race to the bottom for those selling their labour or the fruits thereof. The platform monopolies that can grow very quickly because they can easily underbid the price traditional companies have to take for similar services. This is possible because traditional companies have to pay their workers enough to make a living, they are legally bound to the labour standards of the country they are based in, they have to maintain physical assets like for example taxis or hotel rooms which have to fulfil safety standards and they have less ‘innovative’ tax-avoidance schemes than for example Apple or Amazon. In addition to the three parties actively and deliberately involved in the business models of platform capitalism, also individuals, companies and eventually even governments and welfare systems are affected by it. Crowdsourcing is just one method in this larger shift, but analysing its workings reveals structures that can be found in many areas of platform capitalism.

The term platform capitalism is useful as a rhetorical device to emphasise that we have reached a new phase in digital culture. For decades, digital tools were imagined and designed from the

⁴⁷ Lobo, Sascha, ‘Auf dem Weg in die Dumphinghölle – Sharing Economy wie bei Uber ist Plattform-Kapitalismus’, *Spiegel Online*, 3 September 2014 <<http://www.spiegel.de/netzwelt/netzpolitik/sascha-lobo-sharing-economy-wie-bei-uber-ist-plattform-kapitalismus-a-989584.html>> [accessed 3 September 2014]; Endert, ‘Von Der Sharing-Lüge und Anderen Internet-Märchen’, *JBlog*, 2014 <<https://navigareneesseest.wordpress.com/2014/09/02/von-der-sharing-luge-und-anderen-internet-marchen/>> [accessed 27 March 2015]

⁴⁸ Olma, Sebastian, ‘Never Mind the Sharing Economy: Here’s Platform Capitalism’, *Institute of Network Cultures*, 16 October 2014 <<http://networkcultures.org/mycreativity/2014/10/16/never-mind-the-sharing-economy-heres-platform-capitalism/>> [accessed 28 February 2015]

perspective of the individual user and marked as empowering and emancipatory. Indeed, people were (and still are) empowered by owning the means of digital production, but now this production is happening more and more on centralised, monopolistic, profit-oriented online platforms, and with this development, a lot of power went from the users to the platform providers. Often, these platforms are also described as digital tools, but it is crucial to acknowledge that they are tools of a higher order, tools that are used by three parties but that are typically controlled only by the party who build it.

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Above, I have already written about the varying definitions of crowdsourcing, but also the term ‘design’ is an overused and slippery term that means different things to different people, depending on the context. It ranges from: everything done with a purpose or intent, such as the planning or plotting of a scheme; the development and definition of the shape and functionality of a new physical, mass-produced object through drawings, prototypes and blueprints; the stylish beautification of a specific *design*-edition, for example of furniture, that is meant to stick out from the ‘normal’, seemingly un-designed products, justify higher prices and boost sales; and it ends with things like ‘nail-design’, where fancy patterns and visual effects are airbrushed on fingernails or any other surface without structurally changing anything about the thing itself. As they say on the internet: ‘If it exists, there is porn of it’ (it’s called rule #34). It seems that the same holds true for design. Of everything that is conceivable, there is a design version of it. Google delivers 333 million results for the search term ‘porn’, 2 billion for ‘sex’, but 4,1 billion results for the term ‘design’.

Of course there are the many design disciplines, which overlap and constantly breed new hybrids: fashion design, product design, communication design, interaction design, textile design, vehicle design, game design, animation design, graphic design, furniture design, landscape design, service design etc.. It has probably become clear by now, that I can’t provide a general, all-encompassing definition of design here. But I do regard it necessary to write a few lines about my own understanding of design, especially in the context of crowdsourcing.

My understanding of design is strongly influenced by the Swiss sociologist and design theoretician Lucius Burckhardt (1925-2003), especially by his essay ‘Design is Invisible’, written in 1980.⁴⁹ Burckhardt’s essay in turn was influenced by the Austrian philosopher, catholic priest and radical social critic Ivan Illich (1926-2002), in particular by his book *Tools for Conviviality*, first published in 1973.⁵⁰ Both thinkers were concerned with the design of institutions such as hospitals and schools and their impact on society; they emphasised the fact that all institutions are man-made and can thus be re-designed in order to be truly of service to the people instead of being machines geared towards continuous growth and profits in a capitalist society. Both essays offer a framework for analysing design

⁴⁹ Burckhardt, Lucius, ‘Design ist unsichtbar’, 1980 (‘Design Is Invisible’): First published by: ed. by Helmuth Gsöllpointner, Angela Hareiter, and Laurids Ortner (Wien, 1981); Denton, Jill, tran., *Lucius Burckhardt Writings Rethinking Manmade Environments. Politics, Landscapes & Design* (Springer Vienna Architecture, 2012); available online: <http://www.lucius-burckhardt.org/English/Text/Lucius_Burckhardt.html>

⁵⁰ Illich, Ivan, *Tools for Conviviality*, Open Forum (London: Calder and Boyars, 1973)

from an ethical and social perspective and I am going to build on this in order to analyse the ethics of the design of crowdsourcing.

Lucius Burckhardt's 'Design is Invisible' is a critique of design understood merely as a succession of objects. He was very critical of the designerly impulse to solve every problem that one encounters in the real world with the creation of a new discreet object or the improvement of form and functionality of an existing one. Instead of dividing the world into discreet objects, Burckhardt argued that it should be analysed as a succession of interlocking and nested systems (or institutions) that include also invisible but nevertheless man-made components. One of his examples is the street corner which 'encompasses, above and beyond the visible dimension, elements of an organizational system comprised of bus routes, timetables, magazine sales, traffic light sequences and so on.'⁵¹ An intervention to improve the design of such a system that includes a bus stop and a newsstand should not stop with a simple redesign of its visible, physical components but must also expand to invisible things like the pricing structure of magazines so that someone who has to catch a bus can buy them quickly and conveniently. It is not necessarily the best solution to replace the newsstand with a fancy vending machine – in any case, such a design decision has social implications for the system of the street corner that stretch far beyond the potential shape of the vending machine.⁵² Burckhardt criticised that within the restrictions of a typical design brief, designers often lack the freedom to question the systemic dimension of the social institutions into which they intervene; they are instead reduced to coming up with merely a new and seemingly better designed object, within very narrow parameters – even when yet another object, no matter how well designed, might make things worse when taking the whole system into consideration. Thus Burckhardt called for a new 'socio-design' that would transcend the fixation on objects and would emancipate designers to intervene on the level of institutions, which are best described as systems of interpersonal relationships.

I think that in the early 1980s, it was incomparably harder for designers to substantially intervene on the level of interpersonal relationships; but now that networked digital technology reaches into every nook and cranny of our society, the design of social systems and platforms, often by small groups of designers and engineers, can have a huge economic and interpersonal impact on a global scale – think of Wikipedia or Pirate Bay, and especially Airbnb and Uber.⁵³ Obviously, these digital tools, which have grown into platforms and thus have become tools for a small elite of platform providers, have designed interfaces with a specific aesthetic; but *much more relevant than the shape, colour and style of countless buttons, scroll-bars and windows are the invisible power structures and social relations of which they are the visual expression.*

⁵¹ Burckhardt, 'Design is Invisible', 1980; the quotes that I use here and in the following paragraphs stem from the English version of the text linked in the previous footnote; that version of the text has no pagination.

⁵² Burckhardt's systemic perspective on the interplay of humans, objects, institutions, rules and conventions is at times reminiscent of Bruno Latour's Actor-Network-Theory (ANT), in the sense that also things, even immaterial things, can have a strong agency and form interconnected social systems when they are used by humans.

⁵³ Often, these platforms are founded by people with a business or engineering background, but the founders of Airbnb met as industrial students at the Rhode Island School of Design.

In interface design as well as in logo design, the trend as of 2014 is to abandon skeuomorphism – the imitation of materiality and three-dimensionality of the physical world – in favour of flat and abstract designs.⁵⁴ This can be read as a sign for digital technology and its users growing up and not having to rely on visual cues from previous technologies anymore. A car doesn't have to look like a carriage and a digital notepad doesn't have to look like a bunch of leather-bound paper pages. But I don't care so much about whether the surface of my digital reading device imitates a wooden bookshelf or not – I care about whether it allows me to extract passages that I want to quote or send a copy to a friend; under what *terms of use* the tool allows me to read content from the digital bookstore that it is connected to; and whether it reports what I am reading, when, how fast and what I am highlighting to the company that owns the platform. This is the case with Amazon's Kindle – no matter if I use the physical gadget by that company or the application of that name on a device like the iPad. The point is that the physical and the digital features of a device – what it allows me to do, what it reports about me and to whom, and how well it communicates its doings and my options to me – can all be described as *politics of the interface* as well as *politics of design*. Formerly physical objects with hardwired buttons have become software, they have migrated behind the touch-screen of *smart* multifunctional gadgets; here, they are often controlled remotely by the manufacturer without the user being asked or informed about it. (In 2009, Amazon famously deleted George Orwell's *Nineteen Eighty-Four* from the Kindle devices of users who had previously bought the ebook from the company.⁵⁵)

In my understanding of design, these are all design issues – decisions about functionality with huge social implications. I very much agree with Lucius Burckhardt that the responsibility and potential of design must not stop at the shape and surface of things and I think that his approach is even more relevant today than it was in the 1980s because the social impact of immaterial and invisible features of designed things has increased substantially through digital technology. There has been a power shift from autonomous tools for individual use to platforms that orchestrate a gamut of possible social roles and interactions via their respective interfaces; and Lucius Burckhardt as well as Ivan Illich provided a framework to think about the ethics and politics of these systems as problems of design. In that sense, this thesis is as much about the design of crowdsourcing platforms as it is about the crowdsourcing of conventional graphic design tasks like the development of logos (the latter is primarily the subject of chapter four).

As Burckhardt points out: 'Jobs are also designed; not only in the traditional sense of design but in terms of the way the production process is broken down into various types of task, which actively demand or render redundant the laborers' skillsrange, and foster or hinder cooperation.'⁵⁶ This type of design decisions in the context of digital platforms (which are completely man-made, contingent and thus should be subject to deliberation and social redesign) is what this thesis is mainly about. Building on Illich, Burckhardt asserts that designed objects are not neutral but can potentially be evil; they either impede social interaction or be *Tools for Conviviality*.

⁵⁴ For example, Apple's Game Center app abandoned the fake materiality of felt and wood, and its Calendar is not bound in virtual leather any longer.

⁵⁵ Stone, Brad, 'Amazon Erases Orwell Books From Kindle', *The New York Times*, 18 July 2009, section Technology / Companies <<http://www.nytimes.com/2009/07/18/technology/companies/18amazon.html>> [accessed 25 January 2015]

⁵⁶ Burckhardt, 'Design is Invisible', 1980

Is there such a thing as evil objects? Goods are harmful when they foster our dependence on systems that ultimately pillage our resources, or desert us. Without doubt we are all attached to such systems, and this makes us liable to blackmail. However we can still influence the extent of our dependency. We should avoid those objects that compel us to buy more accessories. We should distrust media that provide a one-way flow of information, even though we can no longer do without them. We should exercise restraint in buying and using any goods that isolate us.⁵⁷

Here, Burckhardt looks at the problem through the eyes of the *consumer*; a figure that later was transformed into a *user*, a ‘*prosumer*’ and even a *crowdworker*. But the essential ethical problems of *centralisation*, *dependency*, *isolation*, *asymmetric flows of information*, and *exploitation* are even more prevalent within digital systems than they had been for the consumer of physical goods. Decentralisation and refraining from trying to solve every problem with the design of new objects or tools are two of the remedies he suggested. Burckhardt encouraged designers to understand ‘invisible design’ as ‘design that consciously takes into account the invisible overall system comprised of objects and interpersonal relationships.’ This is also the perspective that I take for my critique of crowdsourcing platforms as designed systems with a social impact.

As mentioned above, Lucius Burckhardt was strongly influenced by Ivan Illich’s book *Tools for Conviviality*, which circles around the design of institutions, the social impact of technical innovation, the limits to industrial growth in a capitalist society and the fair distribution of wealth and power in a globalised and industrialised world. Illich was born in Vienna in 1926, studied in Florence, Rome and Salzburg, in his twenties he moved to New York where he worked with Puerto Rican immigrants; he then moved to Puerto Rico and travelled through South America in the late 1950s; in 1961 he settled in Cuernavaca in Mexico, where he founded a research centre and language school, the Centro Intercultural de Documentación (CIDOC). I can’t get into the details of Illich’s biography here, but the important point is that his philosophy was formed by studying for many years how Western industrial nations imposed their value system through export of industrial tools and institutions upon so-called third world countries like those he had travelled in South- and Central America.⁵⁸ Through his first-hand experience of this cultural and technological imperialism, Illich developed an ethics of tool use that evaluates their social impact from the perspective of individuals and local communities in the global South. Illich’s philosophy is pertinent for the subject of this thesis because it forms an important opposition to the world view of utopian technological determinism that has evolved from the counterculture scene around the *Whole Earth Catalog* into an ideology that today is common in the rhetoric coming from Silicon Valley through publishing outlets such as *Wired* magazine and O’Reilly Media. I will discuss this in detail in chapter two; here it must suffice to say that the Californian techno-utopian view is trying to solve all social, political and ecological problems with continuously more advanced digital tools; this world view is characterised by a strong belief in technological progress and a lack in reflexivity regarding long-term unwanted social side-effects of rolling out certain technologies globally; most importantly it is an explicitly libertarian ideology that sees all forms of gov-

⁵⁷ *Ibid.*

⁵⁸ Gajardo, Marcelo, ‘Ivan Illich’, *Prospects: The Quarterly Review of Comparative Education*, UNESCO: International Bureau of Education, XXIII (1993), 711–20

ernment intervention as a problem generally hindering entrepreneurial ventures. Hardliners like venture capitalist Peter Thiel (Facebook, PayPal, Seasteading) have openly declared that they want technology to overcome politics. In Thiel's world view, the (deeply anti-democratic) technology-corporations are a model to replace representative government and get things done more efficiently.⁵⁹

As I will show later in the thesis, it is very insightful for our understanding of digital tools and platforms to compare Ivan Illich's concept of convivial tools with that of the countercultural hippies and hackers in the 20th century and with that of current crowdsourcing advocates. I will use Illich's and Burckhardt's tool ethic as a framework to develop an ethic of crowdsourced creative work. Since crowdsourcing today is a truly global phenomenon that thrives on the inequalities of income and influence between developing and developed countries, it is instructive that Illich thinks tools not from the perspective of the savvy Western tech-entrepreneur but from that of the disenfranchised people in 'emerging markets'. Their perspective is crucial for the evaluation of crowdsourcing; it would be a fallacy to only see the phenomenon through eyes of highly educated and well-connected Western professionals. Crowdsourcing might be perceived as a threat to established professions but could offer an opportunity for all those previously excluded by high entry barriers such as academic degrees.⁶⁰

For Ivan Illich, new technological tools can be constructive or destructive for society. They can also be constructive at first, but turn out to be destructive over time. Illich sees a connection between the potential destructiveness of a tool and the scale of its application. In his view, tools that are rolled out globally at an industrial scale tend towards being destructive on the local level and in the long run also in regard to the sustainability of the whole system. The question we must therefore ask is whether a new technology solves more problems than it creates. According to Illich, it is not uncommon for new technologies to go through what he calls 'two watersheds' – a first turning point at which the productivity and usefulness of a tool is substantially increased through industrial methods so that it can be beneficial to most people, and a second turning point, later in the development, at which the focus on growth, efficiency and quantification of outputs is scaled up to such an extent that the balance between positive and negative social consequences is reversed again. Two of the examples, where Illich has identified such turning points are healthcare and mobility. In the first example, Western medicine reached its first watershed when cures against age-old diseases and primary health care became accessible to a large part of the population and its second watershed when hospitals became extremely expensive institutions focussing their financial resources primarily on the prolonging of life through high-tech machines for the richest people in society. In the second example, transportation became cheap, accessible and useful for the broad population through the railroad system and reached a second watershed with private cars that demanded expansive highway systems, with detrimental effects on the environment and the quality of life on various levels. I will discuss later in the

⁵⁹ Meerman, Marije, 'Cybertopia: Dreams of Silicon Valley', *Tegenlicht / Backlight*, 2015
<<http://tegenlicht.vpro.nl/backlight/cybertopia.html>>

⁶⁰ Probably, Ivan Illich would have been all in favour of the erosion of professions and the devaluation of academic degrees that crowdsourcing can cause, as he advocated a 'deschooling' of society, in the sense that expensive degrees should not be used as entry barriers to keep the poor out of certain professions, but he would certainly not have been in favour of the centralisation of power that is another consequence of commercial crowdsourcing platforms. See: Illich, Ivan, *Deschooling Society: Social Questions*. (Marion boyars Publishers, Inc., 1999)

thesis whether such turning points can also be identified in the history of online collaboration. The dissemination of personal computing, with its focus on the empowerment of the individual user could be regarded as a first watershed – widespread access to decentralised digital tools (around 1984) or the world wide web (around 1995). The shift of perspective from the individual user to crowds of users in their aggregate form, characterised by the rise of centralised online platforms ‘for the crowd’ and ‘in the cloud’, could be regarded as the second watershed (around 2006). In regard to the mind-set of those designing the new technological tools, the shift from thinking about how to best create productive tools for the individual user to creating platforms to harness the creativity and productivity of crowds of users can hardly be overestimated.

The second watershed is the point at which an infrastructural change in scale and quality on a global level leads to an increase in negative consequences on the individual as well as on the social level. To be very clear here: of course these shifts are always multifaceted in their consequences and never just good or bad. I agree with Illich though, that as a society we need to have a keen eye on the long-term balance between negative and positive consequences of our technological tools and keep in mind who has to eventually bear their social cost. The constructive and social tools, which solve more problems than they create are what Ivan Illich calls *Tools for Conviviality*.

Structure and methodology of the thesis

In 2006, I wrote a long essay about the design of virtual worlds and in particular about the user-generated content of Second Life, a simulated three-dimensional online platform that provided its users with nothing but digital tools and an empty space for uninhibited creation. A new world of design was in the making, one which was not organised in the expert driven, top-down manner typical for large design projects; instead it was ‘crowdsourced’ to its inhabitants who managed the giant task in an eclectic, chaotic, bottom-up, participatory manner. Despite the striking ugliness of the results, to me, this approach had huge utopian potential. As Robert Venturi and Denise Scott Brown, who in 1972 argued that architecture had a lot to learn from Las Vegas, I argued that design had a lot to learn from the virtual *junkspace* of Second Life.⁶¹ My essay won an award for design criticism and was published as a book at exactly the right point in the ‘hype cycle’ of Second Life, briefly before the inflated expectations peaked and the virtual world experienced a great exodus.⁶² Although critical of many aspects of that particular platform, the book was infused by optimism and a strong belief in the emancipatory power of free access to digital design tools. It was also completely ahistorical. I had been following the development of the internet closely only for four years and when I wrote about virtual worlds, I mistakenly treated them as something genuinely new, ignoring the long history of text-based virtual worlds, reaching back until the 1980s.⁶³ My book was successful, but it only captured a very brief and odd moment in web-history and thus had a very short shelf life. Only a year or two after its publication, hardly anybody was interested in virtual worlds anymore. Web 2.0 wasn’t followed by Web 3D, but by platform capitalism in the form of two-dimensional social networking and by commercial crowdsourcing.

When I started working on this thesis, I was drawn to the work of researchers who had studied virtual worlds with an ethnographic approach, especially Tom Boellstorff, Professor for Anthropology at the University of California, Irvine, and his book *Coming of Age in Second Life*, a title that echoed Margret Meads’ classic anthropological study *Coming of Age in Samoa*.⁶⁴ I was also influenced by Julian Dibbell, a technology journalist who, as a self-experiment, quit his job to make a career within the ‘virtual’ economies of online games and who subsequently published the book *Play Money*, about his experiences as a participant observer in these communities.⁶⁵ My original plan was to do something similar with crowdsourcing platforms for design; that is, to take them seriously as workplaces of the future and to become a worker on them as a self-experiment. In 2012, I started

⁶¹ Venturi, Robert, Denise Scott Brown, and Steven Izenour, *Learning from Las Vegas: The Forgotten Symbolism or Architectural Form* (Cambridge, Mass.: MIT Press, 1988)

⁶² Schmidt, Florian A., *Parallel Realitäten*, Designkritische Texte (Sulgen: Niggli, 2006). The award was the ‘Braun-Feldweg Förderpreis für designkritische Texte’ <<http://www.bf-preis.de/start/index.php?page=dokumentation&jahr=2006>> [accessed 30 March 2015]

⁶³ Bartle, Richard A., *Designing Virtual Worlds* (Indianapolis, Ind: New Riders Pub, 2004)

⁶⁴ Boellstorff, Tom, *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human* (Princeton, N.J.; Woodstock: Princeton University Press, 2010); Mead, Margaret, *Coming of Age in Samoa: A Psychological Study of Primitive Youth for Western Civilisation* (New York: Perennial Classics, 2001); another influences for me were: Taylor, T. L., *Play Between Worlds: Exploring Online Game Culture* (Cambridge, Mass.; London: MIT, 2009) and Castronova, Edward, *Synthetic Worlds: The Business and Culture of Online Games* (Chicago: University of Chicago Press, 2005).

⁶⁵ Dibbell, Julian, *Play Money, Or, How I Quit My Day Job and Made Millions Trading Virtual Loot* (New York; London: Basic Books ; Perseus Running, distributor], 2007)

opening accounts on several platforms for contest-based creative crowdwork, namely on OpenIDEO, Threadless, Quirky, 99designs and jovoto and began participating by contributing my own designs to these contests, documenting my progress in a field diary, while also reading up on how to apply ethnographic methods within online communities.⁶⁶

In May 2012, I had a formal tutorial with Dr. Lane DeNicola, at the time a lecturer at the Anthropology Department of the University College London, in order to get advice on the ethical implications of my ethnographic approach. The conversation revolved around the question of using a pseudonym username for my work on the platforms and about whether I had to anonymise the names of people I was writing about. Lane DeNicola regarded my methodological approach as ethically unproblematic and sound and the anthropologist Stefana Broadbent, who later joined our discussion, shared his estimation. Important points were that I wasn't acting under a false pretence, that I actually was a designer, that I was neither taking on a false identity nor hiding the fact that I am also a researcher but also that I wouldn't inform everyone I was interacting with in advance that I am a researcher, as this would have skewed the conversations. Pseudonyms are common on these platforms, the conversations there are semi-public anyway and do rarely, if at all, touch on sensitive personal information.

In November 2012, I took part in a three-day design ethnography methods workshop led by design anthropologist Jo-Anne Bichard from the Helen Hamlyn Centre for Design at the RCA, Hilary Dalke, director of the Design Research Centre at Kingston University and the business anthropologist Dr. John Curran.⁶⁷ This provided me with the opportunity to discuss fruitfully my intended methodological approach with senior experts and fellow researchers at the intersection of design and ethnography.⁶⁸ At that time, I thought it would be a great advantage that I was both a designer and a researcher, because it would allow me to conduct my analysis through participant observation from the perspective of a creative crowdworker. Seemingly, everything was going according to the plan, I spent a lot of time on the platforms, filling my field diary with endless notes, until I realised that it had been the wrong plan in the first place. Eventually, I decided to abandon the ethnographic approach for the following reasons: first of all, it occurred to me that I was about to step into the same trap that I had

⁶⁶ Miller, Daniel, and Don Slater, *The Internet an Ethnographic Approach* (Oxford; New York: Berg, 2000)

<<http://site.ebrary.com/id/10006782>> [accessed 11 March 2012]; Miller, Daniel, *Tales from Facebook* (Cambridge, UK; Malden, MA: Polity Press, 2011); Horst, Heather A., and Daniel Miller, eds., *Digital Anthropology*, English ed (London; New York: Berg, 2012); Boellstorff, Tom, ed., *Ethnography and Virtual Worlds: A Handbook of Method* (Princeton: Princeton University Press, 2012); Emerson, Robert M., *Writing Ethnographic Fieldnotes*, Chicago Guides to Writing, Editing, and Publishing, 2nd ed (Chicago: The University of Chicago Press, 2011); Brown, Brian, and Anabel Quan-Haase, 'A Workers' Inquiry 2.0: An Ethnographic Method for the Study of Produsage in Social Media Contexts', *tripleC: Communication, Capitalism & Critique*, 10 (2012), 488–508. Berg, Bruce L., *Qualitative Research Methods for the Social Sciences*, 7th ed (Boston: Allyn & Bacon, 2009)

⁶⁷ 'Skills Development for Researchers in Design Practice | Design Ethnography', 2012 <<http://skip.rca.ac.uk/workshops/design-ethnography/>> [accessed 30 March 2015]

⁶⁸ Laurel, Brenda, ed., *Design Research: Methods and Perspectives* (Cambridge, Mass: MIT Press, 2003), in this book: Plowman, Tim: 'Ethnography and Critical Design Practice', p. 30–39. Barab, Sasha A., Michael K. Thomas, Tyler Dodge, Kurt Squire, and Markeda Newell, 'Critical Design Ethnography: Designing for Change', *Anthropology & Education Quarterly*, 35 (2004), 254–68. Wasson, Christina, 'Ethnography in the Field of Design', ed. by Society for Applied Anthropology, *Human Organization*, 59 (2000), 377

already stepped in a few years before with my work on Second Life. I was writing about platforms that might not even exist anymore at the end of my research, and I was conducting this research in an ahistorical manner, treating the platforms as a total novelty. I realised that an analysis of the historic development of these structures and the discourses which accompany them would be far more instructive than a snapshot of the present.

More importantly, my experience of working as a designer on the platforms was very frustrating, not just because of the extent of wasted effort inherent to the contest model but also because of the extra layer of affective labour necessary to thrive in these environments; all the rating, commenting, befriending, social networking that is essential on the more elaborate platforms for contest-based creative crowdwork. I realised, that how people perceive this affective labour is to a great extent a question of personality. For many people working on the platforms, the community building is actually an investment that pays off in a heightened sense of belonging and is not regarded as an extra burden on top of the design work. But I also had to accept at some point, that I don't fit into this group of joyful networkers. The critical interrogation of these platforms, which my project required, was at variance with the kinds of emotional investment that the platform work required. I couldn't blend in with the crowd as I had originally planned, and so I discarded the writing that I produced in this phase of my research. It had become clear that the approach created an emotional bias, was too subjective and, ultimately, my work could have easily been dismissed as merely the account of a disgruntled 'Luddite' designer. In my daily practice as writer and designer, I wasn't directly affected by the platforms that I was analysing and, in contrast to what I originally believed, putting myself in the shoes of the potentially exploited crowdworkers was increasingly counterproductive for an objective analysis. From within the system, I couldn't properly examine what I found so fascinating, unnerving and puzzling about the platforms; the gap between the rhetoric of sharing, community, creativity and empowerment on one side and the precarious working conditions in the crowd on the other side. What I needed in order to capture the fast moving target of crowdsourcing was more distance; an aerial view that would allow me to analyse the platforms for creative crowdwork in their historic trajectory as well as in their contemporary variety. Most importantly, I wanted to understand what I saw as the widening gap between the actual practice of crowdwork and the lofty rhetoric that often accompanies it; and, specifically, the paradoxical conflation of the incommensurable notions of crowd, community and a winner-takes-it-all individualism.

As a consequence, I decided to trace back the two historic threads that I regard as formative for contemporary crowdsourcing: the concept of online collaboration with its promise of empowerment of the individual user and the shifting historical notion of the crowd. With my shift from hands-on action research in the thick of the platforms to a historical perspective on the development of the phenomenon, my method evolved into a form of discourse analysis, with the goal of exposing the interests at work in the way that key terms are coined and narratives are spun.⁶⁹ I have developed a

⁶⁹ Fairclough, Norman, *Critical Discourse Analysis: The Critical Study of Language* (Harlow, England; New York: Longman, 2010). Wodak, Ruth, and Michael Meyer, eds., *Methods of Critical Discourse Analysis, Introducing Qualitative Methods*, 2nd ed (London ; Thousand Oaks [Calif.]: SAGE, 2009). Schiffrin, Deborah, Deborah Tannen, and Heidi Ehemberger Hamilton, *The Handbook of Discourse Analysis* (Oxford: Blackwell, 2003)

particular interest and approach to those moments in the long history of the internet when the dominant explanations of technological change celebrate the emancipatory qualities of a technology whilst the development of the tools and platforms have already taken a different turn. In other words, I am concerned with the process by which a rhetoric or vision is hollowed out over time and comes to be used to justify a technology that, in its application, is at odds with that original vision. This form of intellectual archaeology has required the excavation of both overlooked and well known primary sources which have strong explanatory power for the current state of creative crowdwork. And, as I will show, such texts can also be reread as ‘usable pasts’; narratives that can help to question and potentially redesign the platforms in a way that is more fair and sustainable for all stakeholders.⁷⁰

I started my study of creative crowdwork in 2012 by paying close attention to the operations of platforms for the crowdsourcing of design tasks and the rhetoric that accompanies them. My research has sent me back through time, peeling back layer-by-layer, to understand their origins. The thesis, however, is structured in the chronological order in which the phenomena that I analyse have evolved. My original ethnographic approach dissolved into the background of the thesis but it has not disappeared. It has deeply informed my understanding of the platforms. Many particularities of creative crowdwork would have never come to my attention had I not participated in this type of work myself. The thesis has gained in depth through this methodological detour, but the decision to abandon it in favour of a more detached approach – which combines many different research methods, led to a richer understanding of the historic and ideological dimension of the crowdsourcing phenomenon. It turned out to be absolutely necessary to go back in time to truly understand this very contemporary and fast-changing subject.

In addition to historical texts and current academic papers from different scholarly fields, I analysed a rich and eclectic combination of textual sources to deal with the messy reality that is happening in real-time on the internet. I looked at advertising by the platforms, their on-site rules and regulations, online chat room discussions, user complaints, corporate press releases, business reports, usage data and economic statistics, either published by the platforms themselves, by third parties or deduced through my own calculations, I have also conducted a number of long formal interviews with different stakeholders – crowdworkers and platform providers in particular. I deliberately searched for a broad spectrum of sources in order to reflect the different kinds of rhetorics and narratives at play in the crowdsourcing discourse, from hyperbole sales pitch via matter-of-factual legal text to snarky sarcasm. Some of these sources are very controlled, but revealing by what they don’t say, such as a lot of the data that the platforms provide; others, like some of my interviewees, are very unguarded and candid about their motives.

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⁷⁰ On the concept of ‘usable pasts’ see: Kelty, Christopher M., *Two Bits: The Cultural Significance of Free Software* (Durham: Duke University Press, 2008), p 65.

The thesis has become a journey into the heart of darkness of the digital labour landscape. Along the way it passes the idealistic vistas of early online collaboration and maps the jungle of competing systems for the distribution of work via the internet. Towards the end, it sketches out some paths that could lead to a more agreeable work environment for crowdworkers. I started my own path as a design practitioner and undaunted enthusiast for the promises of open innovation and online collaboration. It wouldn't have occurred to me to see the emerging platforms as having the potential for exploitation. But through years of participation and observation in the field, my optimism was increasingly overshadowed, and the deeper understanding of the subject politicised my relationship to it. Towards the end of the research for this thesis, I started collaborating with the German labour union IG Metall as part of the development team for a website called FairCrowdWork.org, in order to put the insights that I have gained into practice. Some of the recommendations that I make at the very end of the thesis have been partly informed by this interaction with the union.

Nevertheless and against the designerly impulse to start producing solutions right away, the thesis is mainly analytic in character and should be understood as a contribution to the advancement of a deeper understanding of the problem of manipulation and exploitation in crowdsourcing. I see it as the necessary foundation for working on possible solutions, which is also why I deliberately decided against the option of a practice-based PhD. My work offers precise descriptions of the present state of affairs as well as an analysis of the evolution of systems and concepts that has led to this point: it also provides descriptions of the underlying general principles and mechanisms of contest-based creative crowdwork, some of which I could not have discovered had I not participated in the contests myself. But it was equally important to not reduce myself to this perspective and include and discuss as many (often contradictory) views on crowdsourcing as possible. As the design theoretician Prasad Boradkar, Associate Professor at Arizona State University writes in *Designing Things* in what is a call for disciplinary diversity:

Each disciplinary lens sets its focus on things from a perspective that is shaped by the unique purpose of its inquiry. The questions asked, methodologies chosen and results sought are determined by disciplinary know-how, and therefore the critical knowledge generated is determined by the *situation* within which the analysis is conducted. However, it is important to note that while the disciplines bring to the study of object their unique theoretical underpinnings and specific methods of inquiry, they also share some ideological biases. In fact, interdisciplinary research is founded on the notion that there are productive areas of convergence [...] among disciplines where new scholarship can emerge.⁷¹

I regard my research on creative crowdwork as being located at such an area of convergence, at the overlap of management studies, human-computer interaction research, design studies and digital labour discourse. To my knowledge, it is the only study that analyses crowdsourcing from the perspective of design, in the context of digital labour and with a focus on the ethics of these systems. It is also the only study that I know of that offers a detailed comparison of the mechanics of *cognitive piece-*

⁷¹ Boradkar, Prasad, *Designing Things: A Critical Introduction to the Culture of Objects*, English ed (Oxford, UK ; New York: Berg, 2010), p. 17-18

work with that of *contest-based creative crowdwork*. I use the former as a ground to bring to the fore the specifics of the latter. Many of my insights have been informed by empirical, qualitative research; namely, by my participation as a practitioner in the systems that I analyse. Rooted in my background as a practitioner as well as in my conviction that this is a political subject that is in dire need of a wider public discourse, it is also my firm intent to produce knowledge in a way that is accessible and of use especially outside the ivory tower of academia. Thus my work is neither theory-driven nor method-driven: instead it is probably best described with what Ian Shapiro calls a problem-based approach.⁷² I agree with Shapiro in his view (and this adds to the quote from Boradkar above) that over-specialisation produces ‘esoteric discourses’ that lose sight of their subject of study because they revolve primarily around methodology and around commenting on each other, and thus create ‘high entry costs to the uninitiated’.⁷³ With this thesis, I strive to do the exact opposite and write for both the expert and the wider audience alike, without sacrificing academic rigour.

My overarching research question that has emerged during the process as the most important one is: **Can creative crowdwork be designed in a way that is fair and sustainable for all stakeholders?** I will answer this question at the end of chapter four, and in the conclusion. I will also provide a number of recommendations for potential solutions, based on my analysis and my arguments from the previous four chapters. The first three chapters investigate the following auxiliary or preliminary research questions:

Chapter one is concerned with what a crowd is today in contrast to what it once was: **What is the relation between the historical discourse on crowds and the new connotations gained by the term after the advent of online ‘crowds’?** And can the new usage of the term ‘crowd’ be indicative for the power structures at play on contemporary platforms for online collaboration?

Chapter two deals with historic visions of tools for online collaboration that eventually transformed our understanding of crowds and paved the way for the emergence of crowdwork. The guiding question here is: **How can historic concepts of tools and platforms for online collaboration teach us to better understand, evaluate and potentially revise contemporary crowdsourcing platforms?** A subsidiary question of this chapter is: at what point in web history did the gap (demonstrated in the thesis) between emancipatory rhetoric and exploitative practices start to emerge?

Chapter three maps the contemporary crowdsourcing landscape in order to answer the question: **What differentiates the design of creative crowdwork from all other concepts in the wider crowdsourcing landscape?** This is then deepened in chapter three and four with the question: **What are the specific ethical challenges of cognitive piecework in contrast to contest-based creative crowdwork?**

⁷² Shapiro, Ian, *The Flight from Reality in the Human Sciences* (Princeton, N.J: Princeton University Press, 2005)

⁷³ *Ibid.* p. 178 f.

Chapter One: The Reinvention of the Crowd

*On whatever lines the societies of the future are organised,
they will have to count with a new power,
with the last surviving sovereign force of modern times,
the power of the crowds.*

GUSTAVE LE BON 1895⁷⁴

Seeds grow ... the crowd will have its way, eventually.

AI WEIWEI 2010⁷⁵



Fig. 3: Ai Weiwei's 'Sunflower Seeds' at Tate Modern in 2010.⁷⁶

⁷⁴ Le Bon, Gustave. *The Crowd: A Study of the Popular Mind*. Minneapolis, MI: Filiquarian Publishing, 2005.

⁷⁵ Faurschou Foundation. 'Ai Weiwei's Sunflower Seeds', 2010. <http://www.aiweiweseeds.com/about-ai-weiweis-sunflower-seeds>.

⁷⁶ Image by Loz Pycok, 2010, cc.

1.1 – OF FLOWERS FACING TO THE SUN AND SHEEP FACING TO THE LEFT

In October 2010, Tate Modern's Turbine Hall opened its doors to the art crowd for another instance of its annual series of seminal and expansive sculptural installations sponsored by Unilever, a multinational consumer goods company. Visitors encountered 1000-square-metres of the hall's vast space covered with a thick layer of sunflower seeds, a 'social sculpture' by Chinese artist Ai Weiwei. What looked like a rich harvest of edible kernels turned out to be a 100 million painstakingly hand-painted porcelain seeds.⁷⁷ The artist had paid over 1,600 artisan porcelain painters for two and a half years to create the 150 tons of *Sunflower Seeds*. The production took place in Jingdezhen, a Chinese town that had traditionally made imperial porcelain for over 1,000 years but was running out of work. For Ai Weiwei's project, the people of the town were able to continue to work in their traditional way, painting porcelain either in small groups in the artisan workshop or take the work home to paint the seeds in their own time with their families in the manner of a cottage industry. According to Ai Weiwei, the workers were paid a 'slightly more than customary' living wage.⁷⁸



Fig. 4: Aaron Koblin, *The Sheep Market*, 2006

Five years earlier, in November 2005, the young American media artist Aaron Koblin heard of a new service that online retailer Amazon had just launched with hardly anyone taking notice. Amazon Mechanical Turk started to offer its customers access to what the company dubbed 'artificial artificial intelligence' – that is: the seemingly computational processing of repetitive tasks that require human intelligence. Amazon had quietly set up an invisible, distributed workforce, an online crowd, to process cognitive tasks that computers aren't capable to solve. For only a few cents per 'HIT' (Human Intelligence Task), this newly established crowd of workers could now be addressed just like processors in distributed computing; and not only by Amazon but also by everyone with a US Ameri-

⁷⁷ On average, they produced 109 000 seeds a day or 68 seeds per worker and day. (My own back-of-the-envelope calculation.)

⁷⁸ It is hard to find out what that actually means. According to one source, the minimum wage in Jingdezhen at that time was 0,58 dollars per hour. Hancox, Simone, Queen Mary University London: Art, activism and the geopolitical imagination: Ai Weiwei's 'Sunflower Seeds', 2011. See also: Higgins, Charlotte, 'People Power Comes to the Turbine Hall: Ai Weiwei's Sunflower Seeds', *The Guardian*, 11 October 2010, section Art and design <<http://www.theguardian.com/artanddesign/2010/oct/11/tate-modern-sunflower-seeds-turbine>> [accessed 19 February 2014]

can Amazon account. Koblin was intrigued by what he saw as ‘an irresistible medium for experimentation.’ Koblin writes that he was ‘immediately curious about the ramifications of exploiting the human qualities of workers in contrast to the tasks commonly automated through centuries of labor management systems.’⁷⁹ After a few preliminary tests, Koblin developed ‘The Sheep Market’, an artwork consisting of 10,000 hand-drawn sheep, created by workers on Mechanical Turk and later exhibited online and in a gallery space. Koblin provided the workers with a simple digital drawing tool and paid them two cents for drawing ‘a sheep facing to the left’. The tool recorded every stroke the workers made and made it possible to replay the drawing process as a small animation. The creation of the 10,000 sheep took 40 days at a total cost of 200 US dollars; the average time to draw a sheep was 115 seconds and the workers earned on average 0,69 US dollar per hour.⁸⁰ The total number of 7,599 unique IP addresses from which sheep were contributed indicates the approximate number of workers involved. However, as typical for Mechanical Turk, the process was completely anonymous and therefore opaque in regard to who the workers actually were and where they came from.⁸¹

Both artworks, *The Sheep Market* and *Sunflower Seeds* brilliantly condense the multi-layered cultural, economical and ethical questions and implications that arise from the outsourcing of work, in this case creative work, on a massive scale. The juxtaposition of the two projects shows the differences between traditional, location-based forms of material production and the workings of seemingly placeless distributed digital labour. Ai Weiwei, for example was able to travel to the place of production and meet the workers in the flesh – Koblin in turn only saw a string of letters and numbers that represented the workers in Amazon’s interface. Both artists orchestrated and aggregated the labour of the crowd to create something that is more than the sum of its parts, in regard to its meaning as well as to its economic value. Both artists were able to sell parts of the work with a substantial profit.⁸²

By doing so, Ai Weiwei and Aaron Koblin ask crucial questions about the cultural values and the monetary value of outsourced work on a globalised labour market, about the relationship between the individual initiator and the masses of workers complying with the request, and about contemporary forms of repetitive, alienating and exploitative labour. At a time when more and more work is being completely automated, the two artists turn to mass *manufacturing* in its most literal sense as handicraft mass production. Both artists point at the asymmetry of knowledge and power in these systems of mass outsourcing and crowdsourcing, and even though they perpetuate this power structure, they also encourage us to contemplate the role of the individual in the crowd, by showing individual brush strokes and lines drawn by hand – human traces that couldn’t have been achieved by a machine, especially not in the case of *The Sheep Market*.

⁷⁹ Koblin, Aaron. ‘The Sheep Market: Two Cents Worth.’ Master’s Thesis in Design/ Media Arts, UCLA, 2006 <<http://users.design.ucla.edu/~akoblin/work/theshsheepmarket/TheSheepMarket.doc>> [accessed 19 February 2014].

⁸⁰ That means that Koblin paid 200 dollars for his 10,000 sheep. A project of the size of ‘*Sunflower Seeds*’ would have cost 200,000 dollars in payments on Amazon Mechanical Turk. But Ai Weiwei of course also had to pay for the material, transport storage, infrastructure etc..

⁸¹ Theoretically, the same worker could have logged in from different IP addresses.

⁸² Koblin sold the sheep in groups of twenty, for twenty dollar per printout (under the protest of some of the crowd workers, as he describes in his thesis); Ai Weiwei sold a large amount of seeds for an undisclosed price to Tate Modern, smaller amounts were auctioned at Sotheby’s for £3,50 a seed. Kennedy, Maev, ‘Tate Buys Eight Million Ai Weiwei Sunflower Seeds’, *The Guardian*, 5 March 2012, section Art and design <<http://www.theguardian.com/artanddesign/2012/mar/05/tate-ai-weiwei-sunflower-seeds>> [accessed 17 February 2014]

By choosing sunflower seeds and sheep respectively, both artists employ age-old and highly charged crowd-metaphors to explore the contemporary relationship between the individual and the masses. In China, as Ai Weiwei explains, sunflower seeds are a ubiquitous snack, usually consumed socially. According to the artist, their nurturing qualities have helped the crowd to stay alive in times of famine. In communist propaganda they were also used as a crowd metaphor, with images depicting chairman Mao as the sun and his people as sunflowers and their seeds, orientating their heads towards his shining light.⁸³ In a sense, the seeds in the Turbine Hall are all referring to Ai Weiwei as the commander of the giant workforce.



Fig. 5: 'Respectfully wish Chairman Mao eternal life', 1968, designer & publisher unknown
Size: 52x71 cm. (# BG E13/549 Landsberger collection)

The total number of 100 million individual seeds in the Turbine Hall might already be hard to grasp, but China now has thirteen times that many people. Often referred to as 'the world's factory' by people in the West, the country stands quintessentially for the outsourcing of manufacturing jobs. 'Designed in California, assembled in China' can be read on every Apple product, and the firm is just one of many western technology companies that has completely outsourced its production to the Taiwanese company Foxconn, based in Shenzhen near Hong Kong. For the West, this division of labour still seems to be the key to success in a globalised, digitised world; at least until China catches up to also do the design part of the job.

Our notion of 'the crowds' or 'the masses' was informed, as I will show in the next section, in the late nineteenth and early twentieth century as a reaction to what was then an explosion in population growth. But this development with all its grave consequences is being dwarfed by the current population growth in China. Ai Weiwei's *Sunflower Seeds* make this palpable, at least to some extent.⁸⁴

⁸³ This background information stems from a 14 min. video that was part of the Tate exhibition. In it, Ai Weiwei explains the making of and the reasoning behind *Sunflower Seeds*. The video is available on YouTube: Ai Weiwei: *Sunflower Seeds*, 2010
<http://www.youtube.com/watch?v=PueYywpkJW8&feature=youtube_gdata_player> [accessed 15 February 2014]

⁸⁴ Originally, the idea was that visitors could actually touch the seeds and walk around on them like on a beach of pebbles, but 'Health & Safety' ruled otherwise.

While this thesis is centred on Europe and the English speaking parts of the world, it is important to keep in mind that the future of the crowd and crowdwork is likely to be in Asia. With the crowdsourcing of logo design, this trend can already be observed, though countries like, Indonesia, the Philippines and India currently feature more prominently than China in this area. I am not aware of larger groups of Chinese crowdworkers on international platforms, maybe that is because they speak English less fluently than other nation, but certainly also because China has its own large crowdsourcing platforms, also for graphic design tasks. The Philippines in contrast, a country with 100 million citizens, and once an American colony, play an important role on English-speaking crowdsourcing platforms. While the business practice of outsourcing exported labour to regions in Asia at the level of companies, crowdsourcing is now doing the same at the level of individuals.

Ai Weiwei and Aaron Koblin paid similar, and by global standards, very low wages to their workers, but both artists mention that the workers were very happy about the job-opportunity and asked for more work, even though in both cases, they didn't quite understand what they were working on. The workers could not see the full picture they contributed to, an aspect typical for crowdsourcing. The questions are: how do the ethics of labour evolve, when the work becomes totally digital and can hence be done from everywhere, by everyone and in total anonymity? Can the workers gain strength in numbers or will they be atomised and pitted against each other, despite being regarded as a homogenous crowd from the outside?

With the symbolic choice of sheep as a motif, Koblin uses the old association of the crowd with a gullible herd. The individual is being reduced to an animal, exchangeable and subordinated to the guidance and control of a shepherd, and with no understanding of the larger economic parameters of its existence: namely that it will either constantly have to produce wool – that it will be fleeced – or eaten, eventually. Koblin's choice of symbol therefore can be read as a critique of the workers' naivety or of the dehumanising aspects of Amazon's marketplace for labour, now often described as a 'digital sweatshop'. Ai Weiwei's critique cuts both ways too and refers to Western consumerism's reliance on cheap outsourcing, as well to Eastern communist and post-communist power structures in his home country.⁸⁵

Aaron Koblin and Ai Weiwei achieved what only artists can do. They condensed and distilled the many conflicting aspects and ambiguities of outsourced creative labour into a single and formally very reduced piece of work that still contains all the complexities of the issue. Their work and their personal standpoint remain deliberately ambiguous and open for interpretation by the individual spectator (and the collective judgement by the art crowd).⁸⁶ What I am in turn aiming at with this thesis is to unravel and map the complexities of crowdwork and to contribute to an analytic understanding of its social and ethical implications in general and of creative work in particular. How could these systems be designed in order to provide a fair and sustainable working environment for all stakeholders?

⁸⁵ Briefly after the opening of the exhibition, Ai Weiwei was detained for eighty-one days by the Chinese government, allegedly for tax evasion. Ironically, Google, a company making its fortune by harvesting the data of its users, hired Koblin and he continues to work there.

⁸⁶ For a 2014 account of artists using crowds see: Morse, Trent, 'Working the Crowd – Artists and Crowdsourcing', *ARTnews*, 2014 <<http://www.artnews.com/2014/09/02/artists-and-crowdsourcing/>>



Fig. 6: Covers of four influential books on crowdsourcing: Surowiecki 2004, Tapscott 2008, Howe 2008, and Shirky 2009. All four book covers show a birds-eye perspective, looking down at the crowd. The individual seems not important anymore.

1.2 – THE MORE THE WISER: HISTORIC NOTIONS OF THE CROWD

When Jeff Howe introduced the term crowdsourcing in 2006, he failed to acknowledge that he was clearly influenced by James Surowiecki's popular book *The Wisdom of Crowds: Why the Many are Smarter Than the Few*, published in 2004.⁸⁷ It was Surowiecki who deliberately and very successfully triggered a paradigm shift in the prevailing notions of the crowd. Surowiecki was able to show, with an array of empirical evidence from various fields of research, that under certain conditions, a crowd has been able to deliver better results than any expert. This, in turn, was an echo of a revelation that had already been made a hundred years earlier by the British polymath, eugenicist and statistician Francis Galton. In 1907 he published a short article in *Nature* titled 'Vox Populi'.⁸⁸ Galton, a half cousin of Charles Darwin, originally set out to prove the inferiority of crowd judgement, only to discover quite the opposite. 'In these democratic days', he wrote, 'any investigation into the trustworthiness and peculiarities of popular judgments is of interest.'⁸⁹ Galton worked with data from a weight-judging competition at a livestock fair in Plymouth. 800 visitors estimated the weight that the meat of a particular ox would have after slaughtering. The crowd consisted of expert butchers and farmers as well as random spectators. Galton assumed that 'the average competitor was probably as well fitted for making a just estimate of the dressed weight of the ox, as an average voter is of judging the merits of political issues on which he votes; the scientific interest in the crowd at the time was very much politically motivated.'⁹⁰ To his surprise, Galton found out that the 'Vox Populi', the voice of the people, was correct within an aberration of just one per cent. Their median estimate was 1,207 lb., the actual weight was 1,198 lb. 'This result is, I think, more creditable to the trustworthiness of a democratic judgement than might have been expected', Galton concluded.⁹¹

⁸⁷ Surowiecki, James. *The Wisdom of Crowds: why the many are smarter than the few*. London: Abacus, 2005.

⁸⁸ Galton, Francis, 'Vox Populi', *Nature*, 75 (1907), 450–451

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*

⁹¹ *Ibid.*

James Surowiecki updated and extended this historic insight with plenty of examples from the late twentieth century and derived rules from these observations on how to best organise ‘prediction markets’ with the power of crowds.⁹² His examples, such as the television game show *Who Wants to Be a Millionaire?*, often predate the advent of the world wide web. In the show, a competitor has to answer an array of questions with increasing difficulty. When the competitor doesn’t know the answer, she or he can ask the audience or call a preselected assumed expert. Since the show ran for a long time there is substantial data on the results. According to Surowiecki, the ‘experts’ on the phone were right in almost sixty-five per cent of the cases, while the audience chose the correct answer with an average of ninety-one per cent.⁹³ A similar experiment, but without a limited set of answers, is to let a group guess the number of beans or coins in a jar. If the number of participants is large enough, there will be a great variety of answers but the average of them will be very close to the actual amount of coins or beans. The reason is that everybody uses different strategies, or heuristics, to ‘guesstimate’ the number – and people tend to be equally far off in both directions, so that the wrong answers cancel each other out on average. The resulting number is then almost always more precise than the guess of the best individual. But this is only true, when the participants are not allowed to discuss their estimations beforehand. If they do, ‘groupthink’ emerges and people make their decision dependent on others.⁹⁴ A so-called ‘information cascade’ is then causing the individuals to not use their own heuristics but let others take the lead – the average drifts off significantly from the actual number in the jar.⁹⁵ Hence, one of Surowiecki’s arguments is that consensus is not a good strategy for the decision making processes in groups.⁹⁶ Surowiecki argues that there are four preconditions that have to be fulfilled in order to get the best possible results from a crowd.⁹⁷ Its members have to be *diverse*, *independent* and *decentralised* and there has to be an *overarching mechanism to aggregate* the variety of ideas and opinions. This is exactly the foundation of the crowdsourcing platforms that started to emerge since around 2006 – they are first and foremost a mechanism for aggregation, harvesting the input of diverse, independent and decentralised individuals, freelancers and hobbyists, from all over the world, and on a massive, industrial scale.

⁹² Surowiecki, *Wisdom of Crowds*, p. 96 ff.. See also: Surowiecki, ‘The Science of Success’, *The New Yorker*, 2007 <<http://www.newyorker.com/magazine/2007/07/09/the-science-of-success>> [accessed 22 July 2014] – ‘Prediction markets function like futures markets, except that, instead of betting on the future performance of a company or a commodity, people can bet ... on things like election outcomes, current events, and product sales. Rather than relying on the gut instincts of a single decision-maker, prediction markets tap the collective intelligence of everyone playing the market.’

⁹³ Surowiecki, *The Wisdom of Crowds*, p. 4.

⁹⁴ *Ibid.* p. 45.

⁹⁵ *Ibid.* p. 66.

⁹⁶ This is relevant in regard to the consensus orientated practices of the Occupy Movement, direct democracy, the voting mechanisms on crowd design platforms and also in respect to the practice of brainstorming, so popular in design and in ‘design thinking’. Compare Jonah Lehrer’s position on brainstorming being a myth: Lehrer, Jonah, ‘Groupthink’, *The New Yorker*, 30 January 2012 <http://www.newyorker.com/reporting/2012/01/30/120130fa_fact_lehrer> [accessed 24 July 2012]

⁹⁷ Of course the question remains for whom the results will be best and according to what standards. Interestingly, there is a huge gap between those results coming from the crowd that are either clearly right or wrong, such as dates on Wikipedia, or do work or not, such as new lines of code in Linux. These results can be checked or measured by a computer. However, in areas such as the humanities, design and art, where there is no simple answer to what is right or best, evaluation cannot be automated. It is especially in these latter fields, in the soft sciences, the arts and qualitative research, that crowdsourcing is applied for evaluation of results. This can be observed e.g. in the evaluation of student results in Massive Open Online Courses, so called MOOCs.

Surowiecki didn't look at the crowd as a source for labour and profit, and he wasn't much interested in online platforms. He primarily saw the crowd as a source of information and knowledge, and he was keen on understanding the fundamental principles and parameters that allowed crowds to outperform individual experts – but this was, as yet, not understood as a business model.

His book was highly influential, but the phenomena first observed by Galton and elaborated on by Surowiecki could only unfold their full potential in combination with another counter-intuitive revelation – that on the internet, people were willing and capable to do complex tasks for free (the question what *free* actually means will be discussed later in the thesis). Wikipedia and Linux provided undeniable proof for that, and this second insight, in turn, was the focus of Yochai Benkler's studies already in 2002 and of Jeff Howe's observations from 2006 onwards. The former looked at projects in the spirit of open-source software development and coined it *commons-based peer production*; the latter looked at the business opportunities for companies and named it *crowdsourcing*.

*

What is astonishing about today's notion of the crowd online is the stark contrast to the connotations the term had in earlier times. In the early twenty-first century, the crowd started to appear as a source of knowledge, creativity and productivity, not only in a metaphorical sense but also as a core element in the business plans and value chains of countless companies. Yet, for centuries the crowd had stood for the exact opposite: It was an unruly force, despised and feared by those in power, and frequently ascribed the qualities of a wild animal – aggressive, destructive, impulsive, emotional, hard to control and not susceptible to reason – certainly not capable of solving complex problems in research and development.

The classic image of the crowd was that of a disorganised gathering of people with a dynamic that could quickly turn a group of cheering spectators into a raging mob. This image gained particular relevance during the Industrial Revolution in Europe, when a steep rise in population combined with massive urbanisation led to overcrowded tenements, people densely packed under grim conditions, never far away from taking to the streets. In the late nineteenth and early twentieth century many authors tried to understand what drives *the mob*, *the crowd* or *the masses* and how these people, gathering outside on the street could be kept at bay; how they could be manipulated in favour of the ruling classes, turned into consumers or be educated to live up to the democratic power that now 'unfortunately' lay in their hands. This was exactly what motivated Francis Galton to undertake his study of the weighing contest.

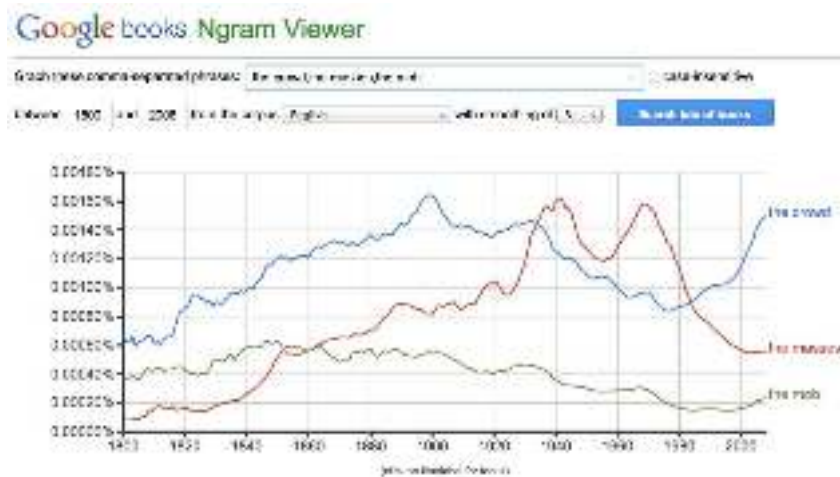


Fig. 7: Screenshot from Google books Ngram Viewer, February 2014.

A comparison with the help of ‘Google books Ngram Viewer’, fig. 7, reveals how frequently ‘the mob’, ‘the crowd’ and ‘the masses’ were used in English publications between 1800 and 2008.⁹⁸ *The mob* was once much more commonly used than *the masses*. However, already from the mid nineteenth-century it was slowly but steadily on its way out, with small but notable peaks in 1932 and 1968. *The masses* dominated the larger part of the twentieth century, with a small peak in 1918 and two remarkable peaks in 1941 and 1968, followed by a steep and steady decline until today. The occurrence of *the crowd* rose in frequency throughout the nineteenth-century, sharply peaked at the turn of the century only to then, with the exception of small bumps in 1932 and 1968, slowly fall out of use until the late 1970s. Since then, *the crowd* is on the rise again and it is clearly the most common of the three terms in literature in general today (almost on the level of its old heights again). Without reading too much into the graph it can be stated that historic events and phenomena such as World War II and the counterculture movement of the 1960s had a significant impact on the popularity of the terms used to describe mass phenomena. The steep rise and fall of the term crowd suggests that it is a diagnostic of social and technical change.

What James Surowiecki achieved for *the crowd*, Howard Rheingold failed to do for the supposedly *Smart Mobs*:⁹⁹ the reintroduction of an old term into twenty-first century common parlance, combined with an inversion of its connotation. While the meaning of *the mob* remained a reliably derogative way to refer to group behaviour at its lowest – a spontaneous, primitive and bloodthirsty throng on the street – the meaning of *the masses* and *the crowd* has been much more changeable over time and in comparison with each other. For some authors, *the crowd* is just the neutral version of *the*

⁹⁸ Google Books Ngram Viewer <https://books.google.com/ngrams/graph?content=the+crowd%2Cthe+masses%2Cthe+mob&year_start=1800&year_end=2010&corpus=15&smoothing=3&share=&direct_url=t1%3B%2Cthe%20crowd%3B%2Cc0%3B.t1%3B%2Cthe%20masses%3B%2Cc0%3B.t1%3B%2Cthe%20mob%3B%2Cc0> [accessed 19 February 2014].

⁹⁹ Rheingold, Howard, *Smart Mobs: The Next Social Revolution* (Cambridge, Mass.: Perseus, 2003)

mob while *the masses* refers the totality of a people, the group to which mass media and mass manufacturing was catering in the twentieth century – basically everybody.¹⁰⁰

Elias Canetti, who wrote the probably most emphatic and insightful book on the crowd, starts his discussion with the assertion that ‘There is nothing that man fears more than the touch of the unknown [...] It is only in a crowd that man can become free of this fear of being touched. That is the only situation in which the fear changes into its opposite. [...] Ideally, all are equal there; no distinctions count, not even that of sex.’¹⁰¹ By becoming part of a dense crowd of people, this ‘Urangst’ (fundamental fear) is overcome and inverted, which results in a feeling of boundlessness and empowerment. For Canetti, the experience of the overcrowded physical space, where bodies are pressed against each other, is at the root of what constitutes a crowd. Seen from that angle, *an online crowd lacks the core feature of earlier crowds – the physical confirmation through touch and a shared space of possessing strength in numbers*. In an online crowd, only those who actively engage in communication with the others are visible. Those who stay passive disappear – they become invisible ‘lurkers’, still watching the actions of the others in the crowd, but indistinguishable from those who have left the crowd for good. According to Canetti, those in the physical crowd long for the brief moment of what he calls ‘discharge’, in which all distinctions between them collapse into a feeling of equality. ‘It is for the sake of this blessed moment, when no-one is greater or better than another, that people become a crowd. But the moment of discharge, so desired and so happy, contains its own danger. It is based on an illusion; the people who suddenly feel equal have not really become equal; nor will they feel equal for ever.’¹⁰² *In an online crowd, however, there is typically not this empowering and liberating moment of becoming one with the others, from the outside, the people in the crowd are regarded as one mass, on the inside, they stay individuals, alone in front of their computer*. More pertinent (for the understanding of online crowds) is the notion of openness, which Canetti regards as an even more important characteristic of a crowd:

The urge to grow is the first and supreme attribute of the crowd. It wants to seize everyone within reach; anything shaped like a human being can join it. The natural crowd is the open crowd; there are no limits whatever to its growth; [...] ‘Open’ is to be understood here in the fullest sense of the word; it means open everywhere and in any direction. The open crowd exists so long as it grows; it disintegrates as soon as it stops growing. [...] The openness which enables it to grow is, at the same time, its danger.¹⁰³

An online crowd is also characterised by its openness and its potentially for unlimited growth, but is more stable. Everybody who ever registered to enter an online crowd platform continues to be counted, often, only the platform providers really know what part of the crowd is active. Although MySpace and Second Life are good examples for online platforms that have been deserted by the crowd. Joining an online platform demands far less commitment than, say, joining a rally on the

¹⁰⁰ See also: Pick, Daniel, ‘Thousands of Little White Blobs’, *London Review of Books*, 23 November 1989, pp. 20–22. ‘Since at least the late 19th century [...] psychologists, criminologists and sociologists [...] substituted ‘crowd’ for ‘mob’, not to insist on the ‘neutrality’ of the object they scrutinised, but to signify the cool, clinical detachment of their investigations.’

¹⁰¹ Canetti, Elias, *Crowds and Power* (New York: Continuum, 1981; first published 1962) p. 15.

¹⁰² *Ibid.* p.17-18.

¹⁰³ *Ibid.* p. 16.

street. People can slip in and out of their role of being part of the crowd within seconds, disappear for months with ease or be very active in many online crowds at the same time. But even those who are active on an online platform are not as visible to the others in the crowd as they would be in a shared space like a street because the activities between the members of the crowd are often compartmentalised into small groups and sub-threads in a virtual forum or projects and tasks on a crowd labour platform. They have no sensual feedback about the size and strength of the crowd they are in. Participation in a march, for example, might be brief, but while it lasts, it demands and communicates total bodily presence and this intensity contributes to the reciprocal increase in strength.

Canetti distinguishes between *open* and *closed* crowds, in regard to how they grow; *quick* and *slow* crowds, in regard to how immediate the crowd's goals are, and he furthermore distinguishes between the different emotional driving forces that distinguish one crowd from another. His examples include the *fleeing crowd*, which is in a state of panic and disintegration, the *baiting crowd* that tries to take down a public figure like a hunting pack or a mob, and the *prohibitive crowd*, which can be observed in a strike. The fleeing crowd is a category that is not relevant online – people don't have to run for their life on a virtual platform, they just log off and don't come back. In section five of this chapter, I will return to the concept of the baiting crowd, which is a very pertinent phenomenon online. In the last chapter, I will discuss the role of the prohibitive crowd in the context of collective action, unionisation and protest against crowdsourcing platforms today. Canetti's study was first published in 1962, but he had been working on it for thirty years, building on his own seminal experiences of being submerged and emotionally carried away in crowds. Maybe that is the reason why, in contrast to most other classic authors on the topic, Canetti does not evoke the otherwise typically huge gap between the gentleman observer and the rabble on the streets – he is not an elitist. Most importantly, his study is not about how to best control and manipulate the crowd.

For the Spanish philosopher José Ortega y Gasset, the problem of 'mass-man' emerged because in the relatively short period between 1800 and 1914, the population of Europe had risen from 180 millions to 460 millions in just three generations and had produced a gigantic 'mass of humanity'. Due to the development of democracy, the loathed mass-man was now politically in charge, but, according to Ortega y Gasset, neither intellectually nor morally fit for the task.¹⁰⁴ (Similar arguments were made when the masses arrived online, about a hundred years later).

Society is always a dynamic unity of [...] minorities and masses. The minorities are individuals or groups of individuals which are especially qualified. The mass is the assemblage of persons not specially qualified. By masses, then, is not to be understood, solely or mainly, 'the working masses'. The mass is the average man. In this way what were mere quantity – the multitude – is converted into a qualitative determination: it becomes the common social quality, man as undifferentiated from other man, but as repeating himself a generic type.¹⁰⁵

¹⁰⁴ Ortega y Gasset, José, *The Revolt of the Masses* (New York: W.W. Norton, 1993, first published 1929)

¹⁰⁵ *Ibid.* p. 13

The aspect of lacking qualifications is interesting in regard to crowdsourcing today, because there it is seen not as a bug but a feature. The fact that there are no gatekeepers, that nobody asks for qualifications, that everybody who thinks he or she is fit for the task can join is seen as a blow against elitism.

For Ortega y Gasset, the mass-man is an abstract category – it is everybody who lacks ambition and reflectiveness and is not willing to subjugate himself to reason, reflection and ambition. Ortega y Gasset's worldview is a mixture of elitism and meritocracy. He does not defend an elite based on the right of birth but one that is based on intellectual rigour, and the willingness to take responsibility for the future course of civilisation. 'Nobility is defined by the demands it makes on us – by obligations, not by right. *Noblesse oblige*.'¹⁰⁶ He strongly argues in favour of education but also points out that even academics frequently regress into the lower ranks of mass-man as soon as they become complacent, accept intellectual commonplaces and stop aiming for distinction through critical thinking. The problem that Ortega y Gasset has with the masses is that they *feel* empowered through mass produced goods and mass media and that they actually *are* politically empowered through the right to vote, but that they supposedly don't realise that this level of civilisation can only be maintained and further elevated by not taking it for granted. 'We live in a time,' he wrote in 1929, 'when man believes himself fabulously capable of creation, but he does not know what to create. Lord of the things, he is not lord of himself.'¹⁰⁷ He ascribes two fundamental traits to the mass-man: 'the free expansion of his vital desires, and therefore, of his personality; and his radical ingratitude towards all that has made possible the ease of his existence. These traits together make up the well-known psychology of the spoilt child.'¹⁰⁸ While he unmistakably despised the masses, he didn't want to oppress or manipulate them, but to transform them into worthy heirs of a humanist civilisation.

Often, Ortega y Gasset writes in an alarmist tone, predicting that 'the mass crushes beneath it everything that is different, everything that is excellent, individual, qualified and select.'¹⁰⁹ The masses are, in his view, about to destroy the foundations of civilisation: 'Civilisation is before all, the will to live in common. A man is uncivilised, barbarian in the degree in which he does not take others into account.'¹¹⁰ The book is an urgent and passionate pledge for liberalism and the overcoming of nationalism. The rise of fascism and the outbreak of World War II that followed only a few years after the publication of *The Revolt of the Masses* gave Ortega y Gasset's worries, in hindsight, a prophetic quality.

Among those authors who have analysed the concepts of 'the masses', 'the crowds' and 'the mob' there is disagreement about the connotations that come with these terms. The literary critic and Oxford Professor of English, John Carey, argues that 'the difference between the nineteenth-century

¹⁰⁶ *Ibid.* p. 63

¹⁰⁷ *Ibid.* p. 44

¹⁰⁸ *Ibid.* p. 58

¹⁰⁹ *Ibid.* p. 18

¹¹⁰ *Ibid.* p. 76 In antiquity, the barbarians were those who still lived outside of civilisation. In the Silicon Valley based tech-industry, the new libertarian barbarians want to leave civilisation so as to not be inhibited in their entrepreneurial endeavours. Now that the internet has become civilised and is not a digital frontier anymore, libertarians like Peter Thiel invest in 'Seasteading' projects, to build settlements in international waters 300 Kilometres off the coast of California. The vision is to create corporate microstates without any government regulations on things like genetic research. The rules will not be made by the people but by the owners of the platform. It is the Silicon Valley vision of platform capitalism put to the extreme. < <http://www.seasteading.org/> >

mob and the twentieth-century mass is literacy.’¹¹¹ In contrast to other commentators on that topic, Carey furthermore insists on the distinction between the *actual* ‘crowd’, which for him is a throng on the street, and the *abstract* ‘mass’, which for him is merely a linguistic device contrived by the elites to ‘eliminate the human status of the majority of people – or, at any rate, to deprive them of those distinctive features that make users of the term, in their own esteem, superior.’¹¹²

‘[...] masses do not exist. [...] Crowds can be seen; but the mass is a crowd in its metaphysical aspect – the sum of all possible crowds. [...] It turns people into a conglomerate. It denies them the individuality which we ascribe to ourselves and to people we know.’¹¹³

In the context of this thesis, Carey’s reference to the visibility of the crowd is interesting, because today’s online crowd can’t be seen either but is still not regarded as a mass. Which makes sense when we want to maintain a distinction between the totality of people, and *particular* crowds, temporarily gathered around a certain cause. Crowds are a sub-unit of the masses, they have an inside and an outside, a direction and a time frame, but they are distinct from a community, in which the members know each other, build bonds, share a history and responsibility and are not as exchangeable as they are in a crowd. It is very much possible to be involved in several online crowds and still be alone, without reliable social bonds that make a community. To some extent, the members of an online crowd thus resemble what German media philosopher Günther Anders has called ‘Masseneremiten’ – or ‘mass hermits’ – in his early criticism of television in 1956.¹¹⁴ Similar to Marshall McLuhan, Anders argued that the technical format of the media is much more relevant in the formation of its audience than its content. And similar to Jean Baudrillard, Anders argued that the mediated image would become more real than the actual world, which in turn would be reduced to a *matrix*, a raw copy – mere material for the constant stream of images.¹¹⁵ Instead of participating in the world with other people, the masses in front of the TV would be actively transformed into passive, isolated consumers of images and indirectly of mass-produced goods. Anders wrote: ‘Today’s mass consumption takes place as a sum of solo performances. Each consumer is an unpaid domestic worker employed in the production of the mass man.’¹¹⁶ Although Anders, at times, falls into the one-sided, exclusively negative tone of radical mass media criticism, he was certainly ahead of the time by arguing that consumers would become unpaid domestic workers for – and the product of – media corporations, experiencing a blurring of the distinction between work and leisure. ‘It is true, of course,’ Anders wrote about the recipient, ‘that he is a domestic worker of a very unusual type, because of the nature of his work: his self-transformation into a mass-man through his consumption of mass-produced commodities, that

¹¹¹ Carey, John. *The Intellectuals and the Masses: Pride and Prejudice among the Literary Intelligentsia, 1880-1939*. London: Faber and Faber, 1992, p.5.

¹¹² *Ibid.* from the introduction.

¹¹³ *Ibid.* p. 21.

¹¹⁴ Anders, Günther, *Die Antiquiertheit des Menschen (The Obsolescence of Human Kind)* (München: Beck, 2002, first published 1956)

¹¹⁵ Which is why the respective chapter in Anders’ book is called: *The World as Phantom and Matrix*. It also appeared as a separate article in *Dissident* 3:1 (Winter 1956), p. 14-24, here with the telling and very modern subtitle ‘*On Work and Play in the Industrial Society*’.

¹¹⁶ *Ibid.* §2 p. 108; Translated in 2014 from: Günther Anders, *La Obsolescencia del Hombre* (Vol. I), tr. Josep Monter Pérez, Pre-Textos, Valencia, 2011, pp. 105-208. <https://libcom.org/book/export/html/51647>

is, through his leisure.’¹¹⁷ (To some extent, there is indeed an echo of media-criticism in the criticism of today’s digital tools and platforms, TVs and radios where also at the same time physical objects that people owned and outlets of media-networks that remotely controlled the content and, through that, the user/viewer/listener/consumer. The promise of the internet was to end this manipulation and control of the user from the outside; but this hope has partly been premature. Yes, users have gotten more control over media, but they are at the same time also more monitored than ever.)

In regard to the question of what to call the strange mass of isolated individuals, the French sociologist and criminologist Gabriel Tarde (a friend of Gustave Le Bon and an influence on Bruno Latour) published a paper in 1898 entitled *The Public and the Crowd*. In it, he differentiated between *crowds* as one of the oldest forms of human association, whose members are co-present – they share the same space at the same time, thus the size of these groups is limited, and *publics*, which are made possible only through modern media (at his time the printing press, newspapers, railroads, telegraph). The technology created a sense of collective awareness and belonging across the physically dispersed members of a *public*.¹¹⁸ This made the public unlimited in size, but also changed its behaviour. For Tarde, a public was defined by critical discussion and thus tended toward heterogeneity while a crowd became homogenous over time.¹¹⁹

Today’s online crowds would be publics, in the sense suggested by Tarde, and if one looks at the comment sections under online articles, one gets indeed the strong impression of heterogeneity, not of herd behaviour. The members of online crowds are physically isolated, as Anders described, but not as passive as he feared, because they participate in a discursive medium that, in contrast to TV, allows them to express their opinions and talk back. (Although on platforms for crowdwork, this is not the case, because people need the job and are not consulted about the conditions.) Anders was ‘right on the money’ when he explained:

The process is completely paradoxical insofar as the domestic worker, instead of being paid for this collaboration, must even pay for it himself; especially for the means of production (the radio or television and, in many countries, even for the broadcasts), by the use of which he allows himself to be transformed into the mass-man.

This is also the case in crowdsourcing: people pay for the means of production but are not paid for their work. Although Tarde’s definition of publics fits today’s crowds, I think it would be wrongheaded to speak of the working crowds online as publics, because they come together not to engage in critical discourse but to get work done typically on their own, even though they are technically within a crowd. In section 2.5 will briefly discuss Christopher Kelty’s concept of ‘recursive publics’ as a particular form of online community of programmers that not only constantly discusses but also alters the infrastructure in which it is conversing and working.

What we regard as a digital crowd today is something between the abstract masses and the concrete physical crowds. People who join an online crowd are often prone to individualism and don’t

¹¹⁷ Anders, p. 5 in the English translation from 2014.

¹¹⁸ Paraphrased after: McPhail, Clark, *The Myth of the Madding Crowd*, Social Institutions and Social Change (New York: A. de Gruyter, 1991), p. 7. (I build on McPhail rather than the French original.)

¹¹⁹ *Ibid.* (See also Trotter on the Herd Instinct in Chapter 1.5)

want to become part of a multitude or strong interest group. Online crowds, especially those who gather on platforms for crowdwork, are typically not joined because they provide strength in numbers (In the third and in the last chapter, I will come back to this point and provide some evidence). Members in the crowd paradoxically often don't even want to engage with the others. *In order to build up strength in numbers in a political sense, some form of discussion, organisation, distribution of responsibilities, acceptance of a mode of collective decision-making, of hierarchy or at least representation in the form of a spokesperson would be necessary, to define and defend the interests of the group.* But such formation of a political structure within a loose crowd of individuals online is something that is surprisingly rare. People instead often join crowds because they want to work on their own without getting entangled in social and political deliberation and hierarchies, from the safety of their home instead of being lumped together in a physical workplace. As crowdworkers, they don't necessarily want to pledge their loyalty to a party, union, company or any representative. The many hostile reactions from workers on Amazon Mechanical Turk against the suggestion that they should unionise (see section 3.5) provide vivid illustrations of that mind-set.

Even though a distinction between the 'abstract mass' and the 'concrete crowd' might seem useful, it has never been so clear-cut as John Carey would like it to be. Already in the nineteenth century, the term crowd was used in an abstract sense, to describe dispersed groups of people that shared a common interest but not the same space. An early example of this is Charles Mackay's *Extraordinary Popular Delusions and the Madness of Crowds*, published in 1841.¹²⁰ The book is a detailed description of historic hypes and speculative bubbles – cases in which groupthink and information cascades had caused whole populations to collectively run wild. This type of crowd didn't have to share a physical place to unfold its madness, it could very well establish or lose its ascribed collective mind in a distributed and asynchronous fashion (criteria also crucial for the modern productive crowd online). Mackay's most vivid example is the 'Tulipomania', which happened in the Netherlands in early seventeenth century. Over the course of about thirty years, tulips had grown from an obscure Turkish flower into an almost mandatory status symbol, and 'it was deemed a proof of bad taste in any man of fortune to be without a collection of them.'¹²¹ Tulips rose so quickly in value that they became an object of speculation and a tremendous financial bubble grew out of the trade with the bulbs. 'In 1634, the rage among the Dutch to possess them was so great that the ordinary industry of the country was neglected.'¹²² At the height of the hysteria, one singular bulb of the particularly rare type 'Viceroy' was exchanged for 'two lasts of wheat, four lasts of rye, four fat oxen, eight fat swine, twelve fat sheep, two hogsheads of wine, four tuns of beer, two tons of butter, one thousand lbs. of cheese, a complete bed, a suit of clothes and a silver drinking cup'.¹²³ Mackay's account of erratic crowd behaviour is well informed and entertaining but doesn't take itself too seriously.

The French social psychologist Gustave Le Bon, by contrast, tried very hard to establish 'crowd psychology' as a new academic field. In 1895, Le Bon published *The Crowd: A Study of the*

¹²⁰ Mackay, Charles. *Extraordinary Popular Delusions and the Madness of Crowds*. Ware: Wordsworth Reference, 1995; first published 1841.

¹²¹ *Ibid.* p. 75.

¹²² *Ibid.* p. 76.

¹²³ *Ibid.* p. 77.

Popular Mind, the most canonical text on the subject.¹²⁴ He argued that ‘crowds can never accomplish acts demanding a high degree of intelligence’ and a decision by a group will in any case be worse than that of an intelligent individual. A century later, James Surowiecki countered: ‘Gustave Le Bon had things exactly backward. If you put together a big enough and diverse enough group of people [...], that groups decision will, over time, be ‘intellectually (superior) to the isolated individual,’ no matter how smart or well-informed he is’.¹²⁵

Leaving aside for now that Surowiecki was able to prove Le Bon wrong under particular conditions and that Le Bon’s *Study of the Popular Mind* is highly problematic in many other regards too, it is worth staying with the inventor of crowd psychology for a little longer in order to better understand contemporary notions of the crowd. After all, Le Bon’s influence reaches from Sigmund Freud to Edward Bernays and far into twentieth century practices of crowd control, crowd manipulation, propaganda and public relations. After having studied the French Revolution of 1789 and the aftermath of the Paris Commune of 1870, Le Bon was convinced that, by joining a crowd, every human would degenerate and succumb his will to the brutish and animal-like hive mind that seemed to act as an independent being with a psychology of its own. In this new ‘group mind’ the particular character of each individual would dissolve into an average character, but the new collective mind would in turn also display new characteristics such as a ‘sentiment of invincible power’, which the individuals had not previously possessed.¹²⁶ The individual would sacrifice his personal interest to the collective interest and the collective would in turn loose any form of fear, conscience or responsibility that might have restricted the individual.¹²⁷ This analysis was a great influence on Sigmund Freud who developed it further in *Group Psychology and the Analysis of the Ego*. ‘The apparently new characteristics which [the individual in the crowd] then displays’, Freud wrote, ‘are in fact the manifestations of this unconscious, in which all that is evil in the human mind is contained as a predisposition.’¹²⁸ Although Freud also had some minor criticism to offer, he marvelled about ‘Le Bon’s deservedly famous work’ and quoted the ‘brilliantly executed picture of the group mind’ over many pages.¹²⁹ Freud saw in Le Bon’s description of the relation between the crowd and state an equivalent to his very own observations on the relation of mind and unconscious:

For our mind, that precious instrument by whose means we maintain ourselves in life, is no peacefully self-contained unity. It is rather to be compared with a modern State in which a mob, eager for enjoyment and destruction, has to be held down forcibly by a prudent superior class.¹³⁰

What Freud is doing here, is an inversion and internalisation of the crowd. The term does not refer to other people outside on the street anylonger, instead it becomes a metaphor for negative forces inside the individual that have to be suppressed.

¹²⁴ Le Bon, Gustave. *The Crowd: A Study of the Popular Mind*. Minneapolis, MI: Filiquarian Publishing, 2005; first published 1895.

¹²⁵ James Surowiecki, in the introduction of *The Wisdom of Crowds*.

¹²⁶ Le Bon p. 22

¹²⁷ Although Canetti’s analysis is very close to Le Bon in this particular aspect, and even though Le Bon can be regarded canonical in the field, Canetti doesn’t mention him at all.

¹²⁸ Freud, Sigmund, *Group Psychology*, p. 10.

¹²⁹ *Ibid.* p. 5 & p. 22.

¹³⁰ Freud, Sigmund. ‘My Contact with Josef Popper-Lynkeus,’ 1932. In: Freud, Sigmund, and James Strachey, *New Introductory Lectures on Psycho-Analysis and Other Works; (1932-1936)*. (London: Vintage, 2001) p. 219.

1.3 – FEAR AND LOATHING IN THE IVORY TOWER

The fear of amateurs is centuries old. Already in 1799, the German national treasures Johann Wolfgang von Goethe and Friedrich Schiller were fantasising about drowning legions of ant-like dilettantes, dabbling in the arts, in a deluge of criticism. They were preparing a manifesto against dilettantism, even though Goethe himself was a dilettant in artistic fields like drawing, yet, he saw himself as a true natural born artist.¹³¹ It was a hundred years later that the fear and loathing of the crowd had its heyday among the proponents of high culture. Literary critic John Carey, briefly mentioned above, has meticulously compiled a huge collection of quotes by late 19th and early 20th century intellectuals – all well respected British poets and writers such as Virginia Woolf, Aldous Huxley and H.G. Wells – that documents the widespread hatred among writers towards emerging mass culture and mass-man. In his analysis, Carey shows that what infuriated these elites more than anything was mass education, which, as they argued, was at the same time futile and dangerous. Even though it is not always stated explicitly, it is safe to assume that the old elites felt threatened in their intellectual hegemony; at the very least they felt the urge, just like Goethe and Schiller, to draw a line between their own professional practice and the emergence of a multitude of amateurs in the world of art and literature. Carey quotes T.S. Eliot from a 1938 essay:

There is no doubt that in our headlong rush to educate everybody, we are lowering our standards [...] destroying our ancient edifices to make ready the ground upon which the barbarian nomads of the future will encamp in their mechanized caravans. [...] Students should return to the cloister, where they would be ‘uncontaminated by the deluge of barbarism outside.’¹³²

Typical is the evocation of a defensive battle that the formerly small and privileged ‘creative class’ had to fight in order to hold the edifice of high culture. The call for a defence against the cultural barbarism of the masses has its historic precursors as well as its recurring echoes in the debates around amateurism and dilettantism. That same lamentation about the erosion of high culture by the uncouth rabble can still be heard today and it has gained new currency with the advent of the internet. A prime example is the British-American author Andrew Keen. In *The Cult of the Amateur: How Today’s Internet is Killing Our Culture* from 2007, he warns: ‘The monkeys take over. Say good-bye to today’s experts and cultural gatekeepers.’¹³³ Keen refers to a metaphor from mathematics, the so called ‘infinite monkey theorem’, which states that even a group of monkeys, given that it is infinitely large and has an unlimited amount of time for hacking randomly into a typewriter would eventually write a masterpiece of Shakespearean quality.

Today’s technology hooks all those monkeys up with all those typewriters. Except in our Web 2.0 world, the typewriters aren’t quite typewriters, but rather networked computers, and the monkeys aren’t quite monkeys, but rather Internet users. And instead of creating masterpieces, these millions and millions of exuberant monkeys –

¹³¹ Goethe, Johann Wolfgang von, and Friedrich Schiller, *Briefwechsel zwischen Schiller und Goethe: 1794-1805*, Band 3, ed. by Heinz Amelung. In English: Goethe, Johann Wolfgang von, *The Collected Works 3, Essays on Art and Literature* / Johann Wolfgang von Goethe. Transl. by Ellen von Nardoff. (Princeton; N.J.: Princeton Univ. Press, 1994)

¹³² Carey, p. 15.

¹³³ Keen, Andrew. *The Cult of the Amateur: How Today’s Internet is Killing Our Culture*. New York: Doubleday, 2007, p. 9.

many with no more talent in the creative arts than our primate cousins – are creating an endless digital forest of mediocracy.¹³⁴

There is no question for Keen what to do about this situation: ‘Instead of developing technology, I believe that our real moral responsibility is to protect mainstream media against the cult of the amateur’.¹³⁵ The argument is actually very similar to that of Ortega y Gasset: because the masses are uneducated and not susceptible to reason, they supposedly destroy the infrastructure, created by their noble ancestors, that empowered the masses in the first place.

John Carey’s work also shows that what at one point might have been just harmless rants in the private letters of esteemed thinkers, over time developed into outspoken demands for cruel and drastic measures. Faced with the quickly growing numbers of common people crowding the cities, rage and disgust reached new heights and ‘dreaming of the extermination or sterilization of the mass or denying that the mass were real people [became] an imaginative refuge for early twentieth-century intellectuals.’¹³⁶ While these authors looked backwards in admiration to Nietzsche, and indulged themselves in rhetorical crowd hate, they eventually lay the ideological groundwork for the actual terror and annihilation of millions through fascism.¹³⁷

Civilisations as yet have only been created and directed by a small intellectual aristocracy, never by crowds. Crowds are only powerful for destruction. [...] In consequence of the purely destructive nature of their power crowds act like those microbes which hasten the dissolution of enfeebled or dead bodies.¹³⁸

The equalisation of the crowds with bacteria, as in this example by Le Bon was eventually picked up by Adolf Hitler as a rhetorical device to justify the Holocaust. Stephen Reicher, professor of social psychology at the University of St Andrews and one of today’s leading experts on crowd dynamics, writes about Le Bon:

Certainly, Le Bon influenced a plethora of dictators and demagogues, most notoriously, Goebbels, Hitler and Mussolini. This influence was not in spite of but rather an expression of Le Bon’s intentions. He repeatedly urged contemporary establishment figures to employ his principles in order to use the power of crowd for, rather than against, the state. His perspective matched the concerns of the age in their entirety: fear and fascination in equal measure; denigration of the collective intellect, harnessing of collective energy. [...] The majority of his crowd text is, in fact, essentially a primer on how to take advantage of the crowd mentality, how to manipulate crowds and how to recruit their enthusiasms to one’s own ends.¹³⁹

¹³⁴ *Ibid.* p. 2 ff.

¹³⁵ *Ibid.* p. 204.

¹³⁶ Carey, p. 15.

¹³⁷ Nietzsche once famously wrote: ‘What? You seek something? You wish to multiply yourself tenfold, a hundredfold? You seek followers? – Seek zeros!’ *Friedrich Nietzsche, Sämtliche Werke: Kritische Studienausgabe*, vol. 6, p. 61, eds. Giorgio Colli and Mazzino Montinari, Berlin, de Gruyter (1980). *Twilight of the Idols, ‘Maxims and Arrows,’* section 14 (prepared for publication 1888, published 1889).

¹³⁸ Le Bon p. 10.

¹³⁹ Reicher, Stephen, ‘The Psychology of Crowd Dynamics’, in *Blackwell Handbook of Social Psychology: Group Processes*, ed. by Michael A. Hogg and R. Scott Tindale (Blackwell Publishers Ltd, 2001), pp. 182–208
<<http://onlinelibrary.wiley.com/doi/10.1002/9780470998458.ch8/summary>> [accessed 23 July 2014]

Le Bon explains that through crowd manipulation, all wars are fought. If the crowds have been ‘suitably influenced [they] are ready to sacrifice themselves for the ideal with which they have been inspired.’¹⁴⁰ Part of his study therefore reads like – or essentially is – a manual for despots, not unlike Niccolò Machiavelli’s *The Prince* (1532). Although it is likely that Hitler was influenced by Le Bon’s *Study of the Popular Mind* and used it to its own ends, it must also be said that Le Bon was not a fascist. Obviously, an elitist tone runs throughout Le Bon’s book and his sentiments are anti-democratic, but this is not the case for his political reasoning:

In spite of all the difficulties attending their working, parliamentary assemblies are the best form of government mankind has discovered as yet, and more especially the best means it has found to escape the yoke of personal tyrannies. They constitute assuredly the ideal government at any rate for philosophers, thinkers, writers, artists, and learned men – in a word, for all those who form the cream of a civilisation.¹⁴¹

Le Bon acknowledges the democratic axiom that the only true and legitimate power comes from the people, only to then develop a set of tools and mechanisms that those in power should use to manipulate public opinion at their will. He writes that ‘a knowledge of the psychology of crowds is to-day the last resource of the statesman’;¹⁴² and goes on to show that for true change, strong iconic images have to be implanted in the collective mind to control their behaviour – the simpler the better – since the crowd is not susceptible to reason.

[W]hen crowds have come, as a result of political upheavals or changes of belief, to acquire a profound antipathy for the images evoked by certain words, the first duty of the true statesman is to change the words without, of course laying hands on the things themselves [...] that is to say, in replacing words evoking disagreeable images in the imagination of the crowd by other words of which the novelty prevents such evocations.¹⁴³

A modern example of such a euphemism is the term ‘cloud computing’ instead of ‘server farms’; the crowdwork platform clickworker.com even uses the term ‘cloud labour’ to describe the virtualisation of work.¹⁴⁴ Who could disagree with the heavenly image of working in the clouds? What is new is that today, it is not the statesman who is tweaking the language, but the platform providers. (Though with its 600,000 ‘clickworkers’, the platform has more people than Luxemburg.)

Although Le Bon’s influence on dictators had arguably the graver consequences, the most interesting aspect in the context of this thesis is Le Bon’s legacy in regard to the manipulation of crowds for commercial purposes. In the early twentieth century, the crowd was manipulated through propaganda and public relations into seeming boundless consumption. At the beginning of the twenty-first century, with the advent of crowdsourcing, people figured out how to recruit the enthusiasm of the crowds to do free labour.

¹⁴⁰ *Ibid.* p. 65.

¹⁴¹ *Ibid.* p. 199.

¹⁴² *Ibid.* p. 11.

¹⁴³ *Ibid.* p. 102.

¹⁴⁴ ‘Cloud Labour’, clickworker.com <<http://www.clickworker.com/en/crowdsourcing-glossar/cloud-labour/>> [accessed 25 October 2014]

1.4 – THE BUSINESS OF CROWD MANIPULATION

The most influential figure for the application of crowd psychology in the service of capitalism is Edward Bernays. A nephew of Sigmund Freud, he was a consultant for the US government during World War I, where he very successfully orchestrated the propaganda efforts of the country. When the war was over, he privatised his techniques of mass manipulation and started to offer his services to big corporations, with remarkable success. His famous book *Propaganda* from 1930 opens with the following sentence:

The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government which is the true ruling power of our country.¹⁴⁵

[...]

The minority has discovered a powerful help in influencing majorities. It has been found possible so to mold the mind of the masses that they will throw their newly gained strength in the desired direction.¹⁴⁶

Like Le Bon, Bernays explicitly acknowledges that, in the wake of democracy, the power technically resides with the majority. But in spite of this, he is committed to help the minority stay in charge. Because they can't overrule and dominate the masses openly anymore, the minority has to become invisible and rule with the special tools that Bernays is happy to provide. He offers his service to those in power and at the same time assumes himself already to be part of that secret elite. At least he tries hard to impose that image on his readership through conspiratorially writing about 'our will':

If we understand the mechanism and motives of the group mind, is it not possible to control and regiment the masses according to our will without their knowing it? The recent practice of propaganda has proved that it is possible, at least up to a certain point and within certain limits.¹⁴⁷

In the book, Bernays still tried to rid the term propaganda of its negative connotation, but he already seemed to sense that this would be futile; after all, the term was part of the US propaganda effort in WWI to make the people believe that propaganda was a bad thing, exclusively practiced by the enemy. So, Bernays did what Le Bon and also his uncle had recommended – he changed the words without laying hands on the thing itself and thus made himself known as the father of 'public relations'. According to the contemporary public relations expert Tim Burt, who has taken on the job description 'reputation manager' and wrote the book *Dark Art: The Changing Face of Public Relations*, the insights of *Propaganda* are still valid for his industry.¹⁴⁸

Bernays' career went from strength to strength and in one of his most successful propaganda campaigns he established a method that leads directly to the core of this thesis: a design contest on a massive scale. In the early 1920s, Procter and Gamble (P&G), the multinational consumer goods company (at the time of writing still engaged in crowdsourcing on the *open innovation* platform In-

¹⁴⁵ Bernays, Edward L., and Mark Crispin Miller, *Propaganda* (Brooklyn, N.Y.: Ig Pub., 2005), p. 37.

¹⁴⁶ *Ibid.* p. 47-48.

¹⁴⁷ *Ibid.* p. 71.

¹⁴⁸ Burt, Tim, *Dark Art: The Changing Face of Public Relations* (London: Elliott & Thompson, 2012)

noCentive.com) hired Bernays to improve the sales and image of their soap brand Ivory. The ‘public relations council’ came up with the idea of a soap sculpture competition for children because they were, as Bernays explained, the ‘natural enemies of soap.’¹⁴⁹ Bernays solution was to invent an affordable and egalitarian hobby from scratch and managed to charge plain white soap with values such as creativity, individuality and self-expression. Not unlike today’s ‘Maker Movement’ after the financial crash of 2008,¹⁵⁰ the contest was sold to the public as a nostalgic return to manual skills in times of mechanised and alienating work even though it primarily served to sell more mass-produced soap. The first *National Soap Sculpture Competition in White Soap* was conducted in 1924 and had 500 participants; in 1931, the annual contest had already 5000 submissions and it continued thereafter for several decades. In *Propaganda*, Bernays reveals how he put his theory of crowd manipulation into practice:

A number of familiar psychological motives were set in motion in the carrying out of this campaign. The aesthetic, the competitive, the gregarious (much of the sculpturing was done in school groups), the snobbish (the impulse to follow the example of a recognized leader), the exhibitionist, and – last but by no means least – the maternal. All these motives and group habits were put in concerted motion by the simple machinery of group leadership and authority. As if actuated by the pressure of a button, people began working for the client for the sake of the gratification obtained in the sculpture work itself.¹⁵¹

The similarity, especially of that very last sentence, to today’s crowdsourcing contests for design is striking. Through clever manipulation, the natural creative impulses that people have are redirected and orchestrated to serve corporate interest without the participants taking much notice or at least without them being bothered about working for free.

Bernays was convinced, that in order to influence the crowd, one should not speak directly to its lower rank members – instead, one had to win over the people the crowd looked up to, influence them and speak with their voice. For that, the message could not simply be ‘buy more soap’ but had to appeal to subconscious desires and be aligned with the pursuit of higher values and the perceived greater good, like in today’s *volunteer crowdwork* (see chapter 3.3).

The reasons for participating in these crowd creativity projects back then and today are very similar. People either had a very alienating and unfulfilling job which they tried to counterbalance with a creatively fulfilling and productive hobby, or they had a lot of free time on their hands because they had been made redundant and tried to put that downtime to good use in order to stay skilled, motivated and focused.¹⁵²

¹⁴⁹ Video by the Museum of Public Relations: Edward Bernays speaks about his work for Ivory Soap

<http://www.youtube.com/watch?v=l5NaCjuADb0&feature=youtube_gdata_player> [accessed 12 February 2014]

¹⁵⁰ See: Schmidt, Florian Alexander: ‘Die Revolution Wird Nicht 3D gedruckt’ <<http://florianschmidt.co/die-revolution-wird-nicht-3d-gedruckt/>> [accessed 25 October 2014] – An essay in German that I wrote for the annual conference of the German Design Research Society in 2013, which dealt with the politics of the ‘Maker Movement’. In it, I show that there is a direct connection between the financial crash and the return to private handicraft work as a means to regain a feeling of control in times of economic depression.

¹⁵¹ *Ibid.* p. 81.

¹⁵² See: Marshall, Jennifer Jane, ‘Clean Cuts: Procter & Gamble’s Depression-Era Soap-Carving Contests’, *Winterthur Portfolio*, 42 (2008), 51–76 p. 52–53 and also: Gelber, Steven M., *Hobbies: Leisure and the Culture of Work in America* (New York: Columbia University Press, 1999).

Edward Bernays didn't invent crowd creativity contests, but he refined the concept at a comparatively early point in history. Not only did he change the image of the product; customers also had to consume vast amounts of the product in order to take part in the competition. But the soap sculptures were still at the very end of the value chain and selling the material, the soap as Procter and Gamble's end product, made the profit. (In modern crowdsourcing, the crowd works in almost all stages of the value chain: from ideation, over research and development to production, marketing and market research.)

It took until the twenty-first century for Bernays' ingenuity in harnessing crowd creativity for commercial purpose to be surpassed. In today's iteration of these methods, the crowd is 'nudged' into producing goods that feed back into the value chain, that can be resold or form the basis of innovative new products. As I will show in chapter four, today's *contest-based* crowdsourcing can be marketing, market research, product development and production – all wrapped into one. Today's crowdsourcing has found a way to get the actual work done itself, under the pretext of being just a hobby.



Fig. 8: Judges of the National Soap Sculpture Committee Annual Competition for Small Sculptures in White Soap, New York, second quarter of the twentieth century. (Procter & Gamble Archives, via 'Clean Cuts' by Jane Jennifer Marshall.)

1.5 – FROM HERD INSTINCT TO COLLECTIVE INTELLIGENCE

This last section of chapter one leads from the classic concern of how to best keep the ‘riffraff’ at bay in a new democracy, so typical for the crowd psychology of the nineteenth century, to much more utopian visions of networking all of humanity into one giant thinking organism.

Seen from the perspective of biology and evolution, simple elements seem to follow the tendency to form new and ever more complex structures, from atoms to molecules, to cells, to organs, to organisms, to societies. This is, to some extent, the approach that the British surgeon Wilfred Trotter took in his study of the ‘herd instinct,’ published in 1924.¹⁵³ He first of all discusses the extraordinary increase in strength, intelligence, sensitivity, alertness and resilience that is gained when an individual unit in biology starts to become part of a group. Trotter points out that this was a crucial step in evolution that happened once on the level of cells forming a single organism, and that happened again with the emergence of social animals, who started to form herds, packs, flocks, swarms, hives and colonies. In these formations, large groups of animals act as one being; a behaviour that can be very advantageous for both, flight and attack, as exemplified in herds of sheep and packs of wolves. Strength in numbers also helps with the favourable alteration of the environment, as exemplified by beehives, anthills and termite mounds.

According to Trotter, the key concepts, which allow this astonishing behaviour to emerge, are ‘gregariousness’ and ‘herd instinct.’ In contrast to Le Bon, Trotter looks at collective behaviour of social animals not only in the comparatively exceptional situation of a crowd, but as a constant pattern, formative for any society. However, the increase in strength through collective action comes at a price, Trotter explains. The trick to ‘act as one’, can only be accomplished by a high degree of suggestibility towards the other members of the group. Individuals have to take all impulses that they receive from their immediate neighbours as *a priori truths* and must act accordingly, without thinking about whether they are valid. ‘It is of especial importance’, writes Trotter, ‘to note that this suggestibility is not general, and that it is only herd suggestions which are rendered acceptable by the action of instinct. Man is, for example, notoriously insensitive to the suggestions of experience.’¹⁵⁴ Bernays knew Trotter’s theory of the herd instinct and was, unsurprisingly, especially interested in its principles of suggestibility.¹⁵⁵ Interesting in the context of today’s much-lauded crowdsourcing for innovation, is the idea that the herd instinct that Trotter describes is very hostile to innovation:

Anything which tends to emphasize difference from the herd is unpleasant. In the individual mind there will be an unanalysable dislike of the novel in action or thought. It will be ‘wrong’, ‘wicked’, ‘foolish’, ‘undesirable’, or as we say ‘bad form’, according to varying circumstances which we can already to some extent define.¹⁵⁶

In chapter four, I will come back to the question of how the crowd is able not only to accept but also to create innovations. Trotter’s theories haven’t aged well, partly because he was writing in the wake

¹⁵³ Trotter, Wilfred, *Instincts of the Herd in Peace and War* (London: T. Fisher Unwin, 1924).

¹⁵⁴ Trotter, p. 32.

¹⁵⁵ Bernays, p. 44.

¹⁵⁶ *Ibid.* p. 32.

of World War I, pushed the use of animal metaphors too far, and slipped into propaganda. In later parts of the book he connected the perceived character of whole nations to certain animals, namely, the Germans to wolves and the British to bees.¹⁵⁷ According to historian Marlise Rijks, this ‘introduction of national prejudice into scientific theory’ has ‘discredited his work for later generations.’¹⁵⁸ But the shift in perspective and the question how far animal metaphors can appropriately be stretched is still relevant for today’s discussion of crowd phenomena, where they are used quite frequently. In the previous sections, I already briefly mentioned microbes, sheep, monkeys and ants as metaphors for the crowd. Yet, the most commonly used simile is that of the worker bee, which generally has very positive connotations. The Freelancers Union in the US uses the beehive as its logo and has also built the aesthetic identity of its social networking platform ‘Hives’ on this metaphor.¹⁵⁹ Bees not only display complex, emergent behaviour and build intricate structures collaboratively, they also industriously create a product that can be harvested by others.¹⁶⁰ Already in Bernard Mandeville’s poem *Fable of the Bees* from 1705, the hive served as a parable to illustrate economic principles such as the division of labour and the creation of wealth. ‘Harvesting the hive’ (or ‘harnessing the hive’ – a weird mix of metaphors) are frequently used expressions to refer to crowdsourcing and the German word for crowdsourcing even is ‘Schwarmauslagerung’ – meaning, the outsourcing to the hive.¹⁶¹ I use the beehive metaphor myself, as in the illustration on the cover page of this thesis, and I find it helpful for drawing the attention to the question of who is providing the infrastructure (or platform) for the hive and who is harvesting the honey. But every metaphor has its limits, and it is important to keep in mind that humans in crowdsourcing systems cannot be reduced to mindless agents. As vivid as the insect metaphors are to illustrate structure, emergent coordinated behaviour and collective intelligence, they do not work on the level of the individual and their misuse can quickly lead to totalitarian notions of society. Bees are a very ambivalent metaphor, they are used as a badge of honour, as in the case of the Freelancers Unions, where they stand for virtue and collective industriousness, but they can also aggravate the tendency to let the individual in the ‘swarm’ appear meaningless and exchangeable – a drone stuck in a rigid system that is being taken advantage of by an entity outside the hive.

¹⁵⁷ *Ibid.* 179.

¹⁵⁸ Rijks, Marlise, *Conceptualizing the Masses. Discipline Formation & Concepts of Modernity*. (Thesis RMA: Historical and Comparative Studies of the Sciences and Humanities, Utrecht: Utrecht University, 2011) <<http://dspace.library.uu.nl/handle/1874/202835>> [accessed 27 March 2014].

¹⁵⁹ Horowitz, Sara, ‘Hives: A Community for the New Workforce’, *Freelancers Union*, 2014 <<https://www.freelancersunion.org/blog/dispatches/2014/09/03/hives-community-new-workforce/>> [accessed 16 September 2014]

¹⁶⁰ Ramírez, Juan Antonio, *The Beehive Metaphor: from Gaudí to Le Corbusier* (London: Reaktion, 2000)

¹⁶¹ Early examples in the context of digital labour and collective intelligence: Kelly, Kevin, *Out of Control: The New Biology of Machines, Social Systems, and the Economic World* (Reading, Mass.: Addison-Wesley, 1995) and: Herz, J. C., ‘Harnessing the Hive: How Online Games Drive Networked Innovation’, *Esther Dyson’s Release 1.0*, 18 October 2002.



Fig. 9: Logo of the US-based Freelancer Union, founded by Sara Horowitz.

Leaving the metaphor of the beehive behind, but staying in the realm of biological systems, it is interesting to observe that the fears of the old elites in face of the new power of the masses transformed into more lofty notions through a change of perspective in time and scale. When the forming of groups is not imagined anymore as the concrete crowd on the street, but as the entirety of humanity in an abstract sense, large numbers of people start to appear as the necessary critical mass for the next glorious phase in evolution. This vision appeared under different names and in different varieties, but it is closely connected to contemporary promises of what crowdsourcing will enable in the future. The collaboration of the entirety of humanity in order to prevent or deal with a global catastrophe like climate change is the ultimate justification of crowdsourcing, as brought forward by people like Thomas Malone, director of the MIT Center for Collective Intelligence and the management consultant Don Tapscott in *Wikinomics* and *Macrowikinomics*.¹⁶² In a promotional video for *Macrowikinomics* the claim is made that the world is broken, but that our new digital ‘tools and platforms’ lead to the ‘birth of a new civilisation’ based on mass collaboration, openness, sharing, integrity, interdependence, and of course, crowdsourcing.¹⁶³ In its essence, this is a utopian and sometimes even spiritual hope for a total unity and balance of mankind and nature on a higher level of consciousness. In this vision, society is seen as a biological superorganism consisting of many specialised organs that are in constant synergetic interaction. An early version of the organicist view was formulated by Herbert Spencer, who, inspired by Darwin’s *On the Origin of Species* (1859), based his *Principles of Sociology* (1897) on the assumption that society is an evolving ‘social organism’ defined by ever growing complexity and internal processes of integration and differentiation, division of labour, so to speak, following a universal law of evolution.¹⁶⁴ In the middle of the twentieth century, the idea of seeing the whole planet as well as the entirety of society as one integrated system with many interlinking subsystems became the worldview of cybernetics. It allowed the analysis of living and non-living actors as one interconnected system of mathematically describable feedback loops. Technology provided the means to blend humans and machines into one. The Belgian cyberneticist Francis Heylighen traces versions of the idea of society as one single organism back to antiquity, but it is only

¹⁶² Tapscott, Don, and Anthony D Williams, *Wikinomics: How Mass Collaboration Changes Everything* (London: Atlantic, 2008); Tapscott, Don, *Macrowikinomics: Rebooting Business and the World* (New York: Portfolio/Penguin, 2010); MIT Center for Collective Intelligence: <http://cci.mit.edu/index.html>

¹⁶³ From Crowdsourcing to Kony 2012: Macrowikinomics: New Solutions for a Connected Planet, 2012 <<http://youtu.be/rK4If-FFjW8>> [accessed 31 May 2014]

¹⁶⁴ Spencer is also the one who coined the famous phrase ‘survival of the fittest.’

with the advent of sophisticated knowledge retrieval systems, network technology and the study of cybernetics that the metaphor transforms into a political and technological agenda.¹⁶⁵ In these modern imaginings, the internet becomes the central nervous system of humanity, the individual becomes a node in a global information processing organism – a Global Brain. Heylighen distinguishes between three different but often interwoven strands of the concept: the *organicist*, the *encyclopedist* and the *emergentist* vision, depending on whether the global brain is seen as a social organism, a universal knowledge system, or an emergent level of planetary consciousness.¹⁶⁶ I can't go into the intricacies of these concepts here, but I want to briefly mention why this seemingly progressive vision is problematic.

The idea of seeing evolutionary biology as a guiding holistic principle gained popularity as the 'Gaia Hypothesis' originally developed by the British maverick polymath James Lovelock and further popularised in a New Age spiritual version by British physicist Peter Russell who coined the term and published the book *The Global Brain* in 1982.¹⁶⁷ The believers in the Gaia Hypothesis, paradoxically see humanity with its infrastructure and network technology as the intelligent nervous system of the planet and, at the same time, as the cancer of the earth. On the one hand, the 'natural' equilibrium of a system, which stabilises itself through feedback loops, is praised while on the other hand, the system is supposed to be steered or controlled through coordinated interventions from the outside. As Heylighen points out: 'The organicist view is not just rejected on the left by Marxists, but on the right by advocates of 'laissez-faire' economics, who abhor the idea of individuals as merely little 'cells' subordinated to a collective, which they see as a justification for totalitarian systems such as those created by Mao, Hitler or Stalin.'¹⁶⁸

The 'World Brain' is the encyclopedist version of the global brain. It was introduced and popularised by the science-fiction writer H.G. Wells, who was in turn influenced by the encyclopaedic endeavours of the enlightenment thinkers Denis Diderot and Jean le Rond d'Alembert.¹⁶⁹ Wells was obsessed with creating an encyclopaedia in the form of a World Brain, that was supposed to be much more than just a knowledge retrieval system: a global government unifying humanity and preventing all future wars. The reorganisation of the world's knowledge would be the first step. Wells envisioned a future utopia in which humanity would be free from toil, thanks to mechanisation and automation. New intellectual occupations, such as the constant editing of a shared global encyclopaedia – just like Wikipedia – would keep the global network of intellectual workers busy. Indeed a crowdsourcing utopia:

¹⁶⁵ Heylighen, Francis, 'Conceptions of a Global Brain: An Historical Review', in *From Big Bang to Global Civilization: A Big History Anthology* (University of California Press, 2012).

¹⁶⁶ Heylighen, p. 2.

¹⁶⁷ Lovelock, J. E., 'Gaia as Seen through the Atmosphere', *Atmospheric Environment* (1967), 6 (1972), 579–80
<[http://dx.doi.org/10.1016/0004-6981\(72\)90076-5](http://dx.doi.org/10.1016/0004-6981(72)90076-5)> Russell, Peter, *The Awakening Earth: The Global Brain* (London: Ark, 1984). See also the animated short film version: *The Global Brain* – Peter Russell, 1983

<http://www.youtube.com/watch?v=B1sr9x263LM&feature=youtube_gdata_player> [accessed 23 February 2014]

¹⁶⁸ Heylighen, p.3.

¹⁶⁹ Wells, H.G., *World Brain*, 1938. (The book is available online in different free ebook formats, without fixed page numbers but easily searchable; see: <<http://gutenberg.net.au/ebooks13/1303731h.html>> [accessed 20 February 2015])

You see how such an Encyclopaedic organization could spread like a nervous network, a system of mental control about the globe, knitting all the intellectual workers of the world through a common interest and a common medium of expression into a more and more conscious co-operating unity and a growing sense of their own dignity, informing without pressure or propaganda, directing without tyranny.¹⁷⁰

But this very cybernetic sounding ‘directing without tyranny’ is the great fallacy in Wells’ visions. He frequently writes about an ‘Open Conspiracy’ by a class of technocrat ‘Samurai,’ that will control the New World Order; very much like Edward Bernays’ idea of the ‘invisible government.’ As the Australian Information Scientist W. Boyd Rayward has unveiled in great detail, Wells belief in a centralised version of the world brain in which a superior class of man, undemocratically direct the world with best intentions and for the better, resorting to total control and even eugenics.¹⁷¹ The various global brain fantasies always sound promising at first. With the help of technology, humanity will be able to merge the totality of its cognitive capacities into a super brain that will than steer the planet into a better future. They are the opposite of the derogative notions of the primitive crowds, but they disrespect the individual human in a different way, since the single being, larger groups and even politics eventually become meaningless. As soon as all brains are connected, so these visions go, a supreme being will emerge, be it biological, technological, hybrid or virtual. The only option that remains for lesser humans is to have faith and give in to a totalitarian technological or biological determinism. Yet, as a species, we can’t make collective decisions without politics and it would be fatal to hand over control to a quasi-religious belief in self-organising networks, monitored by an invisible technocratic or cybernetic government.

*

In the 1990’s, with the advent of the world wide web, the old vision to connect all human brains to form a single superorganism suddenly seemed within reach. In 1994, the French sociologist and philosopher Pierre Lévy coined the term ‘collective intelligence’ to describe ‘mankind’s emerging world in cyberspace’.¹⁷² Lévy’s book is a document that is very characteristic of the special moment in time when it was published – the internet had arrived, its power had become evident, but was not yet fully realised and its direction still left a lot of room for speculation and deliberation. Lévy’s worldview and ambitions are deeply humanist throughout the text. His ideas build on those of social computing pioneers such as Douglas Engelbart (who I will introduce in the next chapter) and set out to strengthen and integrate the individuals on the fringes of society. He wants their potential contributions to be taken seriously, treated with respect and integrated in a meaningful way. For him, collective intelligence is:

¹⁷⁰ *World Brain*

¹⁷¹ Rayward, W. Boyd, ‘H.G. Wells’s Idea of a World Brain: A Critical Reassessment’, *Journal of the American Society for Information Science*, 50 (1999), 557–573 <doi:10.1002/(SICI)1097-4571(1999)50:7<557::AID-ASI2>3.0.CO;2-M>.

¹⁷² Lévy, Pierre, *Collective Intelligence: Mankind’s Emerging World in Cyberspace* (Cambridge, Mass.: Perseus Books, 1997); first published in French in 1994 under the title: *L’intelligence collective: Pour une anthropologie du cyberspace* (La Découverte, Paris, 1994)

a form of universally distributed intelligence, constantly enhanced, coordinated in real time, and resulting in the effective mobilisation of skills. [...] The basis and goal of collective intelligence is the mutual recognition and enrichment of individuals rather than the cult of fetishised or hypostatized communities.¹⁷³

For Lévy, it is very important to distinguish this vision from any totalitarian tendencies that diminish the role of the individual human. According to the French sociologist, the failure to recognise the other as an intelligent being is to deny him his social identity. Collective intelligence ‘is a global project whose ethical and aesthetic dimensions are as important as its technological and organisational aspects.’¹⁷⁴ True collective intelligence, as understood by Lévy, would be a ‘real time democracy’ and the antithesis of any totalitarian system; it would be based on slow, distributed collective deliberation by the many, without any power in the hands of the few. It is marked by a ‘laborious but continuous construction of a collective and interactive debate in which everyone can contribute to formulating questions, establishing positions, proposing and weighing arguments, making and evaluating decisions.’¹⁷⁵ It does not mean simple online voting (or ‘clicktivism’, as it is today called) but hard work. The question is how many people would be willing to constantly engage in such an ongoing discourse without representatives. For Lévy, collective intelligence offers a third way; neither the ‘stupidity of crowd behaviour’ nor the oppression through hierarchy and authority. ‘Intelligent communities are the direct antithesis of the incoherence and brutal immediacy of crowd behaviour and, yet do not channel the community into a rigid structure.’¹⁷⁶ But I would argue that there are limits to the size a community can have before becoming either a crowd, with no internal structures or some form of state, with rigid structures.

Throughout the book, Lévy argues decidedly against central control of the ‘global brain’ and against the manipulation of the masses through demagoguery and propaganda. In a talk that Lévy gave in Sao Paulo in 2014, he reemphasised his position to ‘augment the human intellect’, pointed out that collective intelligence in animals is not to be confused with that among humans, and strongly dismissed the cultish belief in artificial intelligence as represented by the California-based and partly Google-financed Singularity University and its hope for Transhumanism. ‘My perspective is humanist – not post-humanist. It is a continuation of the traditional humanism, centred on the development of the person and the development of the community – the idea is human development.’¹⁷⁷

Now that our ‘world in cyberspace’ has fully emerged and turns out not to be aversive or resilient against the agglomeration of power and the reduction of humans to mere parts in the machine, it is important to recall, that Lévy’s core idea behind collective intelligence was more ambitious and human-centred (not crowd-centred). Today, the term ‘collective intelligence’ has been adopted and is primarily associated with the MIT Center for Collective Intelligence and its founding director Thomas Malone, who is also Professor of Management at the MIT Sloan School of Management. Through him, the concept has now evolved into a way of doing business instead of a way to augment the indi-

¹⁷³ *Ibid.* p.13

¹⁷⁴ *Ibid.* p.10

¹⁷⁵ *Ibid.* p.80

¹⁷⁶ *Ibid.* p. 81

¹⁷⁷ *Pierre Lévy Talks about Collective Intelligence at Senac* (São Paulo, 2014)

<http://www.youtube.com/watch?v=taNqrhTCxTE&feature=youtube_gdata_player> [accessed 3 November 2014]

vidual intellect. Asked in an interview by *The Economist* about the future of work and the opportunity for management to take advantage of collective intelligence, Malone answered that ‘one advantage is that you can sometimes get work for less money if you are enticing people to work for free. The deeper question is, how do you motivate people to do the things you want them to do?’¹⁷⁸ Malone went on to explain that marketing has been traditionally aimed at getting people to buy stuff – now, these instruments would be better used to keep people motivated to work as volunteers. According to Malone, people can be motivated by money, love and glory and he wants to emphasise the latter two to enhance the effectiveness and the collective intelligence of businesses. The metaphor of the global brain, woolly as it may be, still has currency for the MIT, as becomes clear in a paper from 2013 by the Center for Collective Intelligence titled ‘Programming the Global Brain’.¹⁷⁹ The authors describe their paper as a ‘call to arms’ for research with the goal to ‘fully exploit the enormous potential of the global brain.’ They speculate about how a ‘social operating system’ could be designed in order to get the best output, the most reliable results, and is written from the perspective of those doing the programming of the human machine. They see the global brain as an ‘idea ecology,’ able to ‘host a constant ferment of idea generation, mutation, recombination, and selection, analogous to biological evolution’. It will take the form of an intellectual supply chain, and ‘fortunately, the global brain also provides access, at least currently, to a huge human “cognitive surplus”, so that, for instance, quality mechanisms based on previously-unthinkable levels of redundancy have become practical.’¹⁸⁰ They point out that the programmers of the ‘social operating system’ will have to become ‘societal architects’, who are to ‘master the art of programming our planet’s emerging global brain’ in order to address not only the huge opportunities of scientific and social progress but also global ‘existential threats of unprecedented seriousness, such as the environment.’¹⁸¹

The architecture of such ‘social operating system’ is also at the heart of this thesis, but my perspective is a humanist one, not primarily concerned with an efficient design of the system but with its ethics and the implications for the individuals working within it. As Charlie Chaplin wonderfully illustrated: in *Modern Times* (1936), the individual was to be reduced to being not much more than a cog in the machine – in post-industrial times the individual is in danger to be reduced to a mere processor or a neuron in the distributed computing operation of the global brain. In the end, *the global brain often serves primarily the interests of those doing the programming of the ‘social operating system’, not those who are doing the processing of data.*

The next chapter will look at historic visions of distributed computing, by engineers and designers that were still primarily concerned with the empowerment of the individual.

¹⁷⁸ *The Future of Work with MIT’s Thomas Malone* (New York, 2013)

<http://www.youtube.com/watch?v=I9OlkrOQufg&feature=youtube_gdata_player> [accessed 3 November 2014]

¹⁷⁹ Bernstein, Abraham, Klein, Mark and Malone, Thomas W. ‘Programming the Global Brain’, *Commun. ACM*, 55 (2012), 41–43

<<http://dx.doi.org/10.1145/2160718.2160731>>. The quotes below stem from a pre-release version of the paper: MIT Center for Collective Intelligence Working Paper No. 2011-04. The concept of ‘Collective Intelligence’ in this sense was developed in the 1990s by Pierre Lévy: Lévy, Pierre, *Collective Intelligence: Mankind’s Emerging World in Cyberspace* (Cambridge, Mass.: Perseus Books, 1997).

¹⁸⁰ *Ibid.* p. 3.

¹⁸¹ *Ibid.* p. 5.

1.6 – SUMMARY AND CONCLUSIONS OF CHAPTER ONE

1. As I have shown, the term ‘crowd’ underwent a fundamental shift in its connotations over time; from a term that was used to refer to the supposedly primitive and potentially dangerous ‘rabble’ in the streets to a productive and creative virtual workforce. It now stands for a source of cheap labour on the internet. I argue that the steep rise and fall in the popularity of the term ‘crowd’ and the inversion of its connotation is a diagnostic of social and technical change, especially in regard to the use of media and the design of online systems.
2. The 19th century discourse on crowds was marked by an elitist fear of its unruly force. In the 20th century, the discourse revolved around the concept of ‘the masses’ as the total sum of passive consumers of the mass media and mass production. The one-size-fits-all approach to media consumption and production was no longer appropriate at the beginning of the 21st century; a fact which led to a reintroduction and reinvention and of the term crowd after 2004 as away to refer to open self-assigned online groups of working users.
3. I argue that this development in the use of the term crowd reveals the underlying power structures at play. It stands for a shift from user-centred design to crowd-centred design. Digital tools that had hitherto been developed with the goal of empowering the individual user gave way to a managerial perspective that treats users as a deindividualised, interchangeable crowd that can be manipulated and harnessed for commercial gain. This is often accompanied by a hollow rhetoric of empowerment, creativity, freedom and innovation.
4. I have shown that there are fundamental differences between an offline and an online crowd. In an offline crowd the members gain strength in numbers by sharing the same space at the same time and thus committing with their embodied presence to a shared cause. They are in direct physical contact with others and can easily communicate non-verbally. This can lead to a sometimes very dangerous but also powerful ‘sentiment of invincibility.’
5. An online crowd lacks the multi-sensual, immediate and physical confirmation of its power. It also lacks the empowering and liberating moment of becoming one with others. My observation is that, from the outside perspective of the platform providers, the users are regarded as crowd while in fact they stay individuals, alone in front of their computer. This way, network technology in the form of online platforms has turned the unruly mob into a cheap, smart and docile distributed workforce.
6. Building on the work of Elias Canetti, I have shown that both, online and offline crowds have the propensity to grow indefinitely. A true crowd has no fixed size and very low entry barriers. Everybody is free to come and go at any time. I argue that in the context of crowdwork, this is a fundamental problem, because the financial resources to pay the crowd for its labour are always limited, while the crowd is without limits. It follows from this that monetary rewards can either be spread only very thinly across the whole crowd (as in cognitive piece-work) or be doled out to a small number of ‘winners’, while the majority comes away empty-handed (as in contest-based crowdwork).
7. I argue that the use of the term crowd has been and is indicative of an asymmetry of information, capital and power. The crowd is them. Not us. One needs an elevated position to be able to speak to or about the crowd. The classic writings on crowd psychology have revolved

around the question of how to best manipulate the crowd to one's own ends. Le Bon and Bernays developed a set of linguistic tools and psychological tricks to manipulate public opinion in the service of those in power (first for political, later for commercial ends). One of the most successful techniques that Bernays developed for this purpose was to organise creativity contests with a hidden agenda. I argue that what we see with today's commercial crowdwork platforms is a continuation of this mentality and set of methods.

8. Although there are important exceptions, such as in crowdfunding, I claim that the members of a working crowd online are weakened despite their numbers because they are pitted against each other in a competitive downward spiral of underpayment and exploitation. If the crowd is large enough, there is always someone willing to do the job cheaper.
9. The conclusion from this is that in order to build up strength in numbers some form of organisation, a mode of collective decision-making and representation in the form of a spokesperson, is necessary to define and defend the interests of the group. However, such transformation goes against the grain of what I have defined as a crowd. An organised crowd stops being a real crowd. Overcoming the notion of the crowd could be an opportunity to turn things around in the digital labour landscape.
10. By drawing on the work of scholars such as John Carey, I have shown the widespread hatred and anti-democratic sentiment among intellectuals of the early 20th century towards the emerging mass culture and mass-man. This attitude has found its echo in the early 21st century hatred of the supposed 'cult of the amateur' on the internet. However, I demonstrated that since the early 20th century, there had also been utopian visions of connecting the masses into one (proto-cybernetic) network. While the notion of the world brain has had a totalitarian undercurrent and risked reducing human agency to that of firing neurons in a deterministic all-encompassing system, the concept of collective intelligence (as envisioned by Pierre Lévy) was explicitly humanist and democratic. Lévy's vision was very much human-centred – not crowd-centred. But, as I have shown, the terminology and concept of collective intelligence (and also that of the global brain) was later co-opted and hollowed out by the managerial and commercial agenda of people like Thomas Malone, who partly sustained the lofty rhetoric but also freely admitted that in his view the biggest opportunity of the concept was to get people to work almost for free.
11. I argue that these now dominant managerial visions typically reduce humans to processors in a giant machine; they are primarily concerned with the efficient design of the system, not with its ethics or the implications of its operations for the individuals working within the system. Protagonists such as Thomas Malone typically see themselves as the planners and programmers of the 'social operating system', not as its users. Thus, as I will show in the next chapter, they stand in stark contrast with the pioneers of online collaboration, who designed systems with flat hierarchies and placed themselves as users among peers.

Chapter Two: Early Concepts of Online Collaboration



Fig. 10: Illustration showing the imagined computer user of the future, from *LIFE* Magazine, 1945, accompanying a condensed version of Bush's article from *The Atlantic*.

2.1 – AN ANTICIPATION OF PERSONAL COMPUTING

The first detailed anticipation of networked personal computing and online collaboration emerged from (and was a reaction to) the large-scale interdisciplinary research for nuclear warfare. Vannevar Bush, born in 1890, had been at the Department of Electrical Engineering at the Massachusetts Institute of Technology (MIT) since 1919. There he worked on early analogue computers and code breaking devices before he became dean of the MIT School of Engineering in 1932. Much of his research was defence-related and in 1941 he was among the initiators and eventually became the major scientific coordinator of the Manhattan Project, which led to the development and ultimately the detonation of the atomic bomb. Bush coordinated the activities of about six thousand leading American scientists in the application of science to warfare.¹⁸² However, towards the end of the war, he made an intellectual leap and developed an *a priori* description of decidedly civil personal computing and online collaboration. In July 1945, Bush published 'As We May Think' in *The Atlantic*.¹⁸³ In the article, he outlined his vision of the so-called 'Memex' – a design fiction of a *personal computer* meant to support *individual* knowledge workers and foster their collaborative exchange of information on eye level. At this remarkable moment in history, only two months after the surrender of Germany and

¹⁸² Bush, Vannevar, 'As We May Think', *The Atlantic*, 1945 <<http://www.theatlantic.com/magazine/archive/1945/07/as-we-may-think/3881/>> [accessed 23 July 2012]. All quotes by Vannevar Bush in this chapter stem from this article, which has no page numbers.

¹⁸³ *Ibid.*

yet a month before the bombings of Nagasaki and Hiroshima, the director of Pentagon's Research Office tried to redirect the efforts of his colleagues towards non-military efforts. As Bush wrote in *The Atlantic*: 'It is the physicists who have been thrown most violently off stride, who have left academic pursuits for the making of strange destructive gadgets. [...] Now, as peace approaches, one asks where they will find objectives worthy of their best.'¹⁸⁴ Bush saw this new and worthy challenge in a computer aided personal information management system. He was worried that the rapidly growing amount of human knowledge would make itself unmanageable, that important scientific findings might therefore stay unnoticed, leading to a wasteful doubling of effort due to a lack of access and navigation of existing knowledge.

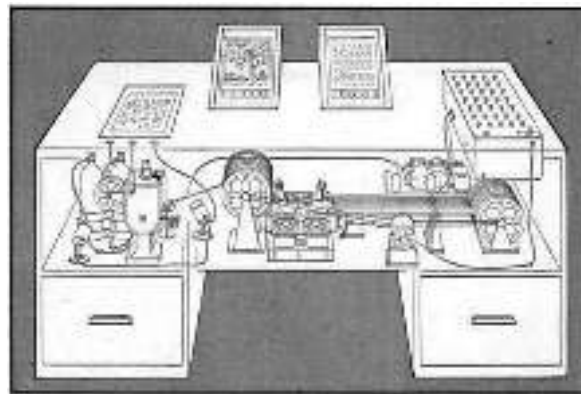


Fig. 11: Illustration of the imagined Memex workstation, printed in *LIFE* Magazine in 1945.

As H.G. Wells with his ideas for the World Brain, Bush, too, had observed the great advances in the miniaturisation of technology and was intrigued by the possibilities of microfilm as a storage medium. He was convinced that soon the '*Encyclopaedia Britannica* could be reduced to the volume of a matchbox,' its material production 'would cost a nickel, and it could be mailed anywhere for a cent.'¹⁸⁵ He did not foresee the advent of the microchip but still projected a whole system of information management *for the individual user*. The objective that he outlined was to *free the brain of the user from repetitive tasks* (in stark contrast to today's crowdsourcing services such as Amazon Mechanical Turk that, as I will describe later, just outsource the repetitive and burdensome tasks to the brains of other people, to the crowd online), in order to allow full concentration on the creative tasks at hand: 'For mature thought there is no mechanical substitute', Bush wrote, but for everything else there will be 'powerful mechanical aids. [...] We may some day click off arguments on a machine with the same assurance that we now enter sales on a cash register.'¹⁸⁶ Bush not only prophesied modern input devices, automated processing of information and logical operations to click through on a high symbolic level (like natural language in contrast to code); he also envisioned advanced tools for data retrieval that would allow users to visually browse through libraries of books and academic papers stored in the Memex and to control the 'selection device' by spoken language. He furthermore

¹⁸⁴ *Ibid.*

¹⁸⁵ *Ibid.*

¹⁸⁶ *Ibid.*

criticised the shortcomings of the way information is traditionally indexed in libraries, where it has to be traced down from subclass to subclass and can only be in one place at a time.¹⁸⁷ ‘The human mind does not work that way,’ Bush wrote, ‘it operates by association. With one item in its grasp, it snaps instantly to the next that is suggested by the association of thoughts, in accordance with some intricate web of trails carried by the cells of the brain.’¹⁸⁸ The user of the Memex would be able to index and link all kinds of information associatively – meaningfully joining the content in his private database with a keystroke.

Thus he builds a trail of his interest through the maze of materials available to him [...] he sets a reproducer in action, photographs the whole trail out, and passes it to his friend for insertion in his own memex, there to be linked into the more general trail. [...] Wholly new forms of encyclopedias will appear, ready made with a mesh of associative trails running through them, ready to be dropped into the memex and there amplified.¹⁸⁹

At a time when the oldest computer had just been running for four years and microchips were not yet available, Bush was already thinking about search engines, hyperlinks and, most importantly, *collaborative open knowledge production* – almost like Wikipedia. It was not a coincidence that this vision came out of the development of the thermonuclear bomb. Bush had to coordinate a research endeavour of unprecedented scale with many teams of scientists working in parallel – similar conditions that much later led Tim Berners-Lee to develop the ‘world wide web’ standard at CERN, between 1989 and 1991. With the important difference that at the Manhattan Project, information was deliberately distributed for security reasons, so that nobody would have the full picture.¹⁹⁰ This splitting up of one large task into many separate tasks solved in isolation to later aggregate and reassemble them is the way crowdsourcing works today in the field of *cognitive piecework* (see chapter three). In these large-scale innovation projects, classic top-down bureaucratic control alone would not have been successful: out of necessity the military-academic complex pioneered a semi post-industrial mode of working, based on interconnected flexible teams of experts.

What is most remarkable, however, is that Bush was imagining this technology of the future not in the hand of governments and large research facilities, let alone commerce, but *as a tool for the empowerment of the individual knowledge worker, as a medium to freely share ideas with peers*. This is also the crucial point that differentiates his encyclopedist imaginary future from that of H.G. Wells. One could have expected from someone who had just successfully managed the distributed work of 6,000 people to develop a computing system to better coordinate large groups of people and outsource tasks to them. Instead, Bush designed a system that he would have wanted to work with himself, *a tool for the empowerment of the individual user, not a centralised platform to coordinate and control the work of others*.

¹⁸⁷ This was also the structure on the internet for a long time, it was the way the USENET, the WELL and AOL were organised in the 80s and 90s. The criticism and the demand for a new, associative order was picked up much later in David Weinberger’s: *Everything Is Miscellaneous: the Power of the New Digital Disorder*. New York: Henry Holt and Company, 2007.

¹⁸⁸ Bush, ‘As We May Think’.

¹⁸⁹ *Ibid.*

¹⁹⁰ Else, Jon, ‘The Day After Trinity: J. Robert Oppenheimer and the Atomic Bomb’, 1980



Fig. 12: Terminal of the NLS – or ‘on-Line System’, designed by Douglas Engelbart in 1968 to enable group collaboration or what he called ‘collective IQ’ via networked computers. The user is holding the first ‘mouse’, also designed by Engelbart.

2.2 – AUGMENTING HUMAN INTELLECT

It took years until the first steps were made towards the realisation of the Memex but, already in 1945, Bush’s ideas left a lasting impression on the person that would undertake these steps. When he stumbled upon Bush’s article in *The Atlantic*, Douglas Engelbart was a twenty-year-old navy radar technician stationed on a small island in the Philippines.¹⁹¹ After he returned from the war, he studied electrical engineering and then started working for an aeronautics research centre in Mountain View, California, at the heart of what would later become known as the Silicon Valley. In 1950 realised that he wanted to contribute something meaningful to the world, ‘something that would enable people to collectively understand the scope and nature of the world’s problems and the potentials for their solution.’¹⁹² He decided to devote his life to the task of empowering the individual, with the help of the computer, to *augment the user’s intellect* and make Vannevar Bush’s vision of the Memex real.

However, when Engelbart told colleagues at the University of California, Berkeley about his ambitious plans, he was ridiculed.¹⁹³ His ideas were not regarded as an appropriate research topic. At the time, computers were massive mainframe machines doing arithmetic calculations, primarily for military purposes. The long-term goal following the work of Alan Turing and John von Neumann was *artificial intelligence* – nobody was interested in ‘augmenting the intellect of the user.’ Indeed, there wasn’t even such thing as an individual user at that time. The huge machines had to be shared by many scientists, most of whom only had indirect access. Engelbart was warned to keep quiet about his visions if he wanted to make a career and not stay an assistant forever. Yet, he stuck to his and

¹⁹¹ The anecdotal information about Douglas Engelbart in this section is paraphrased mostly after the extensive descriptions in: Markoff, John, *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry* (New York: Penguin Books, 2006), and from a talk Engelbart gave in 2007 at Google: Authors@Google: Douglas Engelbart <http://www.youtube.com/watch?v=xQx-tuW9A4Q&feature=youtube_gdata_player> [accessed 29 July 2012].

¹⁹² This quote is from a talk Engelbart gave at the Google Headquarters in Mountain View on August 22, 2007. Authors@Google: <http://youtu.be/xQx-tuW9A4Q>.

¹⁹³ Ibid.

Vannevar Bush's vision and in 1962, at the Stanford Research Institute, he published an extensive report for the Air Force titled *Augmenting Human Intellect: A Conceptual Framework*.¹⁹⁴ In it, he argued that 'after all, we spend great sums for disciplines aimed at understanding and harnessing nuclear power. Why not consider developing a discipline aimed at understanding and harnessing "neural power?" In the long run, the power of the human intellect is really much the more important of the two.'¹⁹⁵ This at first almost sounds like today's idea of 'harnessing the cognitive surplus' through 'human computation,' but Engelbart aimed not at repetitive and simple 'micro-tasking' – quite the opposite. He wanted to significantly increase the complexity of tasks that could be dealt with by an individual. He described a holistic system of human computer interaction that focused not on technical specifications but on the workings of the human intellect, the creation of knowledge and the manipulation of symbols:

By 'augmenting human intellect' we mean increasing the capability of a man to approach a complex problem situation, to gain comprehension to suit his particular needs, and to derive solutions to problems. [...] By 'complex situations' we include the professional problems of diplomats, executives, social scientists, life scientists, physical scientists, attorneys, designers [...]. We do not speak of isolated clever tricks that help in particular situations. We refer to a way of life in an integrated domain where hunches, cut-and-try, intangibles, and the human 'feel for a situation' usefully co-exist with powerful concepts, streamlined terminology and notation, sophisticated methods, and high-powered electronic aids. (1a1)

Man's population and gross product are increasing at a considerable rate, but the complexity of his problems grows still faster, and the urgency with which solutions must be found becomes steadily greater in response to the increased rate of activity and the increasingly global nature of that activity. Augmenting man's intellect, in the sense defined above, would warrant full pursuit by an enlightened society [...] (1a2)¹⁹⁶

Engelbart outlined what we today take for granted; real-time digital text editing programs that allow easy copying and pasting of text fragments and that include dictionaries and auto-complete features. He also aimed to make semantic text editing tools that would make how an argument is structured visible and link back and forth inside its logical structure. But his system would not be limited to text editing. Right from the beginning he thought about the way designers could benefit from the work with the computer. His very first example in *Augmenting Human Intellect* is that of an architect creating and collaborating with the help of the machine, yet to be designed by Engelbart:

Let us consider an augmented architect at work. He sits at a working station that has a visual display screen some three feet on a side; this is his working surface, and is controlled by a computer (his 'clerk') with which he can communicate by means of a small keyboard and various other devices. (1a11)

A structure is taking shape. He examines it, adjusts it, pauses long enough to ask for handbook or catalog information from the clerk at various points, and readjusts accordingly. He often recalls from the 'clerk' his working lists of specifications and considerations to refer to them, modify them, or add to them. These lists grow into an evermore-detailed, interlinked structure, which represents the maturing thought behind the actual design. (1a14)

¹⁹⁴ Engelbart, Douglas, 'Augmenting Human Intellect: A Conceptual Framework' (unpublished Summary Report AFOSR-3233, Menlo Park, CA: Stanford Research Institute, 1962) <http://sloan.stanford.edu/mousesite/EngelbartPapers/B5_F18_ConceptFrameworkInd.html> [accessed 20 January 2013].

¹⁹⁵ Paragraph 6e – the specific numbers for each paragraph are a structural element of Engelbart's Augmentation System with which he tried to overcome the page metaphor in the digital realm. I will stick to his system here, whenever I quote from the 1962 paper.

¹⁹⁶ *Ibid.*

All of this information (the building design and its associated ‘thought structure’) can be stored on a tape to represent the design manual for the building. Loading this tape into his own clerk, another architect, a builder, or the client can maneuver within this design manual to pursue whatever details or insights are of interest to him – and can append special notes that are integrated into the design manual for his own or someone else’s later benefit. (1a18)¹⁹⁷

Remarkably, about half of this academic research report written for the US Air Force takes the form of a design fiction. Engelbart puts the reader into a conversation with ‘Joe,’ the future user of the imaginary augmentation system, who explains patiently all the functions of the tool and how he uses the system to get his work done. Engelbart also included thoughts about ergonomics: how the future user would sit comfortably in front of multiple screens; how he would best switch from one device to another, depending on what types of symbols he would want to manipulate; and where an input device such as a stylus pen would have to be positioned.¹⁹⁸ Speaking with the voice of Joe from the future, Engelbart outlined his long-term goal, the use of the augmentation system for group collaboration:

We have experimented with having several people work together from working stations that can provide inter-communication via their computer or computers. That is, each person is equipped as I am here, with free access to the common working structures. There proves to be a really phenomenal boost in group effectiveness over any previous form of cooperation we have experienced. They can all work on the same symbol structure, wherever they might wish. If any two want to work simultaneously on the same material, they simply duplicate and each starts reshaping his version – and later it is easy to merge their contributions. The whole team can join forces at a moment’s notice ‘pull together’ on some stubborn little problem, or to make a group decision. [...] (3b9a)

We feel that the effect of these augmentation developments upon group methods and group capability is actually going to be more pronounced than the effect upon individuals methods and capabilities, and we are very eager to increase our research effort in that direction. (3b10)¹⁹⁹

In the context of this thesis, the most important aspect in regard to Engelbart is that he was the first person who actually started to build a system for elaborate online group collaboration – not just for knowledge workers in general but also for designers in particular. And he always imagined the group collaboration to be taking place among peers: he never mentions hierarchies, the outsourcing of tasks to others or the control of subordinates and their performance through the machine. Already in 1961, for example, they had created a voting-device for instant feedback in group discussions. A speaker could continue talking as long as the real-time ratings submitted by the group through special devices didn’t fall below 50 per cent.²⁰⁰

Engelbart’s paper is marked by a humanist view of technology and a strong belief in the capabilities of the individual user, if only he or she was provided with the proper tools. Not unlike his contemporaries Richard Buckminster-Fuller and Stewart Brand, Engelbart is deeply concerned with

¹⁹⁷ *Ibid.*

¹⁹⁸ In 1963 Ivan Sutherland’s ‘Robot Draftsman’ Sketchpad pioneered the manipulation of graphics directly on the screen with a stylus pen as a tool. See: Sutherland, Ivan E., ‘Sketch Pad a Man-Machine Graphical Communication System’, in *Proceedings of the SHARE Design Automation Workshop*, DAC ’64 (New York, NY, USA: ACM, 1964), pp. 6.329–6.346 <<http://dx.doi.org/10.1145/800265.810742>>

¹⁹⁹ Engelbart, ‘Augmenting Human Intellect: A Conceptual Framework’

²⁰⁰ Markoff, *What the Dormouse Said*, p.45. An analogue contemporary version of this approach can be found in the hand signals developed by the Occupy Movement to communicate during public speeches and to make consensus based decisions.

the growing challenges for humanity on a global scale. He sees the responsibility and the possibility to tackle these problems in the hands of the individual (which would be the ‘Comprehensive Designer’, in Buckminster-Fuller’s parlance). And while Brand, as I will show in the next section, demanded and – to some extent provided – ‘access to tools’ with his *Whole Earth Catalog*, Engelbart worked hard to design such tools. It is a worldview that is very typical for the 1960s in the US and that has been perpetuated into the present through the success of the Californian tech-industry. Fuller, Brand and Engelbart didn’t expect the solution for society’s big problems to come from some top-down state institutions, from Big Government, so to speak. Instead they were firm believers in *bottom-up distributed technological empowerment of the individuals*, who could then self-organise into groups of collaborators. This became almost like a mantra in the early history of online collaboration: Provide *individuals* with proper hardware and software *tools*, encourage all these users to connect over a *network*, and thus enable them to solve the world’s problems through *bottom-up, decentralised collaboration*.

Engelbart’s approach to tackle research, development and design problems was very advanced at the time and it remains relevant. He called his method ‘bootstrapping,’ and it was a combination of planning and intuition, calculation and tinkering. He applied scientific quantitative methods but also emphasised the importance of a ‘feel for a situation’ and a hands on approach. He didn’t aim at design products in the sense of finished artefacts: instead he was interested in fostering a system of iterative development processes that revolved around tools for designers and other creative users, who, in turn, would be augmented or empowered to solve cognitive tasks and designerly problems. For Engelbart, such a holistic approach was necessary in order to tackle the hard and complex problems (or ‘wicked problems’ as design theorist Horst Rittel would later call it) that society was facing.²⁰¹ With this synthesis of theory, practice, planning, intuition, improvisation, prototyping, failure and reiteration, Engelbart was very close to Buckminster Fuller’s design science approach.²⁰² In contrast, those who around the same time tried to establish a rigorously scientific methodology for design in the wake of the Design Methods Movement (John Chris Jones and Christopher Alexander, building on the ideas of Herbert Simon)²⁰³ went from one extreme to the other. First they were over-scientific, only to then distance themselves from science altogether to finally find a synthesis in ‘*designerly ways of thinking*’ and ‘*knowing*’ (Nigel Cross) and the *Reflective Practitioner* (Donald Schön).²⁰⁴

In Engelbart’s conceptual framework from 1962, there are also insights relevant for today’s open-source software endeavours and the attempts and difficulties to apply them to other fields such as product design. He pointed out that programming was particularly suited for these open approaches because it can be immediately tested and verified. He also mentioned the beneficial recursiveness in software development, in the sense that the tools that are being developed are of immediate use for

²⁰¹ Rittel, Horst, and Melvin Webber, ‘Dilemmas in a General Theory of Planning’, Elsevier Scientific Publishing Company, Inc., Amsterdam, Policy Sciences 4 (1973), 155–169.

²⁰² ‘Design Science’, Buckminster Fuller Institute (BFI) <<http://bfi.org/design-science>> [accessed 12 March 2014].

²⁰³ Jones, J. Christopher, *Design Methods: Seeds of Human Futures*, 1980 ed. with a review of new topics (New York ; Chichester [Eng.]: J. Wiley, 1981); Simon, Herbert A., *The Sciences of the Artificial* (Cambridge, Mass.: MIT Press, 1996) <<http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=49230>> [accessed 12 March 2014].

²⁰⁴ Cross, Nigel, ‘Designerly Ways of Knowing: Design Discipline Versus Design Science’, *Design Issues*, 17 (2001), 49–55 <<http://dx.doi.org/10.1162/074793601750357196>>; Schön, Donald A., *The Reflective Practitioner: How Professionals Think in Action*. (Basic Books, 1983).

those who create them. The first point has a modern equivalence in *facts* on Wikipedia, which can be checked and are *either true or false* (at least in principle; in reality, there are ‘edit wars’). Collective decision-making is relatively easy in cases where there is a result that can be objectively measured. The second point made here by Engelbart is equally important: programmers often solve a problem primarily for their own purpose and then ‘donate’ the solution to a community of peers with similar skills, which in turn can then easily verify if the solution works and adapt and integrate it into other projects, due to the modularity and openness of the source code. (This is something designers can’t do easily, if they develop the shape of things or a visual identity, this is usually for a particular client and a specific context, thus they can’t just donate it to other designers to freely use. More often than not, design solutions depend on the aura of exclusivity and are not directly reusable.) In programming, the tools and the product are the same – all is code. And what counts is what a program does, not how it looks on the surface – this not about creating an identity and the programmer gets his or her reputation from what is ‘under the hood’ or within the ‘black box’, not from what it looks and feels like to lay-people from the outside – it is much more like engineering in that sense. This allows programmers to *collectively* re-programme the digital environment in which they are working together. These arrangements constitute what anthropologist Christopher Kelty calls a ‘recursive public,’ as I will explain in more detail at the end of this chapter.²⁰⁵

The attempt to apply these open-source principles to fields such as product and graphic design proves difficult because the conditions are different ones. In design, decisions are not only based on functionality but also on aesthetics and, as such, can’t really be evaluated objectively. In graphic design as well as in product design there is the ideal to think holistically, always start from scratch and create something unique, custom-tailored and with the signature style of the auteur designer, not something modular and just functional. Collective aesthetic decisions are still met with scepticism. As they say, a camel is a horse designed by a committee. These are some of the many points why open design is not taking off as a practice to an extent that is comparable to the widespread application and success of open-source software (or the crowdsourcing of design, for that matter).

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In 1957, already five years before he published ‘Augmenting the Human Intellect’, Engelbart had started working on the practical implementation of his ‘Augmentation Framework’. He did this at the magnetics laboratory of the Stanford Research Institute (SRI) in Menlo Park, first without any special funding and against the conviction of most of his fellow engineers, who believed that the future belonged to artificial intelligence. In 1963, he did however manage to secure the crucial support from J.C.R. Licklider, a visionary and powerful computer scientist, in charge of orchestrating the research funds of the Advanced Research Projects Agency (ARPA).²⁰⁶ Licklider recognised the rele-

²⁰⁵ Kelty, Christopher M., *Two Bits: The Cultural Significance of Free Software* (Durham: Duke University Press, 2008).

²⁰⁶ Formed as ARPA in 1958 as a direct response to the ‘Sputnik Shock’, with the goal to prevent such technological surprises and the secure that the US was ahead or the Cold War race with the Soviet Union. Renamed into Defence Advanced Research Projects Agency (DARPA) in 1972. Renamed back into ARPA in 1993 and back into DARPA again in 1996.

vance of Engelbart's project because in 1960, he had himself published a paper concerned with similar questions.²⁰⁷ In 'Man-Computer-Symbiosis' Licklider argues that it will still take 'a fairly long time' for true artificial intelligence to emerge,²⁰⁸ and that, until that happens, a symbiotic partnership is needed in which 'men will set the goals, formulate the hypotheses, determine the criteria, and perform the evaluations. Computing machines will do the routinizable work needed to prepare the way for insights and decisions in technical and scientific thinking.'²⁰⁹ Licklider had observed his own working patterns and came to the conclusion that about eighty-five per cent of his 'thinking time' was wasted on 'activities that were essentially clerical or mechanical' and that his 'choices of what to attempt and what not to attempt were determined to an embarrassingly great extent by considerations of clerical feasibility, not intellectual capability.'²¹⁰ All this, Licklider realised, could in principle be outsourced to a computer if the machine was designed as such as personal support system.

The fact that Licklider takes his metaphors from biology is problematic, since humans and machines do not co-exist on the same level, as the term symbiosis suggests. One would be more hesitant to speak of a symbiosis between a human and a hammer and I think that it is important to keep in mind that a calculating machine is such an inanimate tool, just a more complex and powerful one. Even though the technology does have a strong agency and often determines our behaviour, it is not alive or has a will. But in contrast to what the title of his paper might suggest, Licklider does not fall into the trap of technological determinism or emergentism in the vein of Kevin Kelly (who wonders *What Technology Wants*).²¹¹ Licklider sustains a humanist perspective and offers valuable insights for today's crowdsourcing discourse, because he distinguishes, between systems in which the machine supports the human and those in which that relationship is being reversed:

'Mechanical extension' has given way to replacement of men, to automation, and the men who remain are there more to help than to be helped. In some instances, particularly in large computercentered information and control systems, the human operators are responsible mainly for functions that it proved infeasible to automate. Such systems [...] are not symbiotic systems. They are 'semi-automatic' systems, systems that started out to be fully automatic but fell short of the goal.²¹²

Today's crowdsourcing projects of the type pioneered by Amazon Mechanical Turk can very well be described as failed automation in Licklider's terms, though with the special twist that now there are two classes of humans: those who use the computer in a seemingly 'symbiotic' way by outsourcing repetitive 'clerk-like' tasks to the machine; and those at the receiving end of the machine who end up having to do nothing but these seemingly 'routinizable' tasks that the first class is not willing to do and the machine is still not capable of. What we have in these areas today is, as yet, certainly not a man-machine-*man*-symbiosis – not at least for the humans at the other end of the machine. *A contem-*

²⁰⁷ Licklider, Joseph Carl Robnett, 'Man-Computer Symbiosis', *IRE Transactions on Human Factors in Electronics*, HFE-1 (1960), 4–11. Digital version without page numbers: <<http://groups.csail.mit.edu/medg/people/psz/Licklider.html>> [accessed 12 March 2014].

²⁰⁸ According to a study by the Air Force that Licklider mentions, the estimate was at least 20 years until AI of military significance; he added that it might only take 10 years or maybe 500 years.

²⁰⁹ Licklider, 'Man-Computer-Symbiosis'.

²¹⁰ *Ibid.* – With 'clerical' Licklider means the 'clerk-like' repetitive, technical data processing tasks that also Engelbart was writing about.

²¹¹ Kelly, Kevin, *What Technology Wants* (New York: Viking, 2010).

²¹² *Ibid.*

porary humanist vision for networked computing must design the inanimate machine that links one human with another in a way that serves the quality of life on both ends of the machine. The machine should be the slave to all of its users and not the thinly veiled tool to perpetuate and aggravate pre-existing asymmetric power relations.

The alternative is very dystopian indeed; a powerful semi-alive processing machine in which a superior user neither knows or cares whether his computer is doing the work itself or is outsourcing it to less fortunate users. As I will show later in the thesis, there are indeed applications, similar to, or building upon, Amazon Mechanical Turk, which offer exactly that: they hide precarious human workers behind the interface of the machine, a contingent workforce, at service to those higher up in the hierarchy.

Back in 1960, Licklider dreamed of a network of digital ‘thinking centers’ that would be ‘connected to one another by wide-band communication lines and to individual users by leased-wire services. In such a system, the speed of the computers would be balanced, and the cost of the gigantic memories and the sophisticated programs would be divided by the number of users.’²¹³ In 1963, he made the advancement of intellectual capability through networked computing an explicit goal for the ARPA and kicked off the precursor of today’s internet in the now famous ‘Memorandum For Members and Affiliates of the Intergalactic Computer Network.’²¹⁴ It was a perfect match with the goals of Douglas Engelbart who, thanks to substantial funding from Licklider at ARPA, was subsequently able to establish his Augmentation Research Center (ARC) in Menlo Park.

In the same year, the high profile mathematician John McCarthy from MIT started the Stanford Artificial Intelligence Laboratory (SAIL) in Santa Cruz, also funded by ARPA. Now there were two ARPA research hubs in the San Francisco Bay Area. They were, in the words of the Californian technology journalist John Markoff, philosophical enemies: one offered a humanist vision for the future of computing, the other a mechanist vision.²¹⁵ Yet, to the surprise of many who had believed in the rapid progress of artificial intelligence, it was Engelbart’s approach that eventually led to today’s world of interconnected personal computing and online collaboration. Whereas five decades later, the advent of human-like artificial intelligence remains an imaginary future.

²¹³ *Ibid.*

²¹⁴ Licklider, Joseph Carl Robnett, ‘Memorandum For Members and Affiliates of the Intergalactic Computer Network’ (Advanced Projects Research Agency, 1963) <<http://www.kurzweilai.net/memorandum-for-members-and-affiliates-of-the-intergalactic-computer-network>> [accessed 3 March 2013].

²¹⁵ Markoff, p.46.

To change the rules, change the tools.

LEE FELSENSTEIN²¹⁶

Hippie communalism and libertarian politics formed the roots of the modern cyber-revolution.

STEWART BRAND²¹⁷

2.3 – THE KOOL TOOLS OF THE ELECTRIC COMMUNARDS

The fourth historic figure, after Vannevar Bush, Douglas Engelbart and J.C.R. Licklider who I think is instructive for our understanding of early online collaboration is Stewart Brand. He had an almost uncanny omnipresence at many seminal events during the formation of today's computing culture and was, for example, the event manager for Douglas Engelbart's 'Mother of all Demos' in 1968. Brand was born in 1938, he studied biology at Stanford, graduated 1960 and then went to the army for two years. After his time as a soldier he studied design and photography in San Francisco. During his time at Stanford, he was inspired by figures such as Gregory Bateson and Norbert Wiener from whom he adopted a cybernetic view on ecological systems, and by Marshall McLuhan and Richard Buckminster Fuller, from whom he adopted a decidedly positive, maverick, hands-on approach to the rapidly changing landscape of technology and media.

Brand connected various remote avant-garde subcultures across the country, from artists experimenting with new media and technology, over scientists exploring cybernetics, biology and programming, to groups like the Merry Pranksters, who were experimenting with psychedelic drugs. Brand had earned his credentials for managing multimedia presentations such as the 'Mother of all Demos' through organising the legendary Trips Festival in 1966 – a massive psychedelic event and the first concert of the band The Grateful Dead, which much later played an important role on the WELL, one of the first online communities, co-founded by Brand in 1985. The WELL then became formative for the Electronic Frontier Foundation (EFF), founded 1990 by John Perry Barlow, lyricist of the Grateful Dead. Also the influential computer magazine *Wired*, founded in 1993, has its roots in the WELL and in the immediate personal network of Stewart Brand. Although Brand wasn't an engineer, he had an extraordinary influence on the way computers and online collaboration are seen today – mainly through his role as publisher, writer, networker, platform builder, consultant and event-organiser. He organised the first Hackers' Conference in 1984, advocated the idea of 'personal computing', popularised the phrase 'information wants to be free', and through his various outlets propagated *a worldview in which individualists empowered by tools, self-organised in decentralised and non-hierarchical ways, in order to address social and environmental issues while avoiding conventional forms of politics*. He is still very active (and controversial) as an environmentalist – advocating

²¹⁶ Lee Felsenstein, born 1945 is a former American counter-culture activist and pioneer of personal computing, who was strongly influenced by Ivan Illich's book *Tools for Conviviality*; the quote above is often attributed to him, but I couldn't find the original source.

²¹⁷ Brand, Stewart, 'We Owe It All to the Hippies', *Time*, 1 March 1995

<<http://www.time.com/time/magazine/article/0,9171,982602,00.html>> [accessed 29 July 2012]

nuclear power, and as a biologist – trying to revive extinct species through synthetic biology. With his Long Now Foundation, he is trying to encourage long-term thinking.²¹⁸

It is this seemingly paradox mixture of ecological and social goals with contested technological means has been characteristic for Brand since the 1960s. Early on, he popularised leftist ideas of the 1960s counterculture as well as libertarian and techno-utopian visions for the future – a mix that was later described as the ‘Californian Ideology’ in a radical polemic written by Richard Barbrook and Andy Cameron in 1995, and as ‘Digital Utopianism’ in Fred Turner’s book *From Counterculture to Cyberculture*, published in 2008.²¹⁹ Turner, who is an Associate Professor in the Department for Communication at Stanford University, provided a very comprehensive analysis of Brand’s special role in the conversion of countercultural ideas into the self-image of the high-tech-industry. This continuity was further explored by a recent and influential exhibition at the Haus der Kulturen der Welt in Berlin, curated by Diedrich Diederichsen and Anselm Franke, with the title: *The Whole Earth: California and the Disappearance of the Outside*.²²⁰ I build my recapitulation of Stewart Brand’s influence on early ideas of online collaboration partly on these secondary sources. Yet more important are the primary sources, the many articles and interviews that Brand himself and his immediate network published since the 1960s up until now, and the documentations of the many events that he organised.

According to the research done by Fred Turner, the movements that opposed ‘the establishment’ in the United States in the 1960s essentially fell into two camps: the New Left and the Communards. Groups like the Free Speech Movement and the Black Panthers belonged to the New Left. They tried to change society by getting involved in politics through agitation, protest marches and the formation of political parties. In contrast, the Communards rejected the traditional ‘game’ of politics. They believed that large political institutions could not be trusted; that such structures were part of the problem, not of the solution. Change was instead meant to emerge through providing individual actors with *empowering tools for thought and for autarchy*. The Communards wanted to foster a decentralised, self-organised change in perception and consciousness through experimental forms of living, outside of conventional society. They followed Timothy Leary’s dictum to ‘turn on, tune in and drop out’ – in a psychedelic as well as in a practical sense. The goal was to walk away from government and all that it stood for, the military draft for the Vietnam War as well as and the *alienating workplaces of a large organisations*. They wanted to become spiritually enlightened and technologically augmented on a small scale, and form networks of self-reliant, self-sufficient nodes – communes – scattered as across the USA but in contact with each other.

Stewart Brand’s most influential contribution, among his many activities, was the *Whole Earth Catalog*. In it, he catered to the rural needs of the Communards but combined this with ideas from cybernetics and the advent of early computing. Later he helped to construct a narrative that

²¹⁸ Brand, Stewart, ‘Stewart Brand: Reviving Extinct Species’ *The Long Now Foundation*, 2013

<<http://longnow.org/seminars/02013/may/21/reviving-extinct-species/>> [accessed 16 January 2015].

²¹⁹ Barbrook, Richard, and Andy Cameron, ‘The Californian Ideology’, *Mute*, 1995 <<http://www.imaginaryfutures.net/2007/04/17/the-californian-ideology-2/>>. And: Turner, Fred, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago, Ill.; Bristol: University of Chicago Press ; University Presses Marketing [distributor], 2008)

²²⁰ Diederichsen, Diedrich and Anselm Franke curated the exhibition *The Whole Earth: California and the Disappearance of the Outside*; (German: *The Whole Earth. Kalifornien und das Verschwinden des Außen*) at the Haus der Kulturen der Welt in Berlin in 2013. The catalogue for the exhibition was published under the same title at Sternberg-Press, Berlin 2013.

transferred the worldview of the Communards onto the emerging hacking and personal-computing culture. Many years later, Steve Jobs described the *Catalog* as a ‘Bible of his generation’.²²¹

The positive image of computers that Brand and his network propagated early on stood in stark contrast to the critical attitude towards technology that the New Left had in the 1960s. Their attitude is exemplified by protests of the Free Speech Movement at the University of California, Berkeley in 1964. The students rallied against the introduction of computers by the university administration because they felt *commodified and depersonalised by the apparatus* – humans reduced to machine-readable pieces of paper. As Hal Draper, one of the activists at the time put it: ‘The mass university of today is an overpowering, over-towering, impersonal alien machine in which [the student] is nothing but a cog going through pre-programmed motions – the IBM syndrome.’²²² A caricature from a newsletter of the time depicted the university as a hierarchical structure with capitalists at the top of the pyramid, pulling the strings of the puppet-like principal and teachers who in turn supervise the output of mass-fabricated, punch-card-like students. In their fight for dignity as human beings, the students appropriated a sentence that was printed on every punch card as a technical advice and made it their slogan: ‘Please do not fold, spindle or mutilate me!’²²³



Fig. 13: Illustration from the W.E.B. Du Bois Club newsletter, Berkeley 1964.²²⁴

²²¹ Steve Jobs in his 2005 commencement speech at Stanford University <<http://news.stanford.edu/news/2005/june15/jobs-061505.html>> [accessed 12 March 2014].

²²² Quote by Berkeley librarian Hal Draper, quoted after Fred Turner, p. 12.

²²³ See: Lubar, Steven, “‘Do Not Fold, Spindle or Mutilate’: A Cultural History of the Punch Card”, *Journal of American Culture*, 15 (1992), 43–55 <http://dx.doi.org/10.1111/j.1542-734X.1992.1504_43.x> and: Lubar, Steven D., and National Museum of American History (U.S.), *InfoCulture: The Smithsonian Book of Information Age Inventions* (Boston: Houghton Mifflin, 1993)

²²⁴ Illustration via Steven Lubar’s ‘Do Not Fold, Spindle or Mutilate’; W.E.B. Du Bois was an African-American sociologist and civil rights activist; the W.E.B. Du Bois Clubs of America were a youth organisation sponsored by the Communist Party between 1964–1970. Many of its documents are archived by the Free Speech Movement under: http://www.fsm-a.org/stacks/covers/FSM_Documents.html

For Stewart Brand and the communities that he connected, computers were not at all seen as a threat that would turn people into cogs, instead, the machines were regarded as a welcome addition to the wide spectrum of tools, compiled in the *Catalog*, that promised the empowerment of the individual. The first line of the *Catalog* ambitiously announced: ‘We are as gods and might as well get good at it.’²²⁵ The project had started with a campaign that Brand ran in February 1966. At the time he distributed buttons asking the question: ‘Why haven’t we seen a photograph of the whole earth yet?’ Inspired by Buckminster Fuller, the NASA and LSD, he had come to the conclusion that such a photograph would intuitively bring ‘Bucky’s’ message across ‘that people act as if the earth is flat, when in reality it is spherical and extremely finite, and until we learn to treat it as a finite thing, we will never get civilization right.’²²⁶ The iconic picture, shot by a NASA satellite in 1967 became the cover of the first *Whole Earth Catalog*, published by Brand in the autumn of 1968.²²⁷ The overarching idea was to inspire a global consciousness and encourage taking responsibility for mankind’s new power unleashed by technology – ‘think global, act local’. The *Catalog* tried to achieve this by providing, as the subtitle announced, ‘*access to tools*’, and this was meant literally as well as metaphorically. The self-proclaimed function of the publication was to serve its ‘*users*’ (not readers!) as an ‘evaluation and access device.’²²⁸ And indeed, Brand offered his *users* an extraordinarily heterogeneous mix of *tools*, reaching from advice on goat husbandry to construction plans for geodesic domes; from cutting edge theoretical texts on cybernetics and evolutionary biology to advertisements for gadgets such as walkie-talkies, radio transmitters and pocket calculators – exactly the type of objects described in 1965 by the English architectural critic Reyner Banham in ‘The Great Gizmo’:

A characteristic class of US products – perhaps the most characteristic – is a small self-contained unit of high performance in relation to its size and cost, whose function is to transform some undifferentiated set of circumstances to a condition nearer human desires. The minimum of skills is required in its installation and use, and it is independent of any physical or social infrastructure beyond that by which it may be ordered from catalogue and delivered to its prospective user. A class of servants to human needs, these clip-on devices, these portable gadgets, have coloured American thought and action far more deeply – I suspect – than is commonly understood.²²⁹

²²⁵ Stewart Brand later admitted: ‘Credit where it’s due: I stole the line. Page one, chapter one of *A Runaway World?* by British anthropologist Edmund Leach (Oxford, 1968) begins: Men have become like gods. Isn’t it about time that we understood our divinity? Science offers us total mastery over our environment and over our destiny, yet instead of rejoicing we feel deeply afraid. Why should this be? How might these fears be resolved? <<http://www.wholeearth.com/issue/1010/article/195/we.are.as.gods>> [accessed 12 March 2014]. But one can also read the line as an answer to Robert Oppenheimer, chief creator of the atomic bomb, ‘the gadget’ as they called it, who, in a 1965 TV interview, quoted from a Hindu scripture: ‘Now I am become Death, the destroyer of worlds.’

²²⁶ Brand, Stewart, ‘Photography Changes Our Relationship to Our Planet’, Smithsonian Photography Initiative <<http://click.si.edu/Story.aspx?story=31>> [accessed 12 March 2014].

²²⁷ ‘NASA - ATS’, Nasa Mission Archives <http://www.nasa.gov/centers/goddard/missions/ats_prt.htm> [accessed 12 March 2014]; *Whole Earth Catalog – Access to Tools*, Volume 1 (San Francisco: Portola Institute, Fall 1968).

²²⁸ *Whole Earth Catalog*, Volume 1, p.3

²²⁹ First published: Banham, Reyner. ‘The Great Gizmo.’ *Design Quarterly* 12 (1965): 48–59. Quoted after: Banham, Reyner, and Penny Sparke. *Design by choice: ideas in architecture*. London: Academy Editions, 1981: 108–114.

This particular class of objects stood in a paradoxical relationship with the history of the American Frontier, libertarianism and eventually the counterculture. The gizmos and gadgets allowed a heightened self-dependence and promised to enable a Walden-like ‘life in the woods’, but they were also mass produced consumer goods, bought through mail-order shopping catalogues such as the one published by Sears Roebuck.²³⁰ Shopping catalogues like that were important inspirations for Brand, but he added a political agenda, while trying to stay out of conventional politics. The eclectic mix of physical gadgets and tools for thought was meant to change society in a bottom-up, decentralised, non-authoritative way.

In a 2011 panel discussion with Fred Turner at Stanford University, Steward Brand, Kevin Kelly (*Whole Earth Review*, the WELL, *Wired*) and Howard Rheingold (the WELL, *Virtual Community*, *Smart Mobs*),²³¹ Brand recalled Buckminster Fuller’s attitude ‘Don’t try to change human nature, don’t bother with politics’ as an important inspiration for the *Catalog*.²³² Kevin Kelly calls this ‘the tool view of the world’, an ideology according to which ‘tools are more powerful than politics’. He argues that ‘the way you change science, the way you change culture, the way you change politics through the tools, is one of the overarching connections between the Hippies and the Web 2.0’.²³³ The libertarian ‘tool view of the world,’ has been continuously propagated by the group around Brand, especially by Kelly and *Wired* magazine, as well as by many Silicon Valley based tech-companies. It creates the false impression that politics and government interventions only hold back the ‘inevitable’ and ‘natural’ progress of high-tech tools, which are much more likely to positively affect society if they and the companies who produce them, are left unregulated. The ideal is a rapid evolution of high-tech gadgets guided only by technical feasibility and the unabated forces of the free market; whatever social or environmental problems a new gadget might cause, they will certainly be resolved by the technical invention (Morozov calls this attitude ‘solutionism’).

A present day continuation of that attitude is Kevin Kelly’s on-going project *Cool Tools*, in which he reviews a new tool every week, under the premises of being ‘always useful, always positive.’²³⁴ Kelly neither wants to be bothered with politics nor with bad tools. What he leaves unanswered is: how to deal with tools that are not so cool, that have negative effects on the individual or

²³⁰ This very US-American obsession with survivalist tools and gadgets, especially with guns and other weapons, is very much alive today and can be observed in the YouTube phenomenon of people presenting their ‘Bug Out Bags’, ‘Every Day Carry’ and Survival Kits. Carefully assembled sets of tools for when the apocalypse suddenly strikes or when civilisation collapses and a life in the woods is the only option to survive. In contrast to the social visions of the communards, the imaginary of the ‘preppers’ and survivalists is, that everybody will have to fight on *his* own (women don’t play much of a role in this fantasy).

²³¹ See: From Counterculture to Cyberculture: The Legacy of the Whole Earth Catalog, Stanford University Libraries, 2011 <http://www.youtube.com/watch?v=B5kQYWLtW3Y&feature=youtube_gdata_player> [accessed 17 March 2014].

²³² Two frequently quoted sentences ascribed to Fuller (though I couldn’t find the original source) are: ‘If you want to teach people a new way of thinking, don’t bother trying to teach them. Instead, give them a tool, the use of which will lead to new ways of thinking.’ & ‘You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.’ Lee Felsenstein, another influential counterculture pioneer of personal computing and founding member of the Homebrew Computer Club is often associated with the sentence: ‘To change the rules, change the tools.’

²³³ Kevin Kelly, 2011, panel discussion at Stanford library, min. 18.

²³⁴ Kelly, Kevin, ‘The Tools of Cool Tools’, *Cool Tools*, 2008 <<http://kk.org/cooltools/archives/2743>> [accessed 1 April 2014]. Kelly also published *Cool Tools* in form of a book that mimics the style and format of the original *Whole Earth Catalog*. The gesture to repeat what was once revolutionary almost fifty years ago has a slightly reactionary feel in times of the internet. Kelly, Kevin, *Cool Tools: A Catalog of Possibilities* (United States: Published by KK, an imprint of Cool Tools Lab: Distributed in the United States by Publishers Group West and in Canada by Publishers Group Canada, 2013)

on society, for example because they spy on their users or exploit them? Focussing only on the positive can't be a viable solution to deal with the pervasive flood of invasive and exploitative digital tools and platforms in a society. *To reject any political control or regulation of such 'non-convivial' tools is in itself a very political stance.* I argue that if tools and platforms transform society, their development and usage has to be subjected to a broad democratic deliberation and decision-making process. And the companies producing the tools have to be subordinated to the needs of society, not the other way around. This is also why I find Ivan Illich's call to design *Tools for Conviviality* so important. There need to be standards beyond what is profitable or technically feasible, according to which new tools have to be evaluated.

The back-to-the-land movement of the late 1960s, which was intended to be the original audience for the *Whole Earth Catalog*, was short lived. Within only a few years, starting around 1965, thousands of communes emerged, but most of them had already disappeared again in the early 1970s. It was around the time of this anti-climax, in June 1971, that Brand published *The Last Whole Earth Catalog*.²³⁵ And yet, he continued to propagate his worldview of systems theory, participation, collaboration, individual empowerment, technological optimism and libertarianism through a series of other publishing projects such as the *Co-Evolution Quarterly* (1974).²³⁶ Until the 1990s, all together 145 publications had come out of Brand's Whole Earth publishing activities.²³⁷ Important in the context of this thesis is, that with the beginning of the 1970s, Brand moved his focus decidedly towards advocating the power of personal computing. He later mentioned in several interviews, that psychedelics as well as the back-to-the-land communes had failed to bring about the expected widespread social change, however, while 'the drugs didn't get any better, ... computers never stopped getting better' – and he figured a community could also be formed sharing only a virtual space.²³⁸ Networked personal computing was now meant to fulfil the goals of the *Catalog* with other means. In 1984 he published *The Whole Earth Software Review* and the *Whole Earth Software Catalogue*. In the same year, inspired by Steven Levy's seminal book *Hackers: Heroes of the Computer Revolution*,²³⁹ Brand organised the first Hackers' Conference, together with Kevin Kelly. In 1985 he co-founded the virtual community the WELL, which can be seen as a prototypical commercial platform for user-generated content (see next section).

²³⁵ *The Last Whole Earth Catalog* had 452 pages, a circulation of 1,5 million and won a US National Book Award

²³⁶ Interestingly, in 2011 even Stewart Brand distanced himself from libertarianism: 'I want to disavow libertarianism as something that has much to offer to the world at this point. [...] It is a simplistic set of algorithmic notions that do not fit with reality and actual governance. [...] Admire libertarianism for its elegance – and pay no further attention to it!' Stewart Brand, 2011 panel discussion with Fred Turner, Kevin Kelly and Howard Rheingold at Stanford library, min. 105.

²³⁷ Brand, Stewart, 'Back Issues – Whole Earth Catalog' <<http://www.wholeearth.com/back-issues.php>> [accessed 2 April 2014].

²³⁸ Cadwalladr, Carole, 'Stewart Brand and the Whole Earth Catalog, the Book That Changed the World', *the Guardian* <<http://www.theguardian.com/books/2013/may/05/stewart-brand-whole-earth-catalog>> [accessed 28 December 2014]

²³⁹ Levy, Steven, *Hackers: Heroes of the Computer Revolution*, Updated afterword (New York, N.Y: Penguin Books, 2001).



Fig. 14: Photo of a video still by John Coate, one of the WELL's first community managers, 1986, one of the earliest established uses of the term 'online community'.²⁴⁰

What will on-line interactive communities be like? In most fields they will consist of geographically separated members, sometimes grouped in small clusters and sometimes working individually. They will be communities not of common location, but of common interest.

J.C.R. LICKLIDER AND ROBERT TAYLOR, 1968²⁴¹

2.4 – THE SOURCE OF THE WELL

In the of summer 2012, when Facebook was just about to reach a billion users, one of the oldest *social networks* on the internet, 'the WELL', was up for sale. The time-honoured community of, at that point, 2693 subscribers who were still paying about £10 per month, wasn't lucrative anymore for its current owner, the Salon Media Group.²⁴² The 'most influential online community' (according to *Wired*) seems tiny by today's standards, but the WELL never had the goal to be for everyone. In 1989, when the *New York Times* already regarded it as influential, it only had 2,600 members.²⁴³ The platform had always been an exclusive club for the tech savvy elite, the so-called 'Digerati' or 'WELLbeings', as they liked to call themselves, for whom membership was a badge of honour.²⁴⁴ Even today, the front page of the WELL promises potential subscribers: 'No more wading through

²⁴⁰ From John Coate's Flickr account: <https://www.flickr.com/photos/johncoate/2318103590/> ; The photo shows a collage for the West Coast Computer Faire in San Francisco in March 1986

²⁴¹ Licklider, Joseph Carl Robnett, and Robert Taylor, 'The Computer as a Communication Device', *Science and Technology: For the Technical Man in Management*, No 76 (1968), 21–31 republished in *In Memoriam: J.C.R. Licklider: 1915-1990* (Palo Alto, California: Systems Research Center, Digital Equipment Corporation, 7 August 1990), pp. 21–41
<<http://bits.sloan.stanford.edu/mousesite/Secondary/Licklider.pdf>>.

²⁴² Wingfield, Nick, 'The Well, a Pioneering Online Community, Is for Sale Again', *The New York Times Bits Blog*, 2012
<<http://bits.blogs.nytimes.com/2012/06/29/the-well-a-pioneering-online-community-is-for-sale-again/>> [accessed 16 July 2012]. In December 2013, Facebook had 1.23 billion monthly active users; see: 'Facebook Newsroom'
<<http://newsroom.fb.com/content/default.aspx?newsareaid=22>> [accessed 13 March 2014].

²⁴³ Markoff, John, 'Sausalito Journal; Whole Earth State-of-Art Rapping', *The New York Times – Sausalito Journal*, 15 August 1989, section U.S. <<http://www.nytimes.com/1989/08/15/us/sausalito-journal-whole-earth-state-of-art-rapping.html>> [accessed 27 December 2014]

²⁴⁴ Brockman, John, *Digerati: Encounters with the Cyber Elite* (London: Orion Business Books, 1997).

endless dreck to find a few morsels of insight or wit.²⁴⁵ In September 2012, the site was eventually bought by a group of long-time members for 400,000 US dollars.²⁴⁶

Launched in 1985 by Stewart Brand and Larry Brilliant, the WELL, an acronym for Whole Earth 'Lectronic Link, was the continuation of the *Whole Earth Catalog* by digital means. As Kevin Kelly, long-time editor of *Wired*, wrote in 2008:

This I am sure about: it is no coincidence that the Whole Earth Catalogs disappeared as soon as the web and blogs arrived. Everything the Whole Earth Catalogs did, the web does better. But by the same equation, much of what the web is doing now, Whole Earth was doing then. Those folks who subscribed to the 'feed' of CoEvolution Quarterly, the Whole Earth Review, and the WELL, got the blogosphere and user-created content 30 years early. Living on the web decades before the internet was born; now that was a strange trip.²⁴⁷

This is type of myth-making is partly what made Brand and his colleagues so influential – the ability to always surf on the crest of what is cool and to connect the developments of seemingly remote communities and developments with a strong narrative of inevitable progress through technological tools.

The WELL is important for the historic dimension of crowdsourcing for at least three reasons: it was the first internet platform that was described as a 'virtual community' and, as that, it now serves as a good contrast to today's notions of what a virtual crowd is; it was also probably the first online platform that made a profit from selling its users access to their own user-generated content; and as such it is a business model related to, but not interchangeable with crowdsourcing. Already the *Catalog* frequently published content that came from its readers but the WELL took this approach much further by letting its users provide the entire content of the platform through their conversations. *The communication of the community became the crowdsourced product.* And the site had a pivotal function in transforming and transferring the social-liberal values of the 1960s back-to-the-land Communards to the economic-liberal values of 1990s computer culture that is still dominant today. The WELL of the 1980s is the crucial link between the *Whole Earth Catalog* of the late 1960s and *Wired* magazine founded in 1993. The counterculture idea a grassroots social utopia in the physical realm had failed. In the 1980's some of the old communards hoped that their idea could now be established in the digital realm. There it eventually merged with neo-liberal ideas of radical deregulation, individualist entrepreneurial spirit and free market ideology. The WELL stands for the perpetuation of the vision of *saving the world, not through politics but through smart digital tools in a decentralised, unregulated, self-organised manner.* Today, advocates of crowdsourcing sometimes echo this rhetoric while ignoring the fact that the social utopia of self-reliant communities existing outside of capitalism was somehow lost along the way.

²⁴⁵ The Well <<http://www.well.com/join.html>> [accessed 10 March 2014].

²⁴⁶ The Well Group, press release, ed., 'Salon Media Group Sells The WELL to The Well Group: First Time Online Business Taken Private by Users of the Business Itself', 2012 <http://www.well.com/p-release/pr_20120920.pdf> [accessed 13 March 2014]. See also: Grossman, Wendy M., 'Salon Sells The WELL to Its Members', *The Guardian*, <<http://www.theguardian.com/technology/blog/2012/sep/27/salon-sells-well-to-members>> [accessed 13 March 2014].

²⁴⁷ Kelly, Kevin, 'The Whole Earth Blogalog', *KK* – Kevin Kelly*, 2008 <<http://kk.org/ct2/2008/09/the-whole-earth-blogalog.php>> [accessed 13 March 2014].

With the change of the medium from paper catalogue to online platform, the focus also shifted, from providing the Communards with ‘access to tools’ towards providing distributed PC-users with access to a refined social network of individualistic professionals. The members shared information and opinions on the platform, they experienced a sense of community, but without the harsh sacrifices and commitments that the communes demanded from its members. In that sense it was the ‘light’ version of the communes, offering the intellectual stimulation without the hard labour and responsibility for others required by collective subsistence farming.

In principle, the WELL was open to everyone who believed enough in computers as a social medium to overcome their technical hurdles and who was also affluent enough to buy a PC, pay the subscription fees (eight dollars per month plus three dollars per hour) and the high costs for internet connectivity. The exclusivity, created by the comparatively high technical, social and financial entry barriers was an important factor for its influence. In effect, the site became a haven for early adopters of personal computers, many of whom resided in California’s Bay Area and had a connection to the cosmos of ideas that Stewart Brand had promoted over the previous two decades. The site was organised around discussion forums, so called ‘conferences,’ on a wide range of topics – in that sense it was more similar to Reddit than to Facebook. The WELL offered its members instant access to like-minded experts and through them to exclusive information and insights but also gossip, counselling, consolation and friendship. Many of the WELL’s members worked in the computer industry, in research or in journalism – and many had a background in the Californian counterculture. Like Brand, also co-founder Larry Brilliant had his roots in the scene around the Merry Pranksters, and he was also part of an influential commune project called ‘Hog Farm’.²⁴⁸ And even the first three directors and community managers that Brand installed at the WELL were former back-to-the-land communards.²⁴⁹ Together with their families they had lived an experimental and self-sufficient life but had ‘returned to civilisation’ out of disagreement and weariness. One of the community managers, John Coate, who freely admitted that he had little experience with computers, stated that his central insight early on was that ‘this is not the computer business – this is the relationship business – this I do know something about.’²⁵⁰

²⁴⁸ Rheingold, Howard, *The Virtual Community: Finding Connection in a Computerized World* (London: Minerva, 1995) p.40.

²⁴⁹ The three were Matthew McClure, Cliff Figallo and John ‘Tex’ Coate from the commune ‘The Farm’ in Tennessee. To give just one example of the continuity of staff: The communard John Coate was the second employee of the WELL, instrumental in founding Wired, and development director for the Electronic Frontier Foundation. For Coate’s own account of this succession see his personal website cervisa.com.

²⁵⁰ In a talk he gave at the 2013 SWARM conference in Sidney: <http://swarmconference.com.au/meet-the-speakers-john-coate1/>



Fig. 15: Cover of the May 1997 issue of Wired. The founders and community managers of the WELL, from left to right: John Coate, Larry Brilliant, Stewart Brand, Cliff Figallo.

Even though there was no explicit agenda, Brand and the early members shared the belief that the WELL, while being a for-profit endeavour, would also become a vehicle for social change. The idea was that this change would emerge spontaneously through the specific bottom-up community design of the WELL. As Kevin Kelly recalls it, the community was supposed to be ‘self-governing’, it would be a ‘self-designing experiment. [...] the early users were to design the system for the later users. The usage of the system would co-evolve with the system as it was built.’²⁵¹ The founders of the WELL were ‘in the business of selling the customers to each other and letting them work out everything else.’²⁵² This at first sounds like an astute description of today’s business model of social networking and crowdsourcing in the wider sense, but there were important differences: members paid with cash, not with their personal data and they proudly embraced the motto ‘YOYOW – *You own your own words*’, introduced by Brand. It meant that members were in full control but also full responsibility of their data, their actions, their opinions, their cognitive output. Also, users had to ask for permission if they wanted to use someone else’s words. They could even retract their contributions entirely. By decree of Brand, anonymity was not an option. The platform owners took the members seriously as individuals with respective rights and obligations, and the members were expected to take influence and responsibility regarding the structure of the system but Brand always remained present in the background as a sort of benevolent dictator who only rarely but decidedly weighed in when it came to political decisions such as the question of anonymity. The ‘WELLbeings’ were not a sprawling interchangeable mass or crowd but a community of people who took care of each other, who developed a code for social interaction and who built a network of strong and weak social ties, at times overlapping with their circles of friends and family in the physical world. On a regular basis, they met for parties at the office of the WELL.

²⁵¹ Kelly after Rheingold p.43.

²⁵² *Ibid.*

Howard Rheingold, tech-journalist and yet another veteran from the West Coast psychedelic counterculture had joined the WELL already in autumn of 1985 and he became the first person to use the term ‘Virtual Community’ in print, in an article published in 1987.²⁵³

Dreamers in the Artificial Intelligence research community are trying to evolve ‘software agents’ that can seek and sift, filter and find [...] specific knowledge [...] buried in 15,000 pages of related information. In my virtual community, we don’t have software agents (because they don’t exist yet), but we do have informal social contracts that allow us to act as software agents for one another. If, in my wanderings through information space, I come across items that don’t interest me but which I know one of my group of online friends appreciate, I send the appropriate friend a pointer to the key datum or discussion.

This social contract requires one to give something, and enables one to receive something. I have to keep my friends in mind and send them pointers instead of throwing my informational discards into the virtual scrap-heap. [...] I find that the help I receive far outweighs the energy I expend helping others: A perfect fit of altruism and self-interest.²⁵⁴

What Rheingold describes here could be called ‘community-sourcing,’ a form of reciprocity that can only work in small groups where people trust and know each other and work in similar fields – as hunters and gatherers within the fledgling information economy.²⁵⁵ It is very similar to what Vannevar Bush had in mind when he envisioned the Memex in 1945: intellectual ‘trailblazers’ in an information space, making their trails of knowledge accessible to selected peers. A platform that functions this way is invaluable for knowledge workers and having this opportunity at ones fingertips is a great social and technological achievement. Yet, compared to the utopian ambitions that the communards pursued, this is really a stripped-down vision of what a community is or can achieve. The perfect fit of altruism and self-interest that Rheingold raved about is reduced to only one strata of life, the Noösphere of information as a non-rival good. The members of such a virtual community can share their information freely without losing anything, especially the type of information that would have otherwise gone on the ‘virtual scrap-heap’. But it is important to keep in mind that the socially much more ambitious vision of sharing other resources such as food and housing and (physically) caring for the weaker members in a community has been relinquished. All members of the virtual community are now responsible for their own livelihood, their physical needs and security. While the conversations might take place in a virtual space outside of conventional society, the bodies of the virtual communards are still trapped in the physical world. In the virtual community, the utopian idea of conviviality and altruistic sharing has been reduced to the top layers of Abraham Maslow’s ‘Pyramid of Needs.’²⁵⁶

²⁵³ Rheingold, Howard, ‘Virtual Communities - Exchanging Ideas through Computer Bulletin Boards’(1987), republished: *Journal For Virtual Worlds Research*, 1 (2008) <<http://dx.doi.org/10.4101/jvwr.v1i1.293>> In 1995, Rheingold transformed the ‘The Virtual Community’ into a book in which he continued to vividly describe the community of the WELL from the inside.

²⁵⁴ *Ibid.* p.4

²⁵⁵ Special interest groups within Facebook as well as networks of ‘followers’ on Twitter can to some extent function in a similar way; people can create communities based on reciprocity and trust within much larger ‘social networks’ (that through their sheer size can’t be regarded as a community anymore).

²⁵⁶ Maslow, Abraham H., ‘A Theory of Human Motivation’, *Psychological Review*, 50 (1943), 370–96. Visualisation of the pyramid via: <<http://communicationtheory.org/maslow%E2%80%99s-hierarchy-of-needs/>> [accessed 30 March 2015].



Fig. 16: Maslow's hierarchy of needs, represented as a pyramid with the more basic needs at the bottom.

The Communards still had the ideal of changing society by sharing all levels of the pyramid, starting at the very bottom, by buying land, digging wells, building Fuller domes and practicing free love. The members of the virtual community, however, must have already mastered the lower levels of the pyramid on their own before they can participate in the digital gift-economy that happens only on the top levels. My point here is not to discredit the sharing culture at the top of the pyramid, I truly believe that it is an incredible cultural achievement; my point is rather that we should not confuse one with the other, and that *if the workplace is also migrating into the virtual space, as is the case with commercial crowdsourcing, it has to pay enough to secure the lower layers of the pyramid* – if it does not, so called ‘sharing’ as in the ‘sharing economy’ can quickly become exploitation.

Older visions of online collaboration, from Bush to Engelbart to Brand, always imagined strong, self-determined savvy individuals co-operating at eye-level. Users were first imagined and portrayed as academics and other creative knowledge workers, later as maverick hackers, anti-authoritarian pioneers building outposts on the ‘Electronic Frontier’. The idea that someone could take commercial advantage of large groups of these free spirited networked computer users emerged relatively late. And yet, even though Howard Rheingold's 1995 account of the first *Virtual Community* was generally very optimistic, he finished his book with a warning in reaction to the first mergers of the large old economy media corporations with the new online platforms:

The Net these players are building doesn't seem to be the same Net the grassroots pioneers predicted back in the ‘good old days’ on the electronic frontier. [...] Those who are used to thinking of CMC [computer mediated communication] as largely anarchic, dirt-cheap, uncensored forum, dominated by amateurs and enthusiasts, will have to learn a new way of thinking. Electronic democracy is far from inevitable, despite the variety of hopeful examples [...].²⁵⁷

²⁵⁷ Rheingold, 1995, p. 275

Already a year earlier, Carmen Hermosillo, also known under her username ‘humdog’, a long time active member of the WELL and several other platforms, had published her concerns about the downsides of social networking that had started to become apparent to her:

it is fashionable to suggest that cyberspace is some kind of ‘island of the blessed’ where people are free to indulge and express their individuality. some people write about cyberspace as though it were a ’60s utopia. in reality, this is not true. major online services, like compuserve and america online, regularly guide and censor discourse. even some allegedly free-wheeling (albeit politically correct) boards like the WELL censor discourse. the difference is only a matter of the method and degree. [...] i have seen many people spill their guts on-line, and i did so myself until, at last, i began to see that i had commodified myself. [...] i created my interior thoughts as a means of production for the corporation that owned the board i was posting to, and that commodity was being sold to other commodity/consumer entities as entertainment. [...] furthermore, i was paying two bucks an hour for the privilege of commodifying and exposing myself. worse still, i was subjecting myself to the possibility of scrutiny by such friendly folks as the FBI [...] the rhetoric in cyberspace is liberation-speak. the reality is that cyberspace is an increasingly efficient tool of surveillance with which people have a voluntary relationship.²⁵⁸

I consider Carmen Hermosillo’s re-evaluation of the mechanisms at work behind platforms such as the WELL, and the gap between the utopian rhetoric and the capitalist reality of the platforms very astute. The warnings of Rheingold and Hermosillo are the earliest examples I could find of users – insiders and experts – questioning the asymmetry of power between the users and the owners of a digital platform. Already in 1995, when only about 16 million people or 0,4 per cent of the world’s population were online (in contrast to forty two per cent today),²⁵⁹ the emancipatory dream of the internet as a bottom-up utopian communal place, detached from the hierarchies of real-world capitalism and bureaucracy in which all rules could be reinvented, showed its first cracks. People slowly started to realise that the platform providers would gain enormous power through the content produced by and the communication exchanged between users on the infrastructure provided by corporations. The question at this point in web history is whether the users of the internet should be protected by government regulations against platform capitalists or if their freedoms should be protected against any form of regulation by the government in order to sustain the dream of a libertarian utopia?

In 1990, John Perry Barlow, former lyricist of the Grateful Dead, cattle farmer and early member of the WELL, co-founded the non-profit digital rights group The Electronic Frontier Foundation (EFF), together with Mitch Kapor, a former teacher of transcendental meditation who had become a rich software mogul with the publication of the first commercial spread-sheet program Lotus 1-2-3 in the 1980s. In 1996, Barlow published *A Declaration of Independence of Cyberspace*.²⁶⁰ It was a libertarian, techno-deterministic manifesto that vocally restated the ideology that his fellow ‘WELLbeings’ Carmen Hermosillo and (to a lesser extent) Howard Rheingold had already started to question. For Barlow, the threat to freedom on the ‘Electronic Frontier’ didn’t come from the corpo-

²⁵⁸ Hermosillo, Carmen, ‘Pandora’s Vox: On Community in Cyberspace’, *The Alphaville Herald*, 1994 <http://alphavilleherald.com/2004/05/introducing_hum.html> [accessed 8 April 2014].

²⁵⁹ <http://www.internetworldstats.com/stats.htm>

²⁶⁰ Barlow, John Perry, ‘A Declaration of the Independence of Cyberspace’, 1996 <<https://projects.eff.org/~barlow/Declaration-Final.html>> [accessed 20 January 2013].

rate platform providers commodifying and controlling their users but from Big Government, which he addressed in bold voice, seemingly speaking for all internet users, or with the voice of ‘liberty itself’ (as he himself suggests):

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather. [...] I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us. [...] Cyberspace does not lie within your borders. [...] It is an act of nature and it grows itself through our collective actions. [...] We believe that from ethics, enlightened self-interest, and the commonweal, our governance will emerge. [...] The only law that all our constituent cultures would generally recognize is the Golden Rule. [...] In our world, whatever the human mind may create can be reproduced and distributed infinitely at no cost. The global conveyance of thought no longer requires your factories to accomplish. [...] We will create a civilization of the Mind in Cyberspace. May it be more humane and fair than the world your governments have made before.

Barlow wrote the famous *Declaration* while being a guest at the World Economics Forum in Davos, mingling with some of the world’s most powerful people. The text was a reaction to the US Communications Decency Act of 1996, with which the US Government wanted to censor pornography on the internet. Barlow’s Declaration thus comes from a concern about freedom of speech online and not primarily from concerns about fair labour conditions that are more important in the context of this thesis. Still, I regard his claims as important also in this context here, because they express a strong belief in what is sometimes referred to as ‘digital dualism’ – the conviction that cyberspace is a place totally detached from the physical world. In this point, I very much agree with the social media theorist Nathan Jurgenson, who coined the term ‘digital dualism’ and argues that it is a fallacy to create a binary distinction between the ‘virtual’ and the ‘real’ because ‘people are enmeshing their physical and digital selves to the point where the distinction is becoming increasingly irrelevant.’²⁶¹

The last two decades have shown that, in an unregulated cyberspace, ‘enlightened self-interest’ will not only foster the commonweal and structures of self-governance but also the emergence of global corporate monopolies taking advantage of the masses online.

²⁶¹ Jurgenson, Nathan, ‘Digital Dualism versus Augmented Reality’, *The Society Pages: Cyborgology*, 2011 <<http://thesocietypages.org/cyborgology/2011/02/24/digital-dualism-versus-augmented-reality/>> [accessed 12 June 2013] and especially ‘Digital Dualism and the Fallacy of Web Objectivity’, *Cyborgology*, 2011 <<http://thesocietypages.org/cyborgology/2011/09/13/digital-dualism-and-the-fallacy-of-web-objectivity/>> [accessed 12 June 2013]; See also: Witten, Kim, ‘The Digital Dualism Debate’, *MePhiD*, 2013 <<http://www.mephid.com/2013/03/the-digital-dualism-debate/>> [accessed 26 December 2014] and Miller, Daniel, *Tales from Facebook* (Cambridge, UK; Malden, MA: Polity Press, 2011) who throughout the book emphasizes the continuity between social life in a physical space (Trinidad, in his ethnographic study) and the digital life of his subjects of study on Facebook.



Fig. 17: Richard Stallman at the first Hackers' Conference near Sausalito, San Francisco Bay Area, 1984.

Information should be free, but your time should not.

STEVE WOZNIAK

If the users don't control the program, the program controls the users.

A non-free program is a yoke, an instrument of unjust power.

RICHARD STALLMAN

2.5 – FREE SOFTWARE HACKER ETHICS

This section is about the philosophical roots of the Free Software Movement in the Hacker Ethics that were first made explicit in 1984. In the 1990s, the Free Software Movement led to the Open Source Movement, that used essentially the same methods but within a different set of values. This is relevant for the crowdsourcing discourse because the development of open-source software is often regarded as a key precursor to crowdsourcing, although I argue that the free and open software projects are better described with the term commons-based peer production, because the result of the distributed free labour becomes part of the commons. The Free Software Movement was initiated because of moral objections against the software industry: the activists in this scene work for *free* (in the sense of not getting paid) in order to create non-proprietary software that is *free* (in the sense of not being controlled by a third party). I will discuss the origin of these aforementioned concepts in what follows.

In the early 1960's a playfully anarchic 'hacker' culture had started to emerge at computer research labs, especially at the MIT where, during the night, young programmers experimented with

writing their own code on the expensive mainframe computers.²⁶² They *hacked* together software just for fun, out of curiosity, or to test, hone and show off their mastery over the technology among like-minded experts. The label ‘hacker’ is not derogative – it stood and still stands for a very special attitude towards technology and was carried with pride. You became a true hacker if other respected hackers called you that.²⁶³ Over time, the playful misuse of the military-funded hardware not only made the hackers better and more motivated programmers: it also led to a lot of innovation. The hackers self-evidently shared their computer code freely in order to be able to build on the work of others and to get their feedback and recognition, just as it was practiced in academic research. The contributors had well paid engineering jobs in the labs, there was as yet no market for software and so it never occurred to them to charge each other for their hacks and programs. Probably the best example for this early hacker ‘gift culture’ is Spacewar, one of the first computer games, developed in its earliest version in 1962 by Steve Russell at the MIT. The code for the game circulated freely from the mainframe systems of one research centre to another and everywhere young computer scientists added to the code and further developed the game. They practiced a free-software or open-source culture without yet calling it that. In 1962, during a visit at the MIT, Stewart Brand had already seen an early version of Spacewar. In 1972, after the demise of the *Catalog*, he returned to that lead for a good story and paid a visit to the Stanford Artificial Intelligence Laboratory, where Spacewar was still a big hit during night hours, and to Xerox PARC, where researchers were building on the ideas of Douglas Engelbart. He wrote an influential article about what he had seen at the labs for *Rolling Stone* magazine. In it, he suggested, that the hackers he had met represented the continuation of the counterculture spirit, just with other means. He announced: ‘Ready or not, computers are coming to the people. That’s good news, maybe the best since psychedelics’²⁶⁴

The hackers that Brand encountered in 1962 and 1972 were still a tiny and reclusive priesthood of young and mostly male, white, middleclass engineering experts working in the military-academic research complex. But it turned out that Brand was right: computers were actually coming to the people. Already in 1972, Dennis Allison, Bob Albrecht and George Firedrake had launched the People’s Computer Company newsletter, in Menlo Park. The first edition had a hand-drawn cover that read in hand-written letters: ‘Computers are mostly used against people instead of for people; used to control people instead of to free them; Time to change all that – we need a ... People’s Computer Company.’²⁶⁵ In a 1975 edition of the newsletter, the counterculture activist and electrical engineer Lee Felsenstein outlined his concept for the ‘convivial design’ of ‘cybernetic devices.’ Felsenstein, who was strongly influenced by Ivan Illich’s book *Tools for Conviviality*, wanted to transfer those

²⁶² The term hacker and hacking is used here in its original and very positive sense as defined by Richard Stallman: ‘Everything you do with a spirit of playful cleverness and intense joyous commitment is hacking.’ (Stallman at the Hackers’ Conference in 1984). By contrast, the mischievous and destructive breaking into computer systems is understood as ‘cracking’.

²⁶³ According to another hacker speaking at the Hackers’ Conference. The event was recorded and published as the documentary: Fabrice, Florin, *Hackers: Wizards of the Electronic Age* (United States, 1985)
<http://www.youtube.com/watch?v=bl_1OybdteY&feature=youtu.be> [accessed 5 April 2014]

²⁶⁴ Brand, Stewart, ‘Spacewar: Fanatic Life and Symbolic Death Among the Computer Bums’, *Rolling Stone Magazine*, December 1972
<http://www.wheels.org/spacewar/stone/rolling_stone.html>.

²⁶⁵ ‘People’s Computer Company/Homebrew Computer Club | Stanford University Libraries’ <<http://library.stanford.edu/blogs/digital-library-blog/2014/05/peoples-computer-companyhomebrew-computer-club>>; the newsletter itself is available in Stanford’s online archive: <<http://purl.stanford.edu/ht121fv8052>>

ideas to the creation of personal computers. The imperative of his article was to ‘design so that the user controls the tool, and not the reverse.’²⁶⁶ In the short text that was essentially a hardware hacking manifesto, Felsenstein echoed Illich in arguing that the drive for profit maximisation and the industrial approach to production was ‘chewing up not only our physical world, but also our ways of working with our tools and with each other.’²⁶⁷ In order to enable people to understand the software and hardware they use, these tools should be designed in a way that users could repair and alter them at their will. In order to foster such convivial design, Felsenstein realised that ‘the computer must grow a club around itself.’²⁶⁸ Gordon French and Fred Moore, two likeminded spirits from Menlo Park had the same idea and in March 1975 they founded the Homebrew Computer Club in one of the legendary garages of Silicon Valley. Its members wanted to build their own machines and were very excited about the arrival of the Altair 8800, the first affordable microcomputer.²⁶⁹ The machine was launched in January 1975 as a do-it-yourself-kit for 439 US dollars and attracted a lot of attention: many technology amateurs and would-be hackers (like Steve Wozniak, another early member of the club) ordered it right away and a scene of hobbyists tinkering with the technology started to emerge – within just a few years, this evolved into a consumer market for personal computing hardware.

A year earlier, in 1975, the twenty-year-old Harvard student Bill Gates had started to adapt the programming language BASIC (Beginner’s All-purpose Symbolic Instruction Code) to make it run on the Altair. The program already existed since 1964 and was circulating as a *free* piece of software for teaching programming to students. Bill Gates was the first person to realise that selling software to end-users could be a business in its own right. He dropped out of university to become the first software-entrepreneur and with his colleague Bill Allen he founded ‘Micro-Soft’ in April 1975. Before that, the computer industry consisted only of hardware manufactures such as IBM, who created large machines for business, administrative and research purposes: the software had been a complementary service to make the hardware usable. Private users were not part of this world at all. In order to establish an end-user market for software, the culture of sharing had to be reframed as a culture of stealing. In 1976, Bill Gates wrote ‘An Open Letter to Hobbyists’:

The feedback we have gotten from the hundreds of people who say they are using BASIC has all been positive. Two surprising things are apparent, however, 1) Most of these ‘users’ never bought BASIC (less than 10% of all Altair owners have bought BASIC), and 2) The amount of royalties we have received from sales to hobbyists makes the time spent on Altair BASIC worth less than \$2 an hour. Why is this? As the majority of hobbyists must be aware, most of you steal your software. Hardware must be paid for, but software is something to share. Who cares if the people who worked on it get paid? Is this fair? [...] Who can afford to do professional work for nothing? What hobbyist can put 3-man years into programming, finding all bugs, documenting his product and distribute for free? [...] Most directly, the thing you do is theft.²⁷⁰

²⁶⁶ Felsenstein, Lee, ‘Tom Swift Lives! & Convivial Design’, *People’s Computer Company*, 1975, pp. 14–15; see also: Felsenstein, Lee, ‘Convivial Cybernetic Devices’, *The Analytical Engine – Newsletter of the Computer History Association of California*, 14 May 2014 <<https://web.archive.org/web/20140514123806/http://www.opencollector.org/history/homebrew/engv3n1.html>> [accessed 24 January 2015]

²⁶⁷ *Ibid.* (Felsenstein, 1975)

²⁶⁸ Felsenstein, Lee, ‘Social Media Technology’, *Lee’s Web* <http://www.leefelsenstein.com/?page_id=125> [accessed 28 March 2015]

²⁶⁹ Fred Moore was another influential counterculture figure, also a member of the Peoples Computer Company and connected to Stewart Brand.

²⁷⁰ Gates, Bill, ‘An Open Letter to Hobbyists’, *Computer Notes*, 1976.

Gates' Open Letter thus marks a crucial schism in computing culture between the ideal of *free sharing*, the demand for *fair pay* and the attempt to transform an immaterial product into big business. This conflict remains unresolved. We still haven't found how to ensure that digital labour is paid without destroying a socially spirited culture of free sharing.

In 1984, when the hacker scene was already about twenty-five years old, the American technology journalist Steven Levy published a seminal book called *Hackers: Heroes of the Computer Revolution*.²⁷¹ It was the first comprehensive account of the history of this scene, its value system and inherent conflicts. A core part of the book was the so-called Hacker Ethic, a previously implicit code of honour that Levy had made explicit in his book. It reads:

1. Access to computers – and anything which might teach you something about the way the world works – should be unlimited and total. Always yield to the Hands-On Imperative!
2. All information should be free.
3. Mistrust Authority – Promote Decentralization.
4. Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position.
5. You can create art and beauty on a computer.
6. Computers can change your life for the better.²⁷²

When Levy's book came out, Stewart Brand and Kevin Kelly were immediately intrigued and decided to host the very first Hackers' Conference near Sausalito, north of San Francisco. They invited 400 handpicked hackers, basically everyone they regarded as relevant, based on Levy's research. At the three-day-event in November of 1984, a big discussion unfolded among the high profile hackers about the conflicting interests that had emerged between the academic tradition of freely sharing computer code and the rapid development of a highly commercial software industry. In that conversation, which was filmed and later widely reported, Steve Wozniak, at that time already a multi-millionaire, complained about the practice of companies keeping code proprietary even when they had no intention of using it: 'That is a hiding of information and that is wrong.' To that, Stewart Brand replied:

On the one hand information wants to be expensive, because it's so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.²⁷³

Wozniak countered 'Information should be free, but your time should not.'²⁷⁴ This paradox and especially Wozniak's reply is insightful for the discussions about today's crowdsourcing and commons-based peer production: how can labour time be reimbursed when the fruits of labour are offered for

²⁷¹ Levy, Steven, *Hackers: Heroes of the Computer Revolution*, Updated afterword (New York, N.Y.: Penguin Books, 2001).

²⁷² *Ibid.* p. 40-44

²⁷³ Brand, Stewart, 'Hackers' Conference 1984 – Keep Designing – How the Information Economy is Being Created and Shaped by the Hacker Ethic.', *Whole Earth Review*, May 1985, pp. 44–59; quote on p. 49.

²⁷⁴ The recordings of the conference are not free, they are owned by Getty Images. However, they can be watched, with a huge branding watermark across the screen: Videowest Productions - Footage, At The First Hackers Conference In 1984, Getty Images United Arab Emirates | 146496695 (Sausalito, California, 1984), Archive Films Editorial <<http://www.gettyimages.ae/detail/video/at-the-first-hackers-conference-in-1984-steve-wozniak-and-news-footage/146496695>> [accessed 8 April 2014]

free? Remarkably, the first half of Brand's reply, that 'information wants to be expensive', has been forgotten, while 'information wants to be free' became 'a mantra, an ideology, a religion' for technology activists.²⁷⁵ The slogan is now commonly attributed to Brand, although he had only rephrased a point that Steven Levy had distilled from his in-depth study of the hacker communities.

What made – and still makes – things complicated, is the ambiguity of the word *free*. It can be interpreted technically, politically, ethically and economically: *free* as in unrestricted access; *free* as in free speech; and *free* as in free beer. Levy writes of the first type of interpretation: 'The belief, sometimes taken unconditionally, that information should be free was a direct tribute to the way a splendid computer [...] works – the binary bits moving in the most straightforward, logical path necessary to do their complex job. [...] In the hacker viewpoint, any system could benefit from that easy flow of information.'²⁷⁶ This belief was then transformed into a moral and political imperative, which in turn became to be at odds with commercial interests in the emerging information economy. Brand's famous quote is only concerned with the economic paradox of free information. Notably, he changed the sentence from an ethical guidance according to which information *should* be free into a form of technological determinism in which information *wants* to be free. Human agency is transformed into the agency of an immaterial and inanimate thing.

What in 1984 was still only the problem of a small elite of hackers turned software entrepreneurs has by now become a fundamental structural problem of the economy at large. It affects the question of fair reimbursement of digital labour for everybody involved in the production, modification and distribution of digital goods. The debate at the 1984 Hackers' Conference was the first time that the various conflicting ethical and commercial interests of producers in the information economy were discussed in a manner that was explicit and brought the awareness of a larger public outside the hacker community. Thirty years later, the debate has not lost its relevance. The fundamental problems remain unresolved and have expanded from a niche group to almost all parts of the creative industries.

Among those involved in the discussions at the 1984 Hackers' Conference was also Richard Stallman, who is described in Levy's book as 'the last of the true hackers.'²⁷⁷ Born in 1953 in New York, Stallman started studying physics in 1971 at Harvard but at the same time quickly became a programmer at the nearby MIT Artificial Intelligence Lab (A.I. Lab). Even by the high benchmark of these two elite institutions, Stallman was regarded as exceptionally bright. At night he excelled as a hacker at MIT while during the day he continued his physics degree at Harvard and graduated magna cum laude in 1974.²⁷⁸ Stallman stayed at Harvard as a post-graduate student but also further immersed himself in the unique hacker culture of the MIT A.I. Lab. There, Stallman also experienced the slow demise of that culture, caused by the advent of proprietary software as a big business. Code became 'closed-source', a well-kept trade secret. In reaction to the new development of *not* sharing code freely among peers anylonger, of 'hiding information', Stallman made it his mission to fight for what

²⁷⁵ As the science literary agent and founder of *The Edge*, John Brockman, who was present when the famous words were said, confirms. See: Brockman, John, 'Edge@DLDD', An Edge Conversation in Munich', 2011 <<http://edge.org/conversation/edge-dldd-an-edge-conversation-in-munich>> [accessed 1 April 2014]

²⁷⁶ *Ibid.* p. 41.

²⁷⁷ Levy, Steven, *Hackers: Heroes of the Computer Revolution*, Updated afterword (New York, N.Y.: Penguin Books, 2001)

²⁷⁸ *Ibid.* p. 416.

he regarded as the original hacker ethos. He subsequently started a life-long campaign for what he called Free Software – *free*, not as in free beer but *as in free speech*.

In an interview at the Hackers' Conference, Stallman said: 'If I were offered a chance to use a piece of software provided I would agree not to share it with anyone, I feel that it would be wrong – it would spiritually hurt me to agree.'²⁷⁹ At that point he had already started writing on what he would publish in 1985 as the 'GNU Manifesto', and in the same year he also initiated the Free Software Foundation, which still operates today.²⁸⁰ Stallman furthermore developed the concept of 'copyleft', which cleverly uses (*hacks*) legal code that was originally meant to protect intellectual property, in order to permanently prevent proprietary ownership of software under the GNU Public Licence (GPL). *Stallman had realised that in order for the user to be free, the software had to be free*. Thus, UNIX, the standard operating system of the time, had to be replaced with a version that was free of all intellectual property claims. His goal was to create an entire operating system – a platform – that was not owned by a company. In order to achieve this, he published an open call to find volunteer collaborators with whom he could successively replace the modular building blocks of the proprietary UNIX operating system with their own pieces of code.²⁸¹ In the GNU Manifesto, Stallman explained why he 'must write GNU' :

I consider that the Golden Rule requires that if I like a program I must share it with other people who like it. Software sellers want to divide the users and conquer them, making each user agree not to share with others. I refuse to break solidarity with other users in this way. [...] So that I can continue to use computers without dishonor, I have decided to put together a sufficient body of free software [...] Everyone will be permitted to modify and redistribute GNU, but no distributor will be allowed to restrict its further redistribution. That is to say, proprietary modifications will not be allowed. [...] I have found very many programmers eager to contribute part-time work for GNU. For most projects, such part-time distributed work would be very hard to coordinate; the independently written parts would not work together. But for the particular task of replacing Unix, this problem is absent.

Once GNU is written, everyone will be able to obtain good system software free, just like air. This means much more than just saving everyone the price of a Unix license. It means that much wasteful duplication of system programming effort will be avoided. This effort can go instead into advancing the state of the art.²⁸²

Stallman's foresightedness and his contribution to the free-software movement can hardly be overestimated. In a certain sense, his *open call* was the start of the first self-organised large-scale

²⁷⁹ Richard Stallman at the first Hackers' Conference at Sausalito, California. Getty Images Archive Films, clip # 146485179 <<http://www.gettyimages.ae/detail/video/at-the-first-hackers-conference-in-1984-richard-stallman-news-footage/146485179>> [accessed 8 April 2014].

²⁸⁰ Stallman, Richard M., 'The GNU Manifesto' (Free Software Foundation, Inc., 1985) <<http://www.gnu.org/gnu/manifesto.en.html>> [accessed 2 April 2014] First published in: *Dr. Dobb's Journal of Software Tools* Volume 10, Number 3, March, 1985. ('GNU' is a recursive acronym meaning 'GNU is not UNIX'.) See also: Stallman, Richard M., 'Free Software Foundation' <<http://www.fsf.org/>> [accessed 2 April 2014] – 'The Free Software Foundation (FSF) is a non-profit with a worldwide mission to promote computer user freedom and to defend the rights of all free software users.'

²⁸¹ UNIX was developed in a public private partnership by the telephone company AT&T/Bell and several universities such as MIT and Berkley. The intellectual property rights were in the hands of AT&T. However, because of anti-trust laws, the company was restricted to its telephone business and had to provide anyone who was interested with a copy of UNIX without charge. UNIX was not created by the free market but to a great deal through government funding.

²⁸² *Ibid.* (Stallman, The GNU Manifesto, 1985, <<http://www.gnu.org/gnu/manifesto.en.html>> [accessed 2 April 2014])

crowdsourcing endeavour, as this was the outsourcing of work that had previously been done by paid employees to an undefined and large group over the internet. However, the differences to today's crowdsourcing are even more striking than the similarities. Stallman was guided by a Kantian ethic of reciprocity (what he refers to as the Golden Rule in the manifesto). Seeking to defend people's dignity and freedom, he decided to fight for values beyond the profit margin and, very important in regard to crowdsourcing today, he wanted to prevent the wasteful duplication of effort.

The actual process of creating GNU was laborious and took several years. Until the early 1990s, Stallman and his collaborators had managed to re-engineer free versions of all UNIX components except the kernel. This last but pivotal component of the operating system was particularly hard to program. Eventually, it was a twenty-two year old Finnish software engineer called Linus Torvalds who provided the last piece of the puzzle in the 1991. Via a news board on the Usenet he humbly announced his achievement:

Hello everybody out there using minix [a Unix like operating system...] I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) [...] This has been brewing since april, and is starting to get ready. I'd like any feedback [...] I'd like to know what features most people would want. Any suggestions are welcome, but I won't promise I'll implement them :-)²⁸³

At this point Linus Torvalds saw his contribution still as a hobbyist side-project to GNU. Like Richard Stallman in his manifesto, he also reached out to potential collaborators in an open call via the internet, first only for feedback and suggestions later to delegate the myriad tasks that were necessary to further develop the operating system. It turned out that Linus Torvalds was not only exceptionally good at programming, but also at distributing and coordinating tasks across a global community of like-minded volunteers. The first entirely *free* operating system that he had been 'brewing' attracted a lot of supporters and evolved under his guidance into the famous Linux, which, as Stallman insists, should correctly be called GNU/Linux.

Eric S. Raymond, a programmer and outspoken libertarian became one of the most influential advocates and analysts of open-source software production. In his famous essay *The Cathedral and the Bazaar* from 1996, he compares the top-down planning and execution of proprietary software companies such as Microsoft with the construction of cathedrals, and the self-organised, decentralised bottom-up way of producing *free* and *open* software with the architecture of the bazaar.²⁸⁴

Linux is subversive. Who would have thought even five years ago (1991) that a world-class operating system could coalesce as if by magic out of part-time hacking by several thousand developers scattered all over the planet, connected only by the tenuous strands of the Internet? Certainly not I. [...] Linus Torvalds's style of development – release early and often, delegate everything you can, be open to the point of promiscuity – came as a surprise. No quiet, reverent cathedral-building here – rather, the Linux community seemed to resemble a great babbling bazaar

²⁸³ Torvalds, Linus, 'LINUX's History by Linus Torvalds', LINUX' History, 1991 <<http://www.cs.cmu.edu/~awb/linux.history.html>> [accessed 9 April 2014].

²⁸⁴ Raymond characteristically kept on re-writing and re-releasing his texts. Years of release and page numbers are therefore somewhat in flux. Raymond, Eric S., *The Cathedral and the Bazaar*, 1997 <<http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/index.html>> [accessed 3 April 2014].

of differing agendas and approaches [...] out of which a coherent and stable system could seemingly emerge only by a succession of miracles.²⁸⁵

Raymond tried to demystify this ‘miracle’ and explain the previously implicit rules that made it possible. The best known of these he dubbed ‘Linus’ Law’; it states that ‘given a large enough beta-tester and co-developer base, almost every problem will be characterized quickly and the fix obvious to someone.’ The law became famous in the form of a slightly weird mix of metaphors: ‘Given enough eyeballs, all bugs are shallow.’ This actually is a crucial point also for the concepts of both, commons-based peer production and crowdsourcing. The idea is that every problem is trivial when the community (or crowd) trying to solve it is large enough. Such an approach goes against the grain of corporate practices in which a manager assigns a task to a specific employee and then controls its execution. Advocates of open-source development and crowdsourcing often point to the huge savings that can be made when people self-assign to tasks they enjoy doing and thus don’t need a management to chose for them and control them. Before the widespread dissemination of networked computers it would not have been technically feasible to coordinate the feedback of so many ‘eyeballs’, yet the world wide web made this possible. But it also needed the strong vision of a *free* operating system to capture the imagination of such a large community of networked technology experts and make them pool their resources for the creation of a tool that was useful for them. Linux was the first project to make a conscious and successful effort to use the entire world as its potential talent pool and labour force.²⁸⁶ But many other projects followed. In January 1998, Netscape announced that it was going to make its web-browser freely available as open-source software. The company explained in a press release that ‘this aggressive move will enable Netscape to harness the creative power of thousands of programmers on the Internet by incorporating their best enhancements into future versions of Netscape’s software.’²⁸⁷ As Christopher Kelty (who I will discuss below) notes: ‘One of the selling points of Free Software, and especially of its marketing *as* Open Source, is that it leverages the work of thousands or hundreds of thousands of volunteer contributors across the Internet.’²⁸⁸

It turned out that the free software systems that were hacked together in a modular way by a distributed crowd of volunteers were often on par with their commercial competitors. But the success of the non-proprietary and distributed mode of production also aggravated the schism between Stallman’s camp and the many new stakeholders with business interests. A vocal part of the community started to reject Stallman’s ‘Free Software’ label because of the confusion the double meaning of the word *free* caused. As already mentioned in the introduction, it was Tim O’Reilly who played an important role in this rebranding and so did Eric S. Raymond. The proponents of the term ‘open source’ were eager not to scare off business partners with an anti-capitalist and moral rhetoric and instead preferred to emphasise the pragmatic technical advantages of being able to read and modify the code. Despite Stallman’s protest, the original term was successively replaced by ‘Open-Source Software,’

²⁸⁵ *Ibid.* p. 1.

²⁸⁶ Raymond, *The Cathedral and the Bazaar*, p. 22.

²⁸⁷ ‘Netscape Announces Plans to Make Next-Generation Communicator Source Code Available Free on the Net’, 1998

<<http://web.archive.org/web/20021001071727/wp.netscape.com/newsref/pr/newsrelease558.html>> [accessed 16 April 2014]

²⁸⁸ *Ibid.* p. 105

which was regarded as less ambiguous and less ethically and ideologically loaded. Also Linus Torvalds distanced himself from Stallman's agenda: 'I don't want people using Linux for ideological reasons. I think ideology sucks. This world would be a much better place if people had less ideology.'²⁸⁹ As with the rebranding from GNU to Linux, Stallman lost, and the commonly used term is now open-source software. The politically correct term, however, at least in the eyes of Stallman and his camp is Free/Libre Open Source Software (FLOSS). For many people today, Linux is the paragon of open-source software, and while the charming Linus Torvalds became famous and successful also outside the hacker world, Richard Stallman became a fundamentalist outsider, a travelling evangelist for the gospel truth of Free Software.



Fig. 18: Linus Torvalds on a Hippie-themed cover of Forbes magazine in August 1998.



Fig. 19: Tim O'Reilly (on the left) and Richard Stallman advocating their terminology in 2002.²⁹⁰

²⁸⁹ Quote from: Keltz, Christopher M., *Two Bits: The Cultural Significance of Free Software* (Durham: Duke University Press, 2008), p. 233

²⁹⁰ Image taken at the OSCON, O'Reilly's Open Source Convention in California in 2002; Photo: Julian Cash for O'Reilly Media; http://archive.oreilly.com/pub/a/oscon2002/jc_photos4.html

Stallman is still valued by parts of the hacker scene for his foresight in recognising the importance of free software, but he is also often sneered at for his dogmatism. However, events such as the revelations by Edward Snowden about the massive scale spying operations undertaken by the American National Security Agency (NSA) and the British Government Communications Headquarter (GCHQ) that happened in close cooperation with all major computing firms have given Stallman's hardliner position new relevance. Stallman's argument is simple and I generally agree with him on this point: profit orientated companies who forbid their users to open products to see how they work, tinker with them and customise them according to their own needs, by law or by encryption, can not be trusted:

If the users don't control the program, the program controls the users. With proprietary software, there is always some entity, the developer or 'owner' of the program, that controls the program – and through it, exercises power over its users. A non-free program is a yoke, an instrument of unjust power.²⁹¹

I have included this excursion about the roots of the Open Source Movement in the Free Software Movement to show two things:

- 1) Technically, it would be justified to regard the creation of the first *free* operating system as the first successful large-scale crowdsourcing project, initiated through an open call via the internet.
- 2) Philosophically, however, the two approaches could not be further apart. The *free* labour the people contributed to create *free software* was motivated by an ethic that categorically valued interpersonal relationships, sharing and individual autonomy much higher than any corporate or commercial interest. The contributors were not treated as a crowd or a source for cheap labour that could be harnessed by someone for commercial gains. Stallman had an ethical and political agenda, and he was searching for likeminded collaborators. In that sense, he was the first among equals collaborating on a project with other experts that had an immediate use-value to them, that could not be privatised by anyone (thanks to Stallman's copyleft GNU GPL), and thus the fruits of the collective free labour remained freely available and useful to everyone (also outside the group of experts). In short, they became part of the *commons*. By putting values such as reciprocity, sharing, friendship, self-help, self-learning, autonomy, decentralisation and dignity decidedly above corporate interest, Stallman fostered the creation of *Tools for Conviviality* in a form that Ivan Illich could only have approved of.

In his book *Two Bits* from 2008, the anthropologist Christopher Kelty, Professor at the UCLA has written extensively about *the cultural significance of free software*.²⁹² Since the 1990's, he had immersed himself into the culture of what he calls 'geeks' (not meant in a derogatory way) as a participant observer and studied their practices for over a decade. He experienced the rapid growth and transformation of that culture from a frontline position. In order to capture what he regarded as the

²⁹¹ Stallman, Richard M., 'Free Software Is Even More Important Now', 2013 <<https://gnu.org/philosophy/free-software-even-more-important.en.html>> [accessed 3 March 2015]

²⁹² Kelty, Christopher M., *Two Bits : The Cultural Significance of Free Software* (Durham: Duke University Press, 2008)

core characteristic of the communities that he studied, he introduced the very useful concept of *recursive publics*. ‘A recursive public is a public that is constituted by a shared concern for maintaining the means of association through which they come together as a public.’²⁹³ In his analysis, he shows that ‘geeks’ create a public by creating a technological infrastructure that is at the same time medium, subject and the goal of their interactions. In other words, they meet via a free software platform they have created, to discuss on that platform how they want to further develop that platform, based on rough consensus they then modify that very platform, to then again discuss the new direction that the platform is taking – and a new iteration of the recursive cycle starts.

Kelty’s concept of the recursive public makes it possible to draw a line between the methods of the Free Software Movement and the practices in crowdsourcing even more clearly. Kelty writes that in the last few years, ‘the circuit of geek and entrepreneur conferences’ has been dominated by talk of ‘social software’ or ‘Web 2.0’, concepts that take inspiration from the Free Software Movement by taking advantage of voluntary, self-directed contributions and by ‘leveraging and coordinating massive numbers of people.’²⁹⁴ But they do this along restricted lines and are thus not what he would define as recursive publics.

Most of them are commercial entities whose structure and technical specifications are closely guarded and not open to modification, [...] few are interested in allowing strangers to participate in, modulate, or modify the system as such; [...] they want information and knowledge to be free, [...] but not necessarily the infrastructure that makes that information available und knowledge possible. Such entities lack the ‘recursive’ commitment.²⁹⁵

Ultimately, Kelty sees Free Software as a form of critique to question illegitimate, unaccountable and unjust forms of governance, as well as a toolset to experiment collectively with modifiable infrastructures that allow for true participation and just forms of governance. And Free Software, Kelty emphasises, does not belong to geeks alone. The recursive publics that Kelty analysed are actually quite close to what Pierre Lévy imagined Collective Intelligence would be like back in the 1990s (see chapter 1.5). I will come back to this point in the conclusion, where I will discuss some of the possibilities for designing fairer, maybe even convivial crowdsourcing platforms. At first sight, the culture that Kelty describes seems to offer an intriguing way of redesigning exploitative platforms – shouldn’t all users of platforms be enabled to constantly modify their virtual playgrounds and workplaces? Theoretically, everyone can participate in such a recursive public. Yet practically, the level of programming skills and knowledge about things like copyright law necessary to meaningfully participate still creates a very high entry barrier.

This is why the media scholar Jodi Dean in her book *Blog Theory* heavily criticises Christopher Kelty’s concept of recursive publics.²⁹⁶ She accuses him of falling into the same trap as Stewart Brand, by glorifying the anarchic spirit of a self-organised tech-savvy elite as generally the best way to solve the problem of governance. In Dean’s reading, Brand and Kelty both promote a libertarian

²⁹³ *Ibid.* p. 28

²⁹⁴ *Ibid.* p. 303

²⁹⁵ *Ibid.* p. 303

²⁹⁶ Dean, Jodi, *Blog Theory: Feedback and Capture in the Circuits of Drive* (Cambridge, UK; Malden, MA: Polity, 2010)

understanding of politics that regards formal governance – as in representative democracies – as inefficient, hindering, and inferior to clever socio-technological, entrepreneurial hacks. She argues that this approach inadvertently ushers in most extreme forms of neoliberalism. How can it be that Kelty and Dean look at the same culture and come to such different conclusions? While he is looking at a tiny group within society for whom this form of enlightened anarchism, or techno-libertarianism, works perfectly, she worries that this mode of production also affects everybody else.

In the scenario Kelty describes, the builders of communication networks are governing the rest of us (proceeding without our consent and generally beneath our awareness). They are a technocratic elite unburdened by constraints of representation or oversight. The programmers don't just build software; they act for the people – although this acting is itself formatted in terms of communicative capitalism's merging of markets and governance.²⁹⁷ [...] Kelty presents 'geeks' as outside government and industry even as they work within them, as outside of politics even as they endeavor to serve and enhance capitalism.²⁹⁸

Although I have great sympathy for the culture Kelty describes, I partly agree with Jodi Dean on this point. I write *partly*, because I would not accuse the geeks living in a recursive public of wanting to govern everybody else, but I also think that this self-determined way of dealing with the digital infrastructure unfortunately 'does not scale' to include the larger population. For their competent members recursive publics are quite ideal configurations. But in order to become an active participant one has to be able to program in order not to be programmed. Effectively, this means that only a tiny elite is capable of using and modifying the technological infrastructures in a meaningful and self-determined way. If every citizen was a 'geek', this system would be perfect, but this is obviously not the case, and never will be in a society based on a division of labour – being a 'geek' in the sense of Kelty is a fulltime job. So where does that leave everybody else?

As soon as the logic of the platforms that Kelty describes is applied to people outside the respective recursive publics or as a replacement of politics in general – and at times Kelty can be read this way – his position indeed becomes deeply problematic. However, in themselves, understood as systems in which all people who are affected by the workings of a technological-social infrastructure are able to understand, discuss and influence the rules and regulations they are subjected to, this is a much better model than the feudal structure we now have on practically all commercial platforms. Maybe users need constitutional rights too, and the hackers should become their lawyers, being able read the code, defend their rights, and reconstruct the platforms as democratically legitimated representatives of the people.

²⁹⁷ *Ibid.* p. 24

²⁹⁸ *Ibid.* p. 25

2.6 – SUMMARY AND CONCLUSIONS OF CHAPTER TWO

1. I have shown that the pioneers of online collaboration conceptualised and designed their early systems with a humanist perspective. In era of mainframe computing, they figured an enlightened individual user at the centre of their design concepts, formed in their own image. Despite being managers in the military-industrial-complex, they didn't develop hierarchical systems and didn't imagine their digital tools as means to outsource work or control others.
2. I argue that it is important to revisit these older visions and compare them with the contemporary reality to better understand our current position, realise how far we went off stride and excavate potential solutions to today's problems. The pioneers developed tools to augment the intellect of the individual user and platforms to collaborate with peers. The concepts were egalitarian, democratic and emancipatory; the goal was to tackle society's social and ecological problems. I argue that we have to evaluate today's platforms based on these values.
3. An additional aim was to free the brain from repetitive 'clerk-like' tasks. But Licklider in particular also warned of the danger that in large computer-centred information systems, full automation of tasks could fall short and enslave humans to the machine. I argue that this is exactly what is happening since 2005 with cognitive piecework. This outsourcing of unpleasant tasks, not to the machine, but to a lower class of users is incompatible with a humanist vision for networked computing. This branch of computing aggravates pre-existing asymmetric power relations instead of dissolving them.
4. As I have shown, this was also a fear shared by protagonist of the Free Speech Movement of the 1960s. However, in the following decades, a much more positive outlook, focussed on empowerment through personal computing drove the development and dominated the discourse. I argue that today, we still have this emancipatory rhetoric but in the context of commercial online platforms at least, there is a widening gap between promises and reality.
5. The Californian counterculture groups around Lee Felsenstein and Stewart Brand wanted to appropriate the technology in a decentralised, small-scale, bottom-up, emancipatory way that would empower the individual and connect communities. In their vision, computers would be part of a tool-set that was supposed to replace politics. Kevin Kelly proudly calls this the 'tool view of the world' and sees in it a direct connection between the Hippies and Web 2.0.
6. On a small scale, this approach is indeed empowering but, building on the work of Fred Turner, I argue that this worldview leads to the highly problematic techno-libertarian stance that every social and environmental problem will best be solved by better tools and that politics and government interventions only hold back the 'inevitable' and 'natural' progress. This leaves the relationship between society and technology entirely to the free market and doesn't provide an answer to how to deal with tools that are invasive, oppressive or exploitative. Dropping out doesn't 'scale'. Thus, I argue that as a society we can't refrain from a political approach to ensure that the tools and platforms serve the people and not the other way around.
7. I retraced the history of the WELL in order to uncover at what point the gap between emancipatory rhetoric and commercial orientation of tools for online collaboration emerged. After the back-to-the-land communities had failed, the scene around Brand tried to revive some Communitarian ideals in the way that they shaped the form of this virtual community. As I have

shown, this was a very stripped down version of the original countercultural goals. Online, the group reduced its sharing culture to the top layers of Maslow's Pyramid. The WELL was a company-owned, centralised platform controlled by Brand; its members had to earn their livelihood outside of the community and pay for access to it. It was the first prominent online platform that made a profit from selling its members access to their own user-generated content. While the rhetoric was partly still that of the Communards, the social utopia of self-reliant communities existing outside of capitalism was lost along the way. Community building had become a business with a hierarchy of community managers running it.

8. The WELL is an important interim stage in the development of later platforms because it was, as Rheingold described it, a place where members acted as 'software agents' for each other by bartering knowledge. I argue that this form of reciprocity can only work in small communities in which the members know and trust each other. In contrast to what is called 'community' on crowdsourcing platforms, the WELL was still a real community and not a crowd. However, as I have shown, it was already at this point in web history that first criticism arose regarding the commercial nature of online platforms, and in particular, regarding the gap between rhetoric and practice, and the enormous power that platform providers gained over their users. The design challenge that derives from this is: how to develop platforms that allow for the reciprocal exchange between its users without losing power and control to the platform providers?
9. Finally, I discussed the origins of the FLOSS Movement in the Hacker Ethics because it represents another crucial intermediate step in the historical trajectory that has led up to today's crowdsourcing landscape. Without the success of the GNU/LINUX project, hardly anybody would have deemed it possible to outsource complex work-tasks to a distributed network of self-assigning volunteers. As such, it was the proof of concept for large-scale online collaboration via an open call. However, I argue that the differences are even more important than the similarities: Stallman initiated the FLOSS Movement because he (rightfully) feared that corporations would gain more and more control over the life of their users by controlling their software. I find it very important to emphasise, that in this scene, people work for free (without getting paid) in order to produce tools that are free (not controlled by others).
10. I argue that this is not crowdsourcing but commons-based peer production, because the fruits of the labour become available to everyone. If the workforce also controls and develops the infrastructure for its collaboration, it becomes a recursive public. I acknowledge that this is the ideal, most self-determined constellation for online collaboration. However, this model only works if all members are hackers, capable of understanding and rewriting the infrastructure at the level of code. What's more: in contrast to commercial crowdsourcing, this model does not offer an income to its participants. Yet, I argue that to earn money through self-assigned labour online is one of the great opportunities that crowdwork has to offer. Because of these two reasons, I don't regard the transformation of crowdsourcing into commons-based recursive publics as a viable goal. But for a redesign of commercial crowdsourcing into a form that is fair and sustainable for all stakeholders, it is important to take cues from these alternative models of organisation.

Chapter Three: Mapping the Crowdsourcing Landscape

Buy it, use it, break it, fix it,
trash it, change it, mail – upgrade it,
charge it, point it, zoom it, press it,
snap it, work it, quick – erase it,
write it, cut it, paste it, save it,
load it, check it, quick – rewrite it,
plug it, play it, burn it, rip it,
drag and drop it, zip – unzip it,
lock it, fill it, call it, find it,
view it, code it, jam – unlock it,
surf it, scroll it, pause it, click it,
cross it, crack it, switch – update it,
name it, rate it, tune it, print it,
scan it, send it, fax – rename it,
touch it, bring it, pay it, watch it,
turn it, leave it, stop – format it.

DAFT PUNK, TECHNOLOGIC, 2005

3.1 – MAKING SMALL CONTRIBUTIONS MATTER

Every day, we click our way through an endless succession of microtasks, often without even taking notice that we are doing work. In their most fine-grained, infinitesimal form, these tasks are almost under the threshold of our perception. Yet, in aggregated form, they have become a valuable resource for companies: *Surf it, scroll it, pause it, click it*. The path of our attention online leaves a rich trail, the raw material for Google, Facebook & Co. to further hone their search algorithms and user profiles and to sell personalised, targeted advertising to their clients. In recent years, we have seen the rise of new monopolies built from data mining our digital exhaust. *Write it, cut it, paste it, save it*. Other tasks already demand more engagement; they not only create raw data but actual content, be it merely for the purpose of self-expression or as a deliberate service to others. Amateurs write online articles for Wikipedia, moderate help forums, debug open-source software and make important contributions as citizen scientists in fields reaching from astronomy to ornithology. With increasing complexity, these tasks stop being micro and demand a high level of engagement and expertise. They eventually become indistinguishable from work – in the sense of having a job. The lines between amateur and professional, between consumption and production, usage and creation, play and labour, have been continuously blurred in post-industrial production – especially, but not only, online. Portmanteaus such as *prosuming*²⁹⁹ and *produsage*,³⁰⁰ *playbour*³⁰¹ and *weisure*³⁰² or the *pro-am revolution*³⁰³ have tried to express this weird new mix. Should we be cheerful because work has become more playful and consumers and end-users are more creative? Or is it the other way around and capitalism has now co-opted our recreational time? It all depends on who you ask. The discourse around digital labour and when it should be waged is still going on. Should we, for example, join the New York based artist and curator Laurel Ptak in demanding ‘Wages for Facebook’?³⁰⁴ In her online manifesto it reads: ‘They say it’s friendship. We say it’s unwaged work. With every like, chat, tag or poke our subjectivity turns them a profit. They call it sharing. We call it stealing.’ With her demand, Ptak echoed a feminist, workerist (operaismo) campaign by Selma James from 1972 demanding wages for housework; and a 1975 manifesto by Silvia Federici called *Wages Against Housework*, which Ptak took as the basis for her critique of Facebook.³⁰⁵

²⁹⁹ Toffler, Alvin, *The Third Wave* (New York: Bantam Books, 1989).

³⁰⁰ Bruns, Axel, *Blogs, Wikipedia, Second Life, and Beyond: From Production to Produsage* (New York: Peter Lang, 2009).

³⁰¹ Kücklich, Julian, ‘Precarious Playbour: Modders and the Digital Games Industry’, *The Fibreculture Journal*, FCJ-025 (2005) <<http://five.fibreculturejournal.org/fcj-025-precious-playbour-modders-and-the-digital-games-industry/>> [accessed 14 January 2013].

³⁰² Patterson, Thom, ‘Welcome to the “Weisure” Lifestyle’, CNN.com, 2009 <<http://edition.cnn.com/2009/LIVING/worklife/05/11/weisure/index.html>> [accessed 7 July 2014].

³⁰³ Leadbeater, Charles, and Paul Miller, *The Pro-Am Revolution: How Enthusiasts Are Changing Our Society and Economy* (London: Demos, 2004).

³⁰⁴ Ptak, Laurel, ‘Wages For Facebook’, 2013 <<http://wagesforfacebook.com/>> [accessed 3 February 2015]; see also: Jung, E. Alex, ‘Wages for Facebook’, *Dissent*, Spring 2014 <<http://www.dissentmagazine.org/article/wages-for-facebook>> [accessed 3 February 2015]

³⁰⁵ Federici, Silvia, ‘Wages Against Housework’, 1975 <<https://caringlabor.wordpress.com/2010/09/15/silvia-federici-wages-against-housework/>>. See also: Tortorici, Dayna, ‘More Smiles? More Money’, *n+1*, Fall 2013 <https://nplusonemag.com/issue-17/reviews/more-smiles-more-money/>;

They call it sharing. We call it stealing – What a curious inversion of roles since Bill Gates’ Open Letter to Hobbyists! In 1976, it was the founder of Microsoft, the head of a corporation, who reframed sharing as stealing in order to be able to sell software to ‘end-users’, who were not allowed to tinker with the product and modify it to their needs anymore. Now, *users* make the same claims against Mark Zuckerberg, because he is making a huge profit from their *affective labour* in *the social factory* that is Facebook – even though the use of the product is without charge. The collapse of boundaries between the two domains, between leisure and corporate value creation, is what makes the question of appropriate remuneration so tricky. We are confronted with a whole new spectrum of work-and-play-hybrids; the spectrum reaches from forms of digital labour that are predominantly fun to those that are predominantly work. At the beginning of section 3.3, I have mapped the most relevant fields of digital labour according to how job-like /work-like they are. Sure we can demand wages for Facebook, and maybe we should – but I think that declaring all our activities to be a job doesn’t leave us in a useful place – neither does declaring everything as play. I suggest that it is a continuum between work and play and the more job-like an activity is, in the sense of demanding a lot of effort to be invested into a specific task that we do for someone else who makes a profit from that, the more pertinent is the demand for fair wages.

Probably the best illustration of the often very strange amalgam of work and play is ‘*gold farming*’, where the fun of playing such games as World of Warcraft is perverted into pointless ‘point-and-click’ virtual drudgery for real world currency – the game has become a full-time job for some players, but not for the majority of them.³⁰⁶ Even one and the same action can be either work or play, depending on who is doing it in what context – but it would be absurd to demand wages for time spend in World of Warcraft, or demand from regular players to pay taxes for the virtual riches they amass as a side effect of their hobby.

Wages for value creation through the mere usage of a software, such as a fantasy game or a social network, is already one of the harder to grasp aspects of the digital labour discourse. The immense productive force that masses of internet users can muster if given *access to the right tools* is more obvious when they actually create new and distinct media content, like videos on YouTube. User-generated content has become the central idea of the so-called ‘Web 2.0’, a term popularised in 2004 by publisher Tim O’Reilly.³⁰⁷ The new version of the internet, so it was said, had become more collaborative and participatory. After the burst of the ‘dot-com bubble’ in the spring of 2000, the enthusiasm for e-commerce had cooled down for a few years. *What united many of the internet businesses that arose after the burst was that they all found ways to let the new masses of users produce content for each other. The companies only had to provide the infrastructure – the tools and the platforms.* With the notion of ‘Web 2.0’, Tim O’Reilly then delivered the narrative for this transformation. Of course this narrative was about the empowerment of the individual. But with the arrival of

³⁰⁶ ‘Development Informatics Working Paper No. 32 – Current Analysis and Future Research Agenda on “Gold Farming”: Real-World Production in Developing Countries for the Virtual Economies of Online Games (School of Environment and Development - The University of Manchester)’ <http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/di_wp32.htm> [accessed 7 July 2014].

³⁰⁷ O’Reilly, Tim, ‘What is Web 2.0’, O’Reilly Media, 2005 <<http://oreilly.com/web2/archive/what-is-web-20.html>> [accessed 9 April 2014].

the masses online came also the revival of the notion of the crowd, which, as I argue, is strangely at odds with the image of the user as the individualist hero and micro-entrepreneur.

In the case of Amazon, users had already contributed ratings, reviews and recommendations for a while, but they did not create the actual products. With the launch of Second Life in 2003 and, most importantly, YouTube in 2005, the concept of user-generated content was elevated to a new level. Now, users also created the core product. Wikipedia had started in 2001, but it was between 2004 and 2006 that it was growing exponentially. All this contributed to a great hype about the empowerment of the user, which peaked in December 2006 when *Time* magazine made ‘You’ the ‘Person of the Year’, showing on the cover a mirror foil, framed by a YouTube player window.



Fig. 20: Cover of *Time* magazine, December 2006.

Below it read: ‘Yes, you. You control the Information Age. Welcome to your world.’ In the corresponding article, *Time* continued:

This is not the Web that Tim Berners-Lee hacked together [...] and not even the overhyped dotcom Web of the late 1990s. The new Web is a very different thing. It’s a tool for bringing together the small contributions of millions of people and making them matter. [...] It’s about the many wresting power from the few and helping one another for nothing.³⁰⁸

As it turned out, this was for the bigger part an illusion. While the *many* do indeed use their digital *tools* to help one another for nothing, the power today seems to be back firmly in the hands of the very *few* who own and control the digital *platforms*. Users had much more control over their data in the world wide web that Tim Berners Lee ‘hacked together’, before they handed over their most intimate *personal data* and *user-generated content*, which had previously been hosted on personal decentralised home pages, to the servers and platforms of a very small number of global aggregators and social networks.

³⁰⁸ Grossman, Lev, ‘You – Yes, You – Are TIME’s Person of the Year’, *Time*, 25 December 2006
<<http://www.time.com/time/magazine/article/0,9171,1570810,00.html>> [accessed 15 January 2013]

Tim Berners-Lee strongly objected the whole notion of a ‘Web 2.0’. Asked in a podcast interview for IBM in July 2006 whether he would agree that ‘Web 1.0 was about connecting computers and making information available’ while ‘Web 2.0 is about connecting people and facilitating new kinds of collaboration’, Berners-Lee strongly disagreed:

Totally not. Web 1.0 was all about connecting people. It was an interactive space, and I think Web 2.0 is of course a piece of jargon, nobody even knows what it means. If Web 2.0 for you is blogs and wikis, then that is people to people. But that was what the Web was supposed to be all along.³⁰⁹

In the meantime, media scholars such as Trebor Scholz have shown, that the proclaimed novelty of the ‘Web 2.0’ was deceptive.³¹⁰ It was actually just a clever marketing label from which even Tim O’Reilly distanced himself eventually. But still, something had changed on the internet around the time that ‘Web 2.0’ rose to fame. In hindsight, the naive hubris of the 2006 ‘Person of the Year’ *Times* cover is reminiscent of Hunter S. Thomson’s famous ‘Wave Speech’ from the novel *Fear and Loathing in Las Vegas*, published in 1971. In it, Thomson was trying to grasp how the revolutionary zeitgeist of the 1960s counterculture had evaporated so quickly:

Five years later? Six? It seems like a lifetime, or at least a Main Era – the kind of peak that never comes again. San Francisco in the middle sixties was a very special time and place to be a part of. [...] There was a fantastic universal sense that whatever we were doing was right, that we were winning.... And that, I think, was the handle – that sense of inevitable victory over the forces of Old and Evil. Not in any mean or military sense; we didn’t need that. Our energy would simply prevail. There was no point in fighting – on our side or theirs. We had all the momentum; we were riding the crest of a high and beautiful wave....

So now, less than five years later, you can go up on a steep hill in Las Vegas and look West, and with the right kind of eyes you can almost see the high-water mark – that place where the wave finally broke and rolled back.³¹¹

Now, just eight years later, the *Times* cover of 2006 looks like another such high-water mark, a very prominent display of the unabated belief in the web as a tool for good, a tool that was beyond politics, a tool that would inherently empower the masses and topple the forces of old and evil. It was yet another expression of utopian technological determinism, the belief that access to decentralised high-tech tools could replace or ‘route around’ politics and hierarchies. An ideology that first took shape in the scene around Stewart Brand, the *Whole Earth Catalog* and the WELL, that was later advocated by Kevin Kelly and his colleagues at *Wired*, and that is still characteristic of the rhetoric of Silicon Valley start-up companies such as Uber & Airbnb. The promise is the empowerment of the individual, not through politics but through technology, fast, cheap and out of control, but undoubtedly a force for good. The spirit of inevitable victory, so vividly described by Hunter S. Thomson, can also be found in John Perry Barlow’s libertarian *Declaration of the Independence of Cyberspace* from

³⁰⁹ Berners-Lee, Tim. ‘IBM Developer Works Interviews: Tim Berners-Lee (podcast transcript),’ July 28, 2006; Anderson, ‘Tim Berners-Lee on Web 2.0’, *Ars Technica*, 2006 <<http://arstechnica.com/business/2006/09/7650/>> [accessed 7 July 2014]

³¹⁰ Scholz, Trebor, ‘Market Ideology and the Myths of Web 2.0’, *First Monday*, 13 (2008) <<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2138/1945>> [accessed 20 January 2013]

³¹¹ Thompson, Hunter S, *Fear and Loathing in Las Vegas: A Savage Journey to the Heart of the American Dream* (London: Harper Perennial, 2005), p. 66 ff.

1995,³¹² as well as in the consumerist *Cluetrain Manifesto* by David Weinberger et al. from 1999.³¹³ While reality seems to stubbornly insist on the fact that new tools can and will be used also by those already in power, as a means to defend their privileged position, the belief in utopian technological determinism continues to haunt the tech world. Again, a wave that originated in California is rolling over the rest of the world, but this one is not characterised by decentralised tools for individual empowerment but by monopolistic platforms and centralised control. It is a reversal of 1960s counterculture ideals, piggybacking on the old and now-empty rhetoric of power to the people.

In regard to freedom of speech and the fight against despotic regimes, similar claims of empowerment were made in the context of the so-called ‘Twitter Revolution’ in Iran in 2009 and also later during the so-called ‘Arab Spring’. The very biased and often naive view of social networking as a sole force for good was thoroughly debunked by Evgeny Morozov, Silicon Valley’s most polemic and caustic critic, in his book *The Net Delusion*, published in 2011,³¹⁴ and in the follow up, *To Save Everything, Click Here*, from 2013.³¹⁵ But the narrative that tools such as smartphone apps, the ubiquitous sensors of the widely proclaimed ‘internet of things’ and online platforms for collaboration are better suited than politics to improve society continues to dominate. The Silicon Valley based billionaire venture capitalist Peter Thiel (co-founder of PayPal, and an early investor in Facebook), an outspoken and influential techno-libertarian, declares very openly that he wants to replace politics with technology as the much better system to get things done.³¹⁶ In his world view, states should function like corporations in a radical free market approach that reaches all the way up from individual to governance and rewards bold, disruptive, innovative entrepreneurship alone, without providing any outside or rest from the rat race and has nothing to offer to those who can’t keep up.

For the questions at the heart of this thesis, the high-water-mark of the 2006 *Times* cover is a good vantage point to acknowledge how much has changed in the meantime. Seeing it through the eyes of Ivan Illich, 2006 could be described as the second watershed of online collaboration. It was a point in web history, where the new power of the masses online had become evident, but it had not yet been commercially exploited to the extent that we have become accustomed to today. The coinage of the term crowdsourcing, which also happened in 2006, marks a paradigm-shift – away from the empowerment of the individual user and towards the harnessing of the ‘immaterial labour’ of all internet users. It was a shift from *commons-based peer production* towards large-scale aggregation and *value extraction* from the contributions of the many. The ideal of *sharing* among peers was transformed into the business of *harvesting* the crowds (under continuation of the pretence of sharing). The

³¹² Barlow, John Perry, ‘A Declaration of the Independence of Cyberspace’, 1996 <<https://projects.eff.org/~barlow/Declaration-Final.html>> [accessed 20 January 2013]

³¹³ Levine, Rick, David Weinberger, Christopher Locke, and Doc Searls, ‘The Cluetrain Manifesto’, 1999 <<http://www.cluetrain.com/>> [accessed 20 January 2013]

³¹⁴ Morozov, Evgeny, *The Net Delusion: the Dark Side of Internet Freedom* (New York: PublicAffairs, 2011) <<http://www.books24x7.com/marc.asp?bookid=41987>> [accessed 9 April 2014]

³¹⁵ Morozov, Evgeny, *To Save Everything, Click Here: Technology, Solutionism, and the Urge to Fix Problems That Don’t Exist* (London: Allen Lane, 2013)

³¹⁶ Meerman, Marije, ‘Cybertopia: Dreams of Silicon Valley’, *Tegenlicht / Backlight*, 2015 <<http://tegenlicht.vpro.nl/backlight/cybertopia.html>>

data visualisation below, developed by the website The Connectivist (of the US cable and broadband providers) in May 2014, shows the ‘expanding consolidation of the consumer internet’.³¹⁷ It is based on data gathered by Dr. Craig Labovitz of Deepfield inc., who made the largest study of the distribution of internet traffic to date by analysing a fifth of the total internet traffic in the US.³¹⁸ It clearly shows the rapid emergence of monopolies, cathedrals rising from the hitherto bazaar-like mosaic of the web. This leaves little hope for a return to the wide distribution of attention and power that had been in place 2007.



Fig. 21: Infographic ‘Massive Ongoing Changes in Content Distribution’, by Craig Labovitz, 2013.

³¹⁷ Sun, Lauren, and Benjamin Plackett, ‘The Expanding Consolidation Of The Consumer Internet’, The Connectivist, 2014
<http://www.theconnectivist.com/2014/05/the-expanding-consolidation-of-the-consumer-internet/> [accessed 7 July 2014]

³¹⁸ Labovitz, Craig, ‘Massive Ongoing Changes in Content Distribution’, 2013
<http://conferences.infoday.com/documents/172/2013CDNSummit-B102A.pdf>; the visualisation is also based on data from the analyst company Nielsen.com.



Fig. 22: Neo, unplugging himself from the network of human batteries in the 1999 Wachowski siblings' film *The Matrix*.

3.2 – GAMIFIED HARVESTING OF THE COGNITIVE SURPLUS

Jeff Howe once described crowdsourcing as ‘distributed labor networks [...] using the Internet to exploit the spare processing power of millions of human brains.’³¹⁹ Obviously, the tone of this claim has little to do with a culture of sharing and the empowerment of the individual. Instead, it is more reminiscent of the network of human batteries in the movie *The Matrix*. I have always found it implausible that the machines, which dominate the world after the singularity, need the elaborate simulation of reality, i.e., the Matrix, only to use humans as their source of energy. In the movie, the world as we know it is merely a ‘screen saver’ to keep the human brains happy and entertained while their bodies are producing the energy needed by the robot overlords. Not exactly an efficient system of energy supply.

When leaving the dystopian *virtual* reality of Hollywood behind and looking at the *actual* reality of early twenty-first century platforms, it turns out that, instead of using the waste heat of people to run machines, it makes much more sense to use their waste processing power to augment machines with cognitive and creative skills they can’t muster themselves. It is the inversion of Douglas Engelbart’s great goal to augment the individual human intellect through computing (see chapter two). Since the widespread dissemination of networked computing made it feasible to *harvest* human mental capacities on a massive scale, people started thinking about how to put this new and renewable resource to good use – and centralised platforms play a role in the management of the aggregation process.

Jeff Howe was neither the first nor the only one to draw his metaphors from the technical domain of distributed computing, where the goal is always to use the available processing power in the most efficient way. In 2005, at the age of 26, the Guatemalan computer scientist Luis von Ahn, a graduate student at Carnegie Mellon University, published his PhD thesis on what he called ‘human computation.’³²⁰ In the introduction he wrote:

³¹⁹ Howe, Jeff, ‘The Rise of Crowdsourcing’, *Wired*, 14 June 2006 <<http://www.wired.com/wired/archive/14.06/crowds.html>>

³²⁰ Von Ahn, Luis, ‘Human Computation’ (Carnegie Mellon University, 2005). The dissertation won the Best Doctoral Dissertation Award from Carnegie Mellon University’s School of Computer Science.

We focus on harnessing human time and energy for addressing problems that computers cannot yet tackle on their own. [...] In this paradigm, we treat human brains as processors in a distributed system, each performing a small part of a massive computation. Unlike computer processors, however, humans require an incentive in order to become part of a collective computation. We propose online games as a means to encourage participation in the process.³²¹

And indeed, von Ahn created several such ‘Games With a Purpose’, as he called them, that successfully motivated people to contribute their cognitive skills to solving tasks that could not be automated. One of them was the ‘ESP Game’, which in 2006 was acquired by Google and then continued under the name ‘Google Image Labeler.’³²² The purpose of the game was to get people to provide descriptive labels for the content of images so that they could be searched. It did that by randomly teaming up two volunteer players, showing them the same image at the same time, and awarding them with points when they both quickly typed in matching descriptions. The game was quite popular and provided not only tags for images but also created data-sets for machine learning processes aimed at training algorithms to become better at image recognition. Von Ahn reported, that as of July 2008, 200,000 players had contributed more than fifty million labels.³²³ They had contributed their time, not because of altruism or because of financial rewards, but because the researcher had taken his cues from video games and managed to make the work seem fun. This is a good example of *indirect crowdwork* (as I will explain in the next section). According to von Ahn, it took seven million human-hours to construct the Empire State Building and twenty million human-hours for the Panama Canal, while the time that people spent playing the Microsoft Windows embedded card-game Solitaire was estimated to be in the billions per year.³²⁴ Such attempts to fathom the amount of ‘wasted’ brainpower, or the latent potential of ‘spare cycles’, with astronomic calculations are a reoccurring theme in the crowdsourcing literature. Internet guru Clay Shirky wrote in his book *Cognitive Surplus: how technology makes consumers into collaborators*, that it took ‘only’ about one-hundred million man-hours to create Wikipedia (as of 2009) while Americans alone watch two-hundred billion hours of TV each year.³²⁵ In a TED talk in 2010, Shirky expressed this idea even more poignantly: ‘There are a trillion hours a year of participatory value up for grabs.’³²⁶

The game-designer and author Jane McGonigal is juggling with equally mindboggling numbers. According to her, the accumulated time that people played World of Warcraft reached 5,93 million years in 2011 – that is just for this one game alone – but people also spent 3,5 million years with the puzzle game Bejeweled and 250,000 years with Microsoft’s ego-shooter Halo.³²⁷

³²¹ *Ibid.* p. 11

³²² ‘ESP’ stands for extra-sensorial perception or the so-called sixth sense

³²³ Von Ahn, Luis, and Laura Dabbish, ‘Designing Games with a Purpose’, *Commun. ACM*, 51 (2008), 58–67
<<http://dx.doi.org/10.1145/1378704.1378719>>

³²⁴ Luis Von Ahn, 2005.

³²⁵ Shirky, *Cognitive Surplus*, p. 10. Shirky calculated the number about Wikipedia together with IBM researcher Martin Wattenberg.

³²⁶ Shirky, Clay, ‘How Cognitive Surplus Will Change the World’, 2010 <http://www.ted.com/talks/clay_shirky_how_cognitive_surplus_will_change_the_world.html> [accessed 8 November 2012]

³²⁷ McGonigal, Jane, Gaming Can Make a Better World, TED Talk, 2010
<http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html> [accessed 16 January 2013]

From how they describe this new resource, one has no reason to doubt that Shirky, McGonigal and von Ahn only have the best of intentions. All three of them are concerned with putting the ‘cognitive surplus’ from gaming to good use for humanity, in one way or another. Shirky explicitly wants to funnel at least a fraction of the otherwise ‘wasted’ time in front of the TV into more productive, social, communal and civic minded projects such as the open-source, non-profit, activist, geospatial citizen journalist platform Ushahidi.³²⁸ McGonigal is radiant with optimism as well and wants to use the ‘cognitive surplus’ to ‘fix a broken world’ and ‘make it into a better place,’ by tackling challenges in areas such as health and ecological sustainability.³²⁹

But two things are striking if not deeply worrying about this new paradigm: First of all, it introduces a macro-economic efficiency calculation into the private life of people – the time during which they are not contributing to the GDP through conventional work but recovering from it. Leisure time, formerly characterised by being free of the imperative to be productive, is now regarded as a waste for society when it is not contributing to ‘world saving’ crowdsourcing projects based on communal and civic minded engagement. The question is: Do we actually want to live in a society where every minute of free time that does not feed content back into the network is being regarded as wasted? The second aspect that I find worrying is the question: who is in the end actually going to *grab* that participatory value? And how to ensure that the ‘cognitive surplus’ actually benefits social projects instead of profit oriented distributed labour networks? The socially spirited harvesting of the cognitive surplus, so often advocated in management literature, sometimes seems to function like a Trojan horse, hiding the profit-orientated applications of the same methods.

In his book *Cognitive Surplus*, Clay Shirky builds, to a great extent on the work of Yochai Benkler’s concept of commons-based peer production. Benkler and Shirky both dismiss the classic economic model of the ‘homo economicus’, a human guided only by rational self-interest, as a short sighted way to explain all that motivates humans. They both show that in many social contexts, money is not the best solution to guide and reward human behaviour.³³⁰ Shirky writes that instead of using extrinsic monetary incentives, systems to harness the cognitive surplus should be designed to appeal to intrinsic motivations, especially to the generosity of people. Shirky believes, and he offers many examples to support this view, that if people have the opportunity and the choice, they will generously contribute their free time to projects that are meaningful and social.

Luis von Ahn and Jane McGonigal don’t believe in money as the best incentive to guide behaviour either. But instead of trying to convince people to do volunteer work, they employ game mechanics to motivate the crowd. In the face of more and more stakeholders trying to harvest the cognitive surplus, McGonigal predicted that ‘[T]he competition for participants will be fierce, and not all projects will thrive.’³³¹ The various projects will have to, as she argues, engage the crowds on a deep

³²⁸ <<http://www.ushahidi.com/>> [accessed 3 November 2014]

³²⁹ McGonigal, Jane, *Reality Is Broken: Why Games Make Us Better and How They Can Change the World* (London: Vintage, 2012)

³³⁰ An often quoted example that Benkler and Shirky both use is a paper that studied the adversarial effects of making parents pay a fine when they didn’t pick up their children from day-care on time: Gneezy, Uri, and Aldo Rustichini, ‘A Fine is a Price’, *The Journal of Legal Studies*, 29 (2000), 1–17 <<http://dx.doi.org/10.1086/468061>>

³³¹ McGonigal, Jane, *Engagement Economy: The Future of Massively Scaled Collaboration and Participation* (Palo Alto, California: Institute for the Future, September 2008) <<http://www.iftf.org/our-work/people-technology/technology-horizons/engagement-economy/>>

emotional level in order to make them not just passively watch but actively contribute in an engaged and persistent ways. It is essentially the same problem that MIT's Thomas Malone is contemplating on in regard to 'collective intelligence' – 'how do you motivate people to do the things you want them to do?'³³² (See chapter 1.5)

The difference between McGonigal and von Ahn, who both design systems with *fun* as the core incentive, is that she hopes for real world changes in behaviour that are meaningful to the participants and persistent for companies and society outside of the game, while he primarily wants to grab data that can only be created by human cognitive skills. That data is then made useful for the public, and for Google, but is also used to train machines. While Clay Shirky is an advocate of *Volunteer-based Crowdmwork*, where people consciously donate their labour, von Ahn and McGonigal are proponents and active design practitioners of *Indirect Crowdmwork*, where people are not really aware that they are working for someone else or that they work at all. McGonigal and von Ahn both use *Gamification* as their method to enable and incentivise *Unpaid Indirect Crowdmwork*.

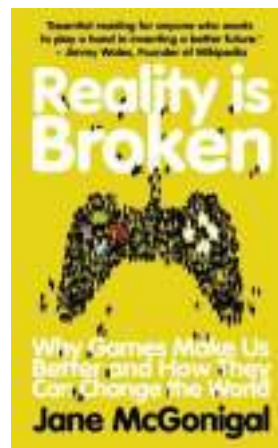


Fig. 23: Cover of Jane McGonigal's *Reality is Broken*, from 2012; yet another book cover that looks down at the crowd from a birds-eye perspective.

Since its coinage in 2008, the term Gamification has quickly evolved from yet another internet buzzword into an influential and much applied method. It means the application of game design mechanics in non-game contexts in order to influence people's behaviour.³³³ Something that was not a game before is 'gamified' through the introduction of various public feedback mechanisms such as *points, badges, levels, achievements* and *leaderboards*. The comparison of *performance statistics* plays a crucial role in gamification, which is why the technique relies heavily on *big data* technology. In the words of German media scholar Niklas Schrape: 'While the big data techniques are the governor's tools to watch over their subjects, gamification mechanisms are the means to regulate their be-

³³² *The Future of Work with MIT's Thomas Malone* (New York, 2013)

<http://www.youtube.com/watch?v=I9OlkrOQufg&feature=youtube_gdata_player> [accessed 3 November 2014]

³³³ Deterding, Sebastian, Rilla Khaled, Lennart Nacke, and Dan Dixon, 'Gamification: Toward a Definition' (presented at the CHI 2011, Vancouver, 2011). See also: Bunchball, 'Gamification 101: An Introduction to the Use of Game Mechanics to Influence Behavior', 2010

haviour.³³⁴ All behaviour that is meant to be influenced through gamification first of all has to be automatically tracked through various sensors or through input devices fed by the users themselves. Thus constant feedback about their performance is analysed on the respective platform and signalled back to the users, together with information about how well they do in comparison to their peers or their own previous records. Gamification aims to change behaviour not through punishment but through repeated positive feedback for every little increment of improvement. It can be seen as the modern day digital application of B.F. Skinner's behaviourist set of methods, which were based on continuous positive feedback as a means of control through conditioning.³³⁵

Most people know from experience (or observation) how addictive games can be, especially video games, and the astronomic numbers of aggregated playtime listed above speak volumes. An important reason why games are so captivating, motivating and satisfying is that they are very good at creating a state of constant *flow*, the peculiar state of mind that was extensively studied by the Hungarian-American Professor of Psychology Mihály Csíkszentmihályi.³³⁶ The state of flow is characterised by an intense and focused concentration on the present moment, a merging of action and awareness, a loss of reflective self-consciousness, a sense of personal control or agency over the situation or activity, a distortion of temporal experience, and the experience of the activity as intrinsically rewarding. For Csíkszentmihályi, the state of flow is a key to happiness and it can be experienced in many areas of life, in making music, juggling, drawing, programming, and especially in playing video games. On top of the characteristics above, computer games enhance the effects of flow with those of competition and perceived perpetual progress through 'levelling up' – quantified and expressed in points and shared with other players. Through various feedback mechanisms, gamers always have the feeling of getting better, of gathering more points, of climbing up the leaderboard and thus of gaining more reputation among their peers. In the parlance of gamers, an 'epic win' is always within reach. As J.C. Herz, the first game design columnist of the *New York Times*, had already observed in 2002, long before the term 'gamification' existed:

As in Slashdot's 'karma' system or eBay's reputation ratings, 'levelling up' is a big motivating factor for players: It's the game's way of validating their cumulative accomplishments with something quantifiable, if not tangible. [...] The accretion of value in persistent worlds changes the psychology of leisure: You haven't 'spent' 1,000 hours playing a game; you've 'built up your character'. You've made progress! Accretion transforms idle time into something that feels industrious. It turns spending into earning.³³⁷

Gamification has become a very successful manipulation technique to motivate and control the masses; the frequent-flyer programs are the most common example, others are Nike+ and Foursquare. In many cases, gamification is used to foster loyalty between a brand and its customers: in the context of crowdsourcing, however, gamification is used to get the crowd to do work it wouldn't do otherwise,

³³⁴ Schrape, Niklas, 'Gamification and Governmentality', in *Rethinking Gamification* (Lüneburg: meson press by Hybrid Publishing Lab, 2014), pp. 21–45. P.34.

³³⁵ The Selection of Behavior: The Operant Behaviorism of B. F. Skinner: Comments and Consequences (New York, NY, US: Cambridge University Press, 1988)

³³⁶ Csíkszentmihályi, Mihály, *Flow: The Psychology of Optimal Experience* (New York: Harper & Row, 1990)

³³⁷ Herz, J. C., 'Harnessing the Hive: How Online Games Drive Networked Innovation', Esther Dyson's *Release 1.0*, 18 October 2002

to do it more efficiently and to engage with fellow crowdworkers in certain ways valued by the crowdsourcer. It has become a tool to keep workers highly motivated without having to pay them. As Herz has poignantly described, gamification propels competition and ambition among those at the receiving end of that method; it transforms the actual loss of time (and sometimes money) into a feeling of constant achievement and progress. But even if gamification is meant to serve a perceived higher purpose, like health and ecologic sustainability, it is still ethically problematic, because it does not appeal to reason but tries to *nudge* the masses in the perceived right direction (from the perspective of the crowdsourcer that is.) Hence, gamification is closely related to (and a method of) the so-called Nudge Theory in behavioural science, political theory and economics. ‘Nudging’ is a form of policy with which the state tries to influence its constituents not by appealing to their reason with good arguments but by employing psychological tricks, supposedly in the citizens’ best interest.³³⁸ The most prominent advocates of nudging, behavioural scientist Richard Thaler and legal scholar Cass Sunstein, have described the method as ‘libertarian paternalism.’³³⁹ The individual citizen retains its freedom of choice but is gently pushed into the ‘right’ direction by a caring state.

Because of its manipulative power in the business context, media philosopher and games scholar Ian Bogost has suggested to substitute the term ‘gamification’ with ‘exploitationware.’³⁴⁰ And Evgeny Morozov said, when he was asked about gamification at a talk he gave at the LSE in London in 2013: ‘We should not think about making gamification better, we shouldn’t use it at all. I think it is evil.’³⁴¹ One of the most important arguments against gamification for social purposes is the same that is used by Shirky and Benkler against monetary incentives: The intrinsic motivation to do something out of social responsibility or altruism, for example donating blood or organs or voting in an election, is ‘crowded out’ – replaced – by extrinsic rewards, no matter if it is money or virtual points.³⁴²

On top of that, there is an element of deliberate deception involved when it comes to the profit-oriented applications of gamification. It is difficult, not to side with Bogost and Morozov when reading what Gabriel Zichermann, one of the most vocal advocates of gamification, teaches on the topic in a management book published by O’Reilly Media:

That truism underlies the last basic lesson of games in the real world: no matter what the player thinks, the house will always win a well-designed game. Just as any honest casino manager will tell you, while the illusion of winning is vital to motivating use and play, actually winning is much harder than it seems. Broadly speaking, this has implications not only for players, but also for those of us charged with building and designing great user experi-

³³⁸ In 2010, the coalition government under David Cameron set up a so-called Behavioural Insight Team (BIT), aka the ‘Nudge Unit’. In March 2014, the Nudge Unit was partly privatised. Wintour, Patrick, ‘“Nudge Unit” to Become Profit-Making’ (London, 1 May 2013) <<http://www.theguardian.com/society/2013/may/01/policy-francismaude>> [accessed 15 January 2015]. Since 2014 Angela Merkel is preparing a German nudge unit. Neubacher, Alexander, ‘Alchemie Im Kanzleramt’, *Der Spiegel*, 36/2014, 1 September 2014 <<http://www.spiegel.de/spiegel/print/d-128977553.html>> [accessed 15 January 2015].

³³⁹ Thaler, Richard H. and Cass Sunstein *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven: Yale University Press, 2008)

³⁴⁰ Bogost, Ian, ‘Persuasive Games: Exploitationware’, Gamasutra, 2011 <http://www.gamasutra.com/view/feature/6366/persuasive_games_exploitationware.php?page=1> [accessed 24 January 2013]

³⁴¹ Morozov, Evgeny, ‘The Folly of Technological Solutionism’ (unpublished Event posting; School, London School of Economics, 2013) <<http://www.lse.ac.uk/publicEvents/events/2013/03/20130321t1830vSZT.aspx>> [accessed 4 August 2014]

³⁴² Frey, Bruno S., and Reto Jegen, ‘Motivation Crowding Theory’, *Journal of Economic Surveys*, 15 (2001), 589–611 <<http://dx.doi.org/10.1111/1467-6419.00150>>

ences. As markets gamify and consumer demand for fun, engaging, and creative experiences increases, you have a fundamental choice: either be the house, or get played. Trust us, you want to be the former.³⁴³

Zichermann – in contrast to McGonigal, von Ahn and Shirky – is not at all bothered with socially beneficial ends of gamification. He openly promotes it as a technique to trick customers, to get them to spend more money than they want or to work for free. He teaches how to take advantage of the fact that by replacing real money with virtual currencies, the crowd can no longer keep track whether it gets a fair deal or not: ‘If you don’t have a ton of cash to give away as an incentive (who does?), status is an excellent alternative. It is a great driver of loyalty, not to mention a player’s fiscal behavior (and, over time, you can bet it is a whole lot cheaper). A gamified program with a status benefit needs far fewer monetary, physical, or even real-world-redeemable rewards.’³⁴⁴ Zichermann uses his book on gamification to promote himself as a marketing consultant specialised in this technique of crowd manipulation and in doing so, he stands in the tradition of Bernays’ *Propaganda* (see chapter one). Zichermann’s approach to gamification, especially if applied in the for-profit work context, falls into what Matthew Fuller and Andrew Goffey have described as *Evil Media*.³⁴⁵ It is a stratagem in the contemporary media landscape that uses the infrastructure of an online platform to cunningly take advantage of its users. Zichermann’s design philosophy (if we want to call it that) for developing gamified platforms is truly remarkable, at least in its frankness – the goal to exploit one’s users is very rarely stated so explicitly in public. It is also very pertinent in the context of this thesis, because it ties into the ethics of designing crowdsourcing platforms for creative work in several ways. First of all, the platforms for creative crowdwork that I will discuss in chapter four use various gamification mechanisms to incentivise the crowd and influence its behaviour. Furthermore, creative crowdwork is typically organised in form of contests – thus, there is not just a layer of gamification woven into the platforms – these workplaces structurally take the form of gambling. When it is ‘well-designed’ in Zichermann’s sense, ‘the house’, or the platform, always wins: for the individual workers, it remains a game of chance to actually get paid for labour. Keeping up the ‘illusion of winning is vital’ for the platform, while ‘actually winning’ must be ‘much harder than it seems.’ Zichermann is very clear about the fact that the platforms he has in mind are in the game to generate a profit while its users have to be fooled so they don’t realise that the odds are against them. It’s what Zichermann frames as the ‘fundamental choice’: either exploit or get exploited. In Zichermann’s worldview, those who are designing the system are in direct antagonism to those who are supposed to use them. Obviously, this is a far cry from the design ideals of system designers such as Douglas Engelbart, who wanted to augment the users’ intellect and it adds weight to Stallman’s argument that corporations can not be trusted to act in the best interest of their users. If we recall the design ethics of Ivan Illich and especially Lucius Burckhardt (outlined in the introduction), design objects can be evil, especially ‘when they foster our dependence on systems that ultimately pillage our resources.’ In that sense, what Zichermann promotes, are systems that are indeed *evil by design*.

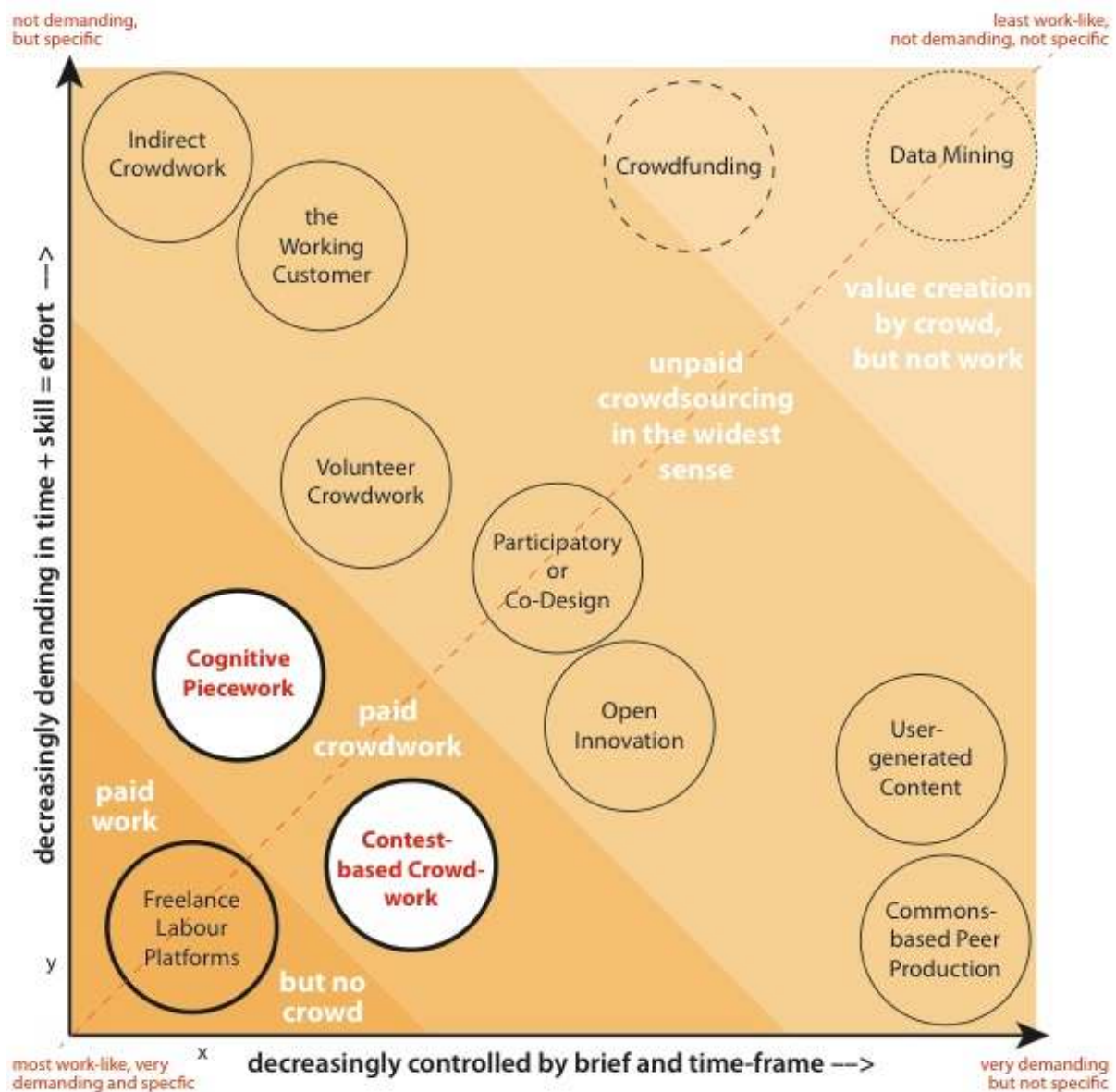
³⁴³ Zichermann, Gabe, *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps*, 1st. ed (Sebastopol, Calif: O’Reilly Media, 2011), p.13

³⁴⁴ *Ibid.* p. 10.

³⁴⁵ Fuller, Matthew, and Andrew Goffey, *Evil Media* (Cambridge, Mass: MIT Press, 2012)

3.3 – PROPER CROWDWORK AND ITS ADJACENT FIELDS

Fig. 24: Different fields in the wider crowdsourcing landscape, according to how *work-like* they are.



The graph above organises the different sub-fields of crowdsourcing in its broadest sense according to how *work-like* (or job-like) they are. The position on the x-axis is based on how free an individual in the crowd is in regard to *how* and *when* to do work. The position on the y-axis is based on how demanding work is in regard to *time*, *effort* and *expertise*.

In the lower left corner are the fields that I regard as most *work-like* in the sense of a paid job or labour people wouldn't do otherwise if not for a living. **Freelance Labour Platforms** or marketplaces for outsourcing very specific 'gigs' and 'tasks' to a freelancer are certainly very work-like, but do not strictly count as crowdsourcing because the workers are selected individually. In the opposite corner, **Data Mining** and **Crowdfunding** are all about using the crowd as a source for value creation, but can hardly be classified as work. **User-generated Content**, in the lower right, can be very demanding in regard to time, skill and effort, and the contributors in this area could be regarded as a crowd, but nobody tells them *what* to do, *how* or *when*; they invest a lot, but also have a *high degree of freedom* and self-determination.

Cognitive Piecework and **Contest-based Crowdwork**, the white circles, are the fields that I regard as proper **Crowdwork** in the narrowest sense and as the most relevant areas of Crowdsourcing, because they use money as an incentive to motivate the crowd and have thus created a completely new type of labour market and a new class of global **Crowdworkers** trying to make a living this way. In the following section, I will explain the fields in more detail.

The crowdsourcing discourse suffers from the many different and often contradictory or fuzzy definitions of the term. Many stakeholders in the field have a very broad understanding of what crowdsourcing entails. As of March 2015, the website [crowdsourcing.org](http://www.crowdsourcing.org), which presents itself as a hub for the industry, already lists over 2,900 different crowdsourcing platforms, and the number is still rising.³⁴⁶ The platforms listed there are very heterogeneous and combine various parameters, often in unique combinations. It is disputable whether they all of them count as crowdsourcing, but that of course depends on the definition of crowdsourcing one follows. Unfortunately, the definitions used in business literature about crowdsourcing, as well as in academia, are multifarious and often contradictory; the same is true for classifications that try to organise the sprawl of new crowdsourcing platforms and business models. Some classifications are based on the type of work that is being outsourced to the crowd, others on the various industries that use crowdsourcing or on the methods used to aggregate the work done by the crowd. In 2012, two researchers from the Department of Management at the Technical University of Valencia, Enrique Estellés-Arolas and Fernando González-Ladrón-de-Guevara, created an integrated crowdsourcing definition from a systematic literature review. They tried to extract the gist of 209 often-cited documents containing forty original crowdsourcing definitions and blended them into one exhaustive, global and consistent version.

Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage that what the user has brought to the venture, whose form will depend on the type of activity undertaken.³⁴⁷

The most interesting point about this integrated crowdsourcing definition is its emphasis on the mutual benefit that supposedly always exists; it seems obvious – why would anyone enter such a voluntary business relationship if there wasn't a mutual benefit? And yet, many of the crowdsourcing controversies revolve around the issue of fairness, that is to say, around the question of how well balanced this mutual benefit actually is. This question is especially relevant if we recall Gabe Zichermann's idea of a well-designed platform as one in which 'the house always wins'. What do the individuals in the crowd get in return for following the instructions of the crowdsourcer? Do they have to get more if what they produce has no immediate use-value for them but a high exchange-value for the crowdsourcer?

While it seems useful for the academic community to settle on one global definition, I am sceptical if such an unwieldy version as the one above, with so many variables, is really helpful to capture the essence of crowdsourcing. I think that what it actually needs is not an all-encompassing definition but a narrow one that is capturing the core of crowdsourcing, not necessarily all its margins.

³⁴⁶ <<http://www.crowdsourcing.org/directory>> [accessed 30 March 2015]

³⁴⁷ Estellés-Arolas, Enrique, and Fernando González-Ladrón-de-Guevara, 'Towards an Integrated Crowdsourcing Definition', *Journal of Information Science*, 38 (2012), 189–200 <<http://dx.doi.org/10.1177/0165551512437638>>

Thus, as I have already briefly argued above, I build on the narrow definition of crowdsourcing that Jeff Howe originally provided when he introduced the term in 2006:

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 term itself and its original definition make clear that crowdsourcing is about the outsourcing of a formerly conventional job in a profit-oriented environment. The biggest problem with the many fuzzy definitions – and this is true also for the lengthy integrated version above – is that they tend to conflate *commons-based peer production*, as on Wikipedia, with *crowdfunding* as on Kickstarter, and *cognitive piecework* (or *microtasking*), as on Amazon Mechanical Turk – three very different systems that don't fit well under one umbrella term. Thus, I will use the term *crowdwork* to refer to crowdsourcing in what I regard as its original narrow sense. The term crowdwork has been used by other researchers before and is often used interchangeably with 'crowd work', 'crowd labour' or 'crowdlabor' (sometime also 'clickwork' or 'cloud labour').³⁴⁸ To allow the necessary distinction between otherwise conflated systems, I use the following definition:

Crowdwork is labour traditionally performed by a designated employee or freelancer, that is outsourced via an open call on an intermediary online platform, to a large and undefined group of people (crowdworkers), who have to follow a specific brief and time frame to finish the task. The crowdsourcer offers incentives for participation and in turn owns the results of the process.

The best way to distinguish *crowdwork* from *user-generated content* or *commons-based peer production* is to look for a *brief* or precise description how a job has to be done; a narrow *time frame* in which the specific job has to be done; and a *change of ownership* of the results after the job has been done. The fruits of labour in proper crowdwork are *primarily useful for*, and are harvested by, *the crowdsourcer* – the one who initiated the process. In *user-generated content* as well as in *commons-based peer-production*, the product typically has an immediate use-value for the crowdsourcees and even the general public.

³⁴⁸ The first use of the term 'crowdwork' I could find, written in one word, in an academic paper is: Silberman, M. Six, Lilly Irani, and Joel Ross, 'Ethics and Tactics of Professional Crowdwork', XRDS, 17 (2010), 39–43 <<http://dx.doi.org/10.1145/1869086.1869100>> ; a more recent and very influential paper (that I will come back to in a later section) is: Kittur, Aniket, Jeffrey Nickerson, Michael S. Bernstein, et al., 'The Future of Crowd Work' (presented at the CSCW Conference on Computer Supported Cooperative Work and Social Computing, San Antonio, Texas, 2013); One of the authors, Michael S. Bernstein used the term 'crowd labor' before: Bernstein et al. 'Soylent: A Word Processor with a Crowd inside', in *Proceedings of the 23rd annual ACM symposium on user interface software and technology*, UIST '10 (New York, NY, USA: ACM, 2010), pp. 313–22 <<http://dx.doi.org/10.1145/1866029.1866078>>. The term 'crowd labor' was already used two years earlier by Brabham, Daren C., 'Crowdsourcing as a Model for Problem Solving An Introduction and Cases', *Convergence: The International Journal of Research into New Media Technologies*, 14 (2008), 75–90 <<http://dx.doi.org/10.1177/1354856507084420>>. I am aware that in Marxist Theory, a distinction is made between 'work' and 'labour', but in the general discourse, this difference is usually ignored (also, Marx wrote in German, where there is only the one term 'Arbeit'; I chose 'crowdwork' over 'crowd labour' because it is more general, less politically charged, and is more in sync with the term 'crowdworker'. For a detailed theoretical distinction see: Fuchs, Christian, and Sebastian Sevignani, 'What Is Digital Labour? What Is Digital Work? What's Their Difference? And Why Do These Questions Matter for Understanding Social Media?', *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, 11 (2013), 237–93: 'Labour is a necessarily alienated form of work, in which humans do not control and own the means and results of production. It is a historic form of the organisation of work in class societies. Work in contrast is a much more general concept common to all societies. It is a process in which humans in social relations make use of technologies in order to transform nature, culture and society in such a way that goods and services are created that satisfy human needs.'

I further distinguish between four different types of *crowdwork*, according to the main type of incentive that the *crowdsourcer* uses in order to motivate *crowdworkers* to do a job according to a *brief* and within a given *time frame*.³⁴⁹

Unpaid Crowdwork

- **Indirect Crowdwork** (work is done as a side-effect, e.g. through gamification)
- **Volunteer-based Crowdwork** (work is donated for a perceived higher purpose)

Paid Crowdwork

- **Cognitive Piecework** (work is done in form of microtasks for micropayment)
- **Contest-based Crowdwork** (work is done as a competition, only winners get paid)

Seen from the perspective of the crowdsourcer, the question is: How do I get the crowd to do my work fast, cheap and good? I can: disguise the work or render it fun; I can convince the crowd that participation is an honour or serves a higher purpose; I can pay tiny amounts for every job; or award a higher amount, but only to those crowdworkers who I think did it best.

What unites all four categories is that they either actively or indirectly engage a large and unspecified group of people – a crowd – as the main source of value creation. This is the most important difference from the freelance labour platforms, where the employer hand-picks a designated contractor. A more appropriate visualisation (than my chart above) of the relationship between the many neighbouring fields would be a rhizome, as there are countless overlaps, entanglements and hybrid forms between them. In reality, this is a multi-dimensional space, and every attempt to plot it on a two-dimensional matrix is a reduction that leaves out many aspects and relations. Yet, for the sake of clarity the visualisations above and the descriptions that I offer below are abstractions with the main goal to tell proper *crowdwork* apart from its siblings and not so distant relatives in regard to how *work-like* they are. Many of the concepts have blurry boundaries, but they also have distinct core principles that are not interchangeable with the related fields, and I focus on those principles. The distinctions are important in order to understand on what business model they are based and to what extent they are prone to exploitation. With *work-like* I mean, how similar they are to a regular job – understood as something that *I do for an employer, according to his or her conditions, in order to earn a living* – in contrast to doing a hobby for my own pleasure or to volunteering for a social cause, without anybody making a profit.

I regard the two forms of *paid crowdwork* as the most consequential categories because they have created a new and global class of precarious workers: *crowdworkers*. The crowdwork platforms

³⁴⁹ In my categorisation I partly build on this paper by the legal scholar Felstiner, Alek L., ‘Working the Crowd: Employment and Labor Law in the Crowdsourcing Industry’, 2010 <http://works.bepress.com/alek_felstiner/1> [accessed 22 May 2013]; in that paper Felstiner is primarily concerned with ‘Cognitive Piecework’ (and he didn’t elaborate on the other categories) while I am primarily concerned with ‘Contest-based Crowdwork’. The term ‘cognitive piecework’ was coined by the HCI and crowdsourcing scholar, Irani, Lilly C., ‘Tweaking Technocapitalism’, *Turkopticon*, 2009 <http://turkopticon.ucsd.edu/post/tweaking_technocapitalism_> [accessed 31 May 2014] What I call ‘Indirect Crowdwork’, Felstiner calls ‘disguised crowdsourcing’, and Jonathan Zittrain has called this ‘epiphenomenal work’ before: Zittrain, Jonathan, *Ubiquitous Human Computing* (Rochester, NY: Social Science Research Network, 2008) <<http://papers.ssrn.com/abstract=1140445>> [accessed 11 August 2013]

are their workplace, and the design of these platforms defines the conditions under which they try to make a living. This new class of workers didn't exist ten years ago.

A first important shift in the transformation from the so-called 'Web 2.0' to professional crowdwork platforms happened when the rhetoric of giving the masses tools to express themselves turned into outsourcing specific tasks to the masses on dedicated platforms – as a cheap alternative to hiring people. A second shift happened when, for a subset of the crowd, this type of labour turned into the main source of income. I agree with Trebor Scholz who writes that in digital labour, 'leisure and work are enmeshed beyond recognition',³⁵⁰ but I think that a good way to approach this complex new landscape is to focus on the areas that are most *work-like*. In the chart above I have tried to map exactly that, based essentially on two questions: *how much do I have to invest* as a member of the crowd (time, effort, skill), and *how free am I* to do what I want, when and how? I argue that the more I have to invest and the less free I am, because I am serving someone else, the more this is work – or a job – that must get paid properly.

In the next section of this chapter (3.4), I will describe in detail how *Cognitive Piecework* is organised in the prototypical case of Amazon Mechanical Turk. The forth chapter will then be exclusively about *Contest-based Crowdwork*, which is the most common form of crowdsourcing in the field of design and other forms of creative work. But before that, I will give examples for *Indirect Crowdwork* and *Volunteer-based Crowdwork*; I will then briefly describe some of the adjacent fields within the wider crowdsourcing landscape, based on the chart at the beginning of this section.

Paid Digital Labour:

- **Freelance Labour Platforms** (work is outsourced online, but to individual freelancers, not a crowd)

Paid Crowdwork:

- **Cognitive Piecework** (work is done in form of microtasks for micropayment)
- **Contest-based Crowdwork** (work is done as a competition, only winners get paid)

Unpaid Crowdwork:

- **Indirect Crowdwork** (work is done as a side-effect, e.g. through gamification)
- **Volunteer-based Crowdwork** (work is donated for a perceived higher purpose)

Concepts related to, but different from Crowdsourcing (crowdsourcing in the widest possible sense):

- **Commons-based Peer Production** (work is self-organised by peers and becomes part of the commons)
- **User-generated Content** (work is done self-initiated as a hobby, but on a commercial platform)
- **Participatory Co-Design** (users are consulted by designers early in the development process)
- **Open Innovation** (firms trade intellectual property and try to attract ideas from outside)
- **Working Customer** (firms outsource tasks at the end of the value chain to consumers)
- **Crowdfunding** (the crowd pools its financial resources to fund products)
- **Data Mining** (gathering and analysis of the data trails of everybody)

³⁵⁰ Scholz, Trebor, 'Crowdmilking', 2014 <<http://collectivate.net/journalisms/2014/3/9/crowdmilking.html>> [accessed 6 July 2014]



Fig. 25: The typical pop-up dialogue of reCAPTCHA, used to tell humans and computers apart.

The best example for *Indirect Crowdwork* is reCAPTCHA, developed by the aforementioned gamification pioneer Luis von Ahn. The probably most widespread application of ‘human computation’ is most adequately circumscribed with ‘the job you didn’t even know you had.’³⁵¹ CAPTCHAs are a technique used to prevent ‘bots’ (autonomous computer scripts) from filling out online forms and from opening up email accounts to automatically send spam.³⁵² Luis von Ahn and his colleagues at Carnegie Mellon developed the original technique in 2000. Users were asked to decipher artificially distorted words, which computers were not able to read, in order to ensure that they are humans. ‘Within five years, about 200 million CAPTCHAs were being typed everyday,’ says von Ahn. ‘And I started to feel bad, because each one was wasting 10 seconds of someone’s time.’ The clever twist of reCAPTCHA, introduced in 2007, is to show the user two words, one to which the answer is already known – in order to test the trustworthiness of the user – and another one to which the answer is unknown but sought after. The unknown word comes from the process of scanning books or Street View photos, as Google is doing it on a massive scale; it’s a word that was not readable by Optical Character Recognition software (OCR). Luis von Ahn had realised that if humans have to spend brainpower to solve CAPTCHAs anyway, their ‘cognitive surplus’ might as well be used for something productive, in this case to help Google with scanning books or recognising house-numbers for Street View.

[...] CAPTCHAs constitute a viable mechanism to harness large amounts of human mental effort. After exactly 1 year of running the system, humans had solved more than 1.2 billion CAPTCHAs, amounting to over 440 million suspicious words correctly deciphered. Assuming 100,000 words per book (400 pages, 250 words per page), this is equivalent to over 17,600 books manually transcribed.

While von Ahn’s invention is indeed a great example of ‘wasted’ human brain power put to good use, the disturbing aspect is that most people don’t even realise that they donate their cognitive capacities to Google. Even if digitising books or house numbers is harmless and arguably beneficial for society, this *indirect crowdwork* still benefits a private company. It shows that if work is broken down into tiny bits and distributed across the web, it is not even recognisable as work anymore.

In this particular case, the *brief* and *time frame* are especially strict. The user has to complete the task immediately and correctly or can’t move on to whatever he or she originally wanted to do.

³⁵¹ Hutchinson, Alex, ‘Human Resources – reCAPTCHA: The Job You Didn’t Even Know You Had’, *The Walrus*, March 2009
<<http://thewalrus.ca/human-resources/>> [accessed 2 August 2014]

³⁵² CAPTCHA is an acronym of ‘Completely Automated Public Turing Test to Tell Computers and Humans Apart.’



Fig. 26: A 'Google Doodle' illustration in memory of Mark Twain's Tom Sawyer, Google 2011.³⁵³

In *Volunteer-based Crowdsourcing*, the crowdworkers also follow a specific *brief* and *time frame*, but they are aware that they are doing work for someone. In contrast to *commons-based peer production*, they have no immediate personal use for what they are producing and it does not become part of the commons. They don't get any monetary rewards. Instead, they are *consciously donating* their labour to a *perceived greater cause*. This type of work is probably best illustrated with the story of Tom Sawyer getting his friends to paint Aunt Polly's fence. Tom even made a profit because he managed to let the task of painting the fence look so honourable that his friends paid him with sweets. Already in 1999, the journalist Leslie Walker described such emerging form of unpaid digital labour as 'the Tom Sawyer principle'.³⁵⁴

One example of *volunteer-based crowdsourcing* is Al Gore's project 'Reality Drop', a crowdsourcing site that uses *gamification* as an incentive to 'Spread Science about Climate Change, Global Warming'.³⁵⁵ The site serves as an armoury for human spam bots, who are sent out to 'spread truth' and 'destroy denial.' Members of this crowd gather points for copying and pasting pre-formulated short arguments into online discussions that then link back to the longer arguments on the 'Reality Drop' site. It is specifically designed to attack articles that question climate change. Even though the cause might be right and noble, this form of organised propaganda war in the trenches of the comment sections shines a light on the manipulative potential of crowdsourcing. *Volunteer Crowdsourcing* is often used against perceived wrongdoing or even crime. In 2011, the German project 'GuttenPlag' and its epigones engaged the crowd to reveal plagiarism in doctoral theses of high profile politicians. Since 2014, the London Metropolitan Police tries to find rioters and other suspected criminals through a specific crowdsourcing app called Facewatch ID,³⁵⁶ also in the UK, in 2010, the company Internet Eyes crowdsourced and gamified the surveillance of shops through CCTV cameras; and in the US, also in 2010, a company called BlueServo has experimented with real-time crowdsourced surveillance, that allowed everyone to watch the Texas border and report illegal immigrants.³⁵⁷ While crowdsourcing might be efficient to battle certain unwanted behaviour, this certainly brings up ethical questions regarding the motives of those doing the watching and reporting, the effect

³⁵³ 'Mark Twain's 176th Birthday', 2011 <<https://www.google.com/doodles/mark-twains-176th-birthday?hl=en-GB>>

³⁵⁴ Walker, Leslie, 'Taking a Cue from Tom Sawyer', *Washington Post TechThursday*, 1999 <<http://www.washingtonpost.com/wp-srv/business/longterm/tech/techthursday/dotcom/dotcom071599.htm>> [accessed 6 July 2014]

³⁵⁵ 'Reality Drop. Spread Truth. Destroy Denial' <<http://realitydrop.org/>> [accessed 6 July 2014]

³⁵⁶ <<https://www.facewatch.co.uk/cms/police/>> [accessed 2 April 2015]

³⁵⁷ 'Australians Able To Watch British CCTV In "Pointless And Perverted" Move', *The Huffington Post UK* <http://www.huffingtonpost.co.uk/2013/01/04/australian-internet-eyes_n_2408362.html> [accessed 25 March 2014]; Burnett, John, 'A New Way To Patrol The Texas Border: Virtually', *NPR.org*, 2009 <<http://www.npr.org/templates/story/story.php?storyId=101050132>> [accessed 15 July 2014] –Internet Eyes and Texas Border Watch have been discontinued, Facewatch ID is still running, as of May 2015.

on those who are paid to do these jobs (the police) and regarding those being named and shamed, potentially innocently, by a vigilant ‘cyber-mob.’ (Obviously, all crowdwork is done voluntarily, but not in the spirit of *volunteering* for a particular cause – of *donating* work).

Data Mining is the type of crowd-based value creation that demands the least effort from the crowd. Technically, the term refers to the algorithmic analysis of previously gathered data to find certain patterns in it. But in common parlance, it also means the collection process. Sometimes specific crowds or individual users are asked to actively give an opinion or even bet on a certain topic or question. This type of *data mining* is used for prediction markets based on the Wisdom of Crowds principle, it’s basically voting or polling, extrapolated to make predictions on future events or new products. In most cases of data mining, however, the people whose data is being harvested are *not a real crowd*, since they are not gathered around a shared interest and are not aware of each other. It is not a specific group but practically everybody using network technology – *the masses* – and the collection process is happening in the background without people taking notice. *No special skill or effort* is necessary; there is *no brief* and *no timeframe*, which makes this the *least work-like* field of all.

Google’s search engine, to give just one example, is based on the aggregation, analysis and capitalisation of this type of data, which is the result of human activity. All online searches, all links that users click, all the pages they scroll down – basically all their movements online are being tracked, analysed and influenced constantly. What is more, we are now seeing the extension of constant behavioural tracking to the physical world. Often referred to as the ‘Internet of Things’, powerful sensors for recording all kinds of environmental data are now integrated into supposedly ‘smart’ everyday objects such as cars, phones, glasses, wristbands, watches and into the home.³⁵⁸ Already there is talk of ‘a new sensing paradigm,’ sometimes also described as ‘Mobile Crowd Sensing’ or ‘Participatory Sensing’ with the explicit goal to achieve so called ‘Crowd Intelligence’,³⁵⁹ by acquiring ‘local knowledge through sensor-enhanced mobile devices - e.g., location, personal and surrounding context, noise level, traffic conditions, [...] pollution - and [...] share this knowledge within the social sphere, practitioners, health care providers, and utility providers such as municipalities for example.’³⁶⁰ This imminent switch from using *big data* methods for analysing browsing behaviour to better sell targeted adds to analysing health and location based data in order to share it with health care providers is bound to have severe consequences for citizens. The all-encompassing algorithmic analysis of our behaviour, online and increasingly also offline is already used to decide over insurance policies, granting of credits, ‘no-fly-lists’ and even ‘predictive policing’, with grave ethical and social consequences.³⁶¹ While *data mining* is based on crowdsourcing in the widest sense I do not regard it

³⁵⁸ The most prominent examples are the iPhone, Google Glass, Fitbit, Jawbone, Apple Watch and Google Nest.

³⁵⁹ ‘Call for Papers: Participatory Sensing and Crowd Intelligence (PS/CI)’, ACM Transaction on Intelligent Systems and Technology <<http://tist.acm.org/CFPs/TIST-SI-PSCI.html>> [accessed 14 September 2014]

³⁶⁰ ‘Call for Papers: Mobile Crowd Sensing (MCS)’, *IEEE Communications Magazine*, 2013 <<http://www.comsoc.org/files/Publications/Magazines/ci/cfp/cfpcommag0814.html>> [accessed 14 September 2014]

³⁶¹ Mayer-Schönberger, Viktor, *Big Data: A Revolution That Will Transform How We Live, Work, and Think* (Boston: Houghton Mifflin Harcourt, 2013); see also: Tuttle, Brad, ‘Big Data Is My Copilot: Auto Insurers Push Devices That Track Driving Habits’, *Time* <<http://business.time.com/2013/08/06/big-data-is-my-copilot-auto-insurers-push-devices-that-track-driving-habits/>>; ‘Predictive Policing:

as crowdwork. And yet, the design of future workplaces and the ‘capture all’ approach to data about human behaviour are closely interwoven.³⁶² The personal computer, the mobile phone and the smart wristband are already in use to track worker performance. As the *New Scientist* reported, UK super-market chain Tesco is already making its warehouse employees wear Fitbit wristbands to track where they go, and how fast and steady they move. And at ‘Capriotti’s Sandwich Shop in Las Vegas, new recruits record their work with Google Glass for managers to assess later.’³⁶³ According to technology consultant Bill Briggs ‘the “digital exhaust” of everything is going to be available. It’s just a matter of who can take advantage of it within the right ethical bounds.’³⁶⁴ The *New Scientist* also reported that professional sports teams in the US, such as the Dallas Mavericks, made their players wear a wristband in bed, so that the coaches can monitor their body temperature, movement and heart rate even during sleep; the players can get a ‘a sleep score at the push of a button.’³⁶⁵ Even though these are still isolated examples, the trend is obvious: worker tracking, on and offline, during working hours as well as during leisure time, for performance, health and surveillance, combined with gamified and quantified feedback-loops for control and to foster competition with colleagues, and monetary incentives through better insurance rates when one agrees to the pervasive monitoring.

User-generated Content is more difficult to distinguish from crowdwork since its production is often based on a high level of *effort, time* and *skill* on the side of the contributors. A lot of it counts as creative work, be it the creation of an article on a blog or a video on YouTube. The business model of companies such as Google and Facebook is based on a continuum that is leading from *data mining* to *user-generated content*. Even on the most basic level, Google’s search algorithm is based on the qualitative decisions and the active participation of all its users who link to each other’s content. The revenue for both companies comes mainly from targeted advertising that is based on data mining. But the main reason why people spend so much time on these platforms is because of the content that other users have generated. Almost all the content on YouTube, Facebook, Flickr, Instagram etc., is created by the users of these services as a form of *free labour*. In turn they can use the platform for free, while the platform providers make a profit from advertising. The critic Nicolas Carr has therefore poignantly described this business model as ‘digital sharecropping.’³⁶⁶ The important difference to crowdwork is, that the users are free to contribute whatever they like, in their own time – there is no brief or job description, the users work for themselves or their peers, for fame or for a share of the advertising money. But there is no external client that uses these platforms for the outsourcing of tasks that were previously done by employees. The users are and remain the authors and owners of their content. In

Don’t Even Think about It’, *The Economist*, July 2013 <<http://www.economist.com/news/briefing/21582042-it-getting-easier-foresee-wrongdoing-and-spot-likely-wrongdoers-dont-even-think-about-it>> [accessed 14 September 2014]

³⁶² Capture All was also the title of the media festival transmediale in 2015. < <http://www.transmediale.de/content/transmediale-2015-capture-all>> [accessed 2 May 2015]

³⁶³ Rutkin, Aviva, ‘Off the Clock, on the Record: Wearable Tech Lets Boss Track Your Work, Rest and Play’, *New Scientist*, 20 October 2014 <<http://www.newscientist.com/article/mg22429913.000-wearable-tech-lets-boss-track-your-work-rest-and-play.html?full=true#.VNcMC3aELk4>> [accessed 8 February 2015]

³⁶⁴ *Ibid.*

³⁶⁵ *Ibid.*

³⁶⁶ Carr, Nicholas, ‘Sharecropping the Long Tail’, ROUGH TYPE, 2006 <<http://www.roughtype.com/?p=634>>; Carr, Nicholas, ‘The Economics of Digital Sharecropping’, ROUGH TYPE, 2012 <<http://www.roughtype.com/?p=1600>> [accessed 24 January 2013]

the ‘blogosphere’, on YouTube or on Flickr, they form communities and respond to each others work, but typically they do not *collaborate* to the extent that can be found in *commons-based peer production* projects such as Wikipedia and Linux, which are characterised by an on-going shared project that is achieved through a division of labour as well as by a merging of the efforts into one product. User-generated content is marked by providing individual amateurs and professionals with digital tools for creation and a platform for distribution and communication, without interfering much in their creative self-expression (except if it violates copyright law or is abusive.)

It is noteworthy that the term ‘user’ already implies a certain hierarchy. A user is not the person who has created the tool or platform that he or she is using. The user typically only sees the front-end of the platform and is meant not to worry about the infrastructure, the administration and the code behind it. Via the mandatory ‘I agree’ button (the so-called ‘click-wrap’), the user has to submit to the Terms of Use. The user is theoretically free to create anything, but still within strict boundaries, technical and legal ones, defined by the platform providers. On the respective platforms, there is an unbridgeable gap between those who make and enforce the rules and those who submit the content, their data and themselves. We are certainly not talking about recursive publics here. Even though the users are often polled about their opinions and can also make suggestions through user-forums, they don’t take part in the deliberation and definition of the rules. There is a semi-transparent glass ceiling between the crowd of users and the management of the platform. The management sees, records, tracks and analyses everything that is going on in the crowd, while being able to remain complete opaque in its decision-making processes.

Commons-based Peer Production is different from user-generated content and crowdwork especially in regard to the potential complexity of the collaborative process and in regard to the ownership of the results. The canonical examples, Wikipedia and Linux, are characterised by a *high complexity in the division of labour*, by their *open-endedness* and by their *need for collaboration*. In contrast to videos on YouTube, the individual efforts have to be combined in order to be useful, which demands a *high degree of deliberation*. Commons-based peer production is held together by a *non-commercial* goal that a *community of experts* is trying to achieve. Members don’t follow a brief, but instead allocate themselves to those subtasks of the greater project that best matches with their specific expertise. Most importantly, *the results of commons-based peer production do not get privatised*. The working material is coming from the commons, it is then processed or ‘upcycled’ in a collaborative effort, and the results are eventually fed back into the commons.

In this category, we find free-software, open-source software, citizen science and open design. While these projects do have hierarchies, they tend to be meritocracies. Those peers who invest the most time, skill and effort rise to the top and become more influential and responsible for the respective project. In contrast to platforms for user-generated content, the technical, social and legal rules and boundaries that apply in commons-based peer production are the results of constant deliberation by the community of contributors, or at least by a certain subset of them. They are potentially a *recursive public*, in the sense that the community itself creates the framework or platform in which it operates. Infrastructure, rules and content come from the same people; there is no glass ceiling between users and developers. Commons-based peer production is clearly a form of *unpaid work*, and often highly skilled, time consuming, complex work. Yet, exploitation is not an issue, because nobody

is making a profit and the results of the collaborative effort are useful and accessible for the volunteer workers as well as for everybody else.

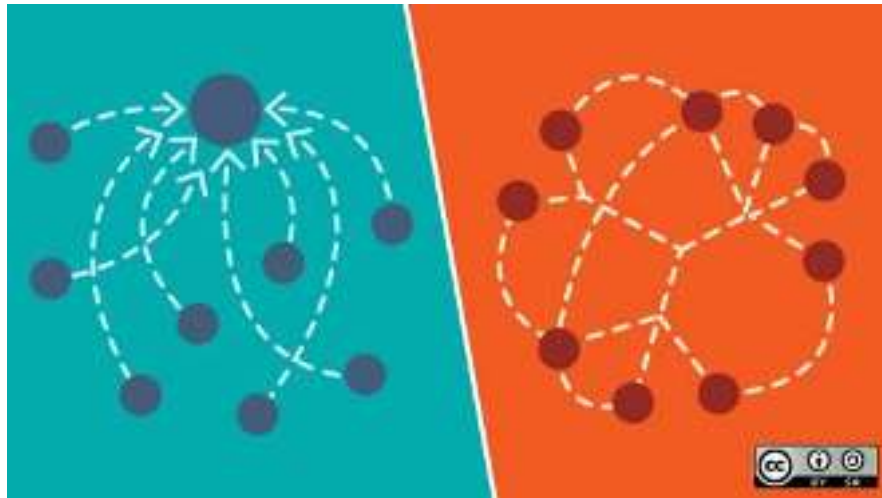


Fig. 27: Illustration showing the difference between crowdsourcing (on the left), and open source / commons-based peer production (on the right).³⁶⁷

³⁶⁷ <<http://opensource.com/business/10/4/why-open-source-way-trumps-crowdsourcing-way>> [accessed 4 May 2015]



Fig. 28: Print by William Hogarth titled 'Characters and Caricaturas', published in London, 1743.³⁶⁸

Crowdfunding as a term has experienced a tremendous hype in recent years, mostly fuelled by success stories revolving around the New-York-based platform Kickstarter, founded in 2009. But the concept is actually very old. The core idea is to get the crowd pay upfront for a specific project in order to finance – or kickstart – its creation. Typically, those who give money get something in return. The funding can be *reward based*, *lending based*, *donation based* or *equity based*.

In the eighteenth century, the English moral painter and satirist William Hogarth used a reward based subscription model to finance his paintings – as receipts he gave out subscription tickets like the engraving above. An early example for large-scale civic crowdfunding is the campaign to finance the pedestal of the Statue of Liberty in New York in 1884. The statue itself was a diplomatic gift from France but the city had to pay for the plinth. Through conventional ways, only half of the 300,000 dollars (today £4.1 million) necessary were raised. Eventually, the influential publisher Joseph Pulitzer orchestrated a crowdfunding campaign on the front page of his newspaper *The World* and within five months, he gathered 100,000 dollars in form of 120,000 micro-donations.³⁶⁹

Since around 2013, Kickstarter is making a lot of headlines as the most important crowdfunding platform. In March 2014, the company announced that it had passed the mark of 1 billion US dollars pledged by 5.7 million people from 224 countries.³⁷⁰ Half of the sum had been pledged within the previous twelve months. Kickstarter specialises in creative projects that try to raise the funding for new design products, documentaries, computer games, artist-books, music albums and the like. For its service to run the platform, Kickstarter charges a fee of five per cent (This number is relevant for the later discussion on contest-based crowdwork platforms in so far as they charge forty per cent or more for a service that is, in regard to the required infrastructure and the running costs, very comparable.

³⁶⁸ The print is in the collection of the British Museum, 258x204 mm, PD 1848-11-25-209, Prints and Drawings

³⁶⁹ Davis, Rodrigo 'Civic Crowdfunding from the Statue of Liberty to Now', MIT Center for Civic Media, 2013

<<http://civic.mit.edu/blog/rodrigodavies/civic-crowdfunding-from-the-statue-of-liberty-to-now>>; 'Statue of Liberty and Early Crowdfunding', BBC News <<http://www.bbc.co.uk/news/magazine-21932675>> [accessed 10 July 2014]

³⁷⁰ Kickstarter, 'One Billion Dollars' <<https://www.kickstarter.com/1billion>> [accessed 10 July 2014]

Then again, five per cent of projects that collect millions provides Kickstarter with much larger sums than are to be expected on a *crowdwork* platform for design).

In spite of its many success stories, crowdfunding is a double-edged sword. On the one hand, it offers great possibilities for people with good ideas to reach or establish a fan base, which in turn enables the creation of a product the crowd longs for and which otherwise might never materialise. On the other hand, it can be very problematic, for example in the field of art funding, where there is usually only a niche audience for more demanding projects – but crowdfunding only works well for propositions popular with a large crowd. In times of austerity, a tendency can be observed to cut public art funding with reference to the new possibility of crowdfunding.³⁷¹ But the crowdfunding of an art-project works differently to that of a new tech-gadget. It often takes the form of donation-based crowdfunding, with a substantial part of the money, often comparatively small sums in total, coming from friends and family, who don't expect much in return, accept that the art work is being produced and that they might be mentioned as supporters somewhere. In contrast, the crowdfunding for small technological gadgets, computer games, or albums of famous musicians has repeatedly gathered millions of dollars within a few hours.³⁷² Here, fans essentially buy a product in advance and, depending on how much money they give, get some form of reward, a limited edition or some additional goodies, just like in Hogarth's times.

Those who manage to win the sympathy and the money of the crowd often underestimate how much work it is to continue to please the crowd. They often find themselves in a situation, not unlike the legendary sorcerer's apprentice, where the forces that they have conjured up haunt them, especially when a project takes longer than expected.³⁷³ Whether a crowd-funded project eventually materialises depends a lot on the complexity of the project and on the amount of funding it gets.³⁷⁴ Also when the product development financed through crowdfunding is very successful, conflicts with the crowd can emerge, as was the case of the Oculus Rift virtual reality glasses for video games. Here, the developers had asked for 250,000 dollars on Kickstarter and the crowd of gamers was so enthusiastic about the project that it provided them with over 2.4 million dollars in September 2012.³⁷⁵ In March 2014, the company was bought by Facebook for \$2 billion dollars, which caused an outcry by the crowd of gamers who were appalled that they had essentially funded research and development for Facebook, in form of donations, and now also had to fear that their longed for toy, under the new

³⁷¹ Ridgway, Renée, 'Crowdfunding or Funding the Crowds: A New Model for the Distribution of Wealth?', *A Peer-reviewed Journal About*, January 2013 <<http://www.aprja.net/?p=495>> [accessed 10 July 2014]

³⁷² The 'Smart Watch' Pebble collected 10 Million US Dollar, the computer game 'Star Citizen' 40 Million US Dollar and the Singer Amanda Palmer 1,2 Million US Dollar, all initially over Kickstarter. See: Warren, Christina, 'Pebble Smart Watch Delivers on Kickstarter Promise and More', *Mashable*, 2013 <<http://mashable.com/2013/08/31/pebble-smart-watch-review/>>; and: Ward, Mark, 'How to Build a Universe for \$40m', BBC News <<http://www.bbc.com/news/technology-26179963>>; and: Clover, Joshua, 'Amanda Palmer's Accidental Experiment with Real Communism', *The New Yorker Blogs*, 2012 <<http://www.newyorker.com/online/blogs/culture/2012/10/amanda-palmers-kickstarter-scandal.html>> [all accessed 25 March 2014]

³⁷³ The sad and most prominent example is the suicide of Ilya Zhitomirskiy, who, together with two colleagues collected \$200,000 on Kickstarter to create 'Diaspora', meant to be an alternative to Facebook. While it was probably not the only reason, the immense pressure by the crowd to deliver the product is assumed to have played a role in the suicide. See: Chen, Adrian, 'Why Did This 22-Year-Old Entrepreneur Commit Suicide?', *Gawker*, 2011 <<http://gawker.com/5859366/why-did-this-22-year-old-entrepreneur-commit-suicide>> [accessed 25 March 2014]

³⁷⁴ See also: Mollick, Ethan R., 'The Dynamics of Crowdfunding: An Exploratory Study', *Journal of Business Venturing*, 29 (2014), 1–16

³⁷⁵ <<https://www.kickstarter.com/projects/1523379957/oculus-rift-step-into-the-game>> [accessed 25 March 2014]

ownership would provide them with ‘advertising that is literally in your face.’³⁷⁶ Had this been equity crowdfunding, in which the backers get a return of their investment through shares in the company, the individuals in the crowd would have gotten 145 times their money back.³⁷⁷

I have to limit myself here to these very cursory remarks on crowdfunding, even though it is a very complex and relevant field in the digital economy, especially for designers, to whom it offers unprecedented opportunities to bring new products to the market, but it also bears many risks, for the crowd and the developers. Even though the two are often lumped together, I think that it is important to separate them – crowdsourcing is about the outsourcing of labour, while crowdfunding is about the collection of money. In both cases, the crowd is the source of value creation, yet the dynamics and implications of the two fields are very different. Most importantly: in crowdfunding, the crowd pools its resources to reach a shared goal, the individuals gains strength in numbers; in crowdwork labour markets, however, the members of the crowd don’t act in concert, they are competitors in a race to the bottom.

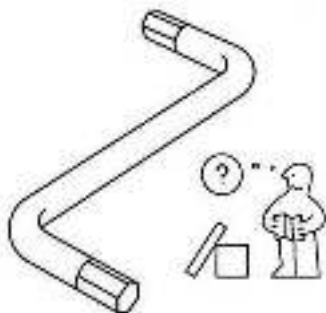


Fig. 29: Illustration from an IKEA assembly instruction.³⁷⁸

The Working Customer is a phenomenon with some interesting overlap to crowdsourcing. In 2005 the German industrial sociologists G. Günther Voß and his colleague, the occupational psychologist Kerstin Rieder, described it under the name ‘der arbeitende Kunde’.³⁷⁹ What they studied is a type of work that we all constantly do, often happily, obediently, and sometimes while cursing under our breath. The best example is the self-assembly of furniture, a concept that IKEA introduced already in the 1950s. Another is the self-service in fast food restaurants – from fetching the order to disposing the trash. Voß and Rieder also include online banking, software-updates that users have to install, viral marketing campaigns, mass-customisation of products such as NikeiD and MyMuesli and online forums where users of specific products give each other advice. The working customers do all kinds of task formerly done by employees; they create value for companies without getting paid, without

³⁷⁶ Poole, Steven, ‘What Does the Oculus Rift Backlash Tell Us? Facebook Just Isn’t Cool’, *The Guardian*, 27 March 2014, Comment is free <<http://www.theguardian.com/commentisfree/2014/mar/27/oculus-rift-facebook-buy-out-kickstarter>> [accessed 14 September 2014]

³⁷⁷ Belote, Greg, ‘What If Oculus Crowdfunded for Equity? 145x Return.’, *The Wefunder Blog*, 2014 <<https://wefunder.com/post/42-what-if-oculus-crowdfunded-for-equity>> [accessed 14 September 2014]

³⁷⁸ Image found on the internet, exact source and date unknown.

³⁷⁹ Voß, G. Günter, *Der arbeitende Kunde: Wenn Konsumenten zu unbezahlten Mitarbeitern werden* (Frankfurt/Main; New York: Campus, 2005)

any contract, without being organised in unions, without ever going on strike. By externalising part of the labour to their customers, large companies can make enormous savings. According to a calculation by Voß, IKEA saved 75 million euros (£60m) just through the self-assembly of the Billy shelf – and that in 2003 alone! (If one calculates 2,50 euros for the half hour of work the self-assembly takes.) McDonald supposedly saves two billion euros per year by letting customers clean up after themselves instead of paying an employee ten cents per customer he or she cleans up after.³⁸⁰ It remains unclear to what extent the work of the customers is compensated with cheaper prices.

There are many similarities to crowdsourcing, but the working customer concept is much wider than crowdsourcing and arguably also less problematic. Since the value creation happens at the very end of the production chain, right before consumption, the companies can't redistribute the fruits of the labour of their customers; and for those who are doing the work, this it is not a competitive market in which they have to earn their livelihood. The working customer principle most likely prevents the existence of a huge amount of low skill jobs, but it doesn't create a new industry of precarious labour as is the case with crowdwork.

Open Innovation is a term coined by the American business professor Henry Chesbrough in 2003.³⁸¹ According to Chesbrough, today director of the Center for Open Innovation at the Haas Business School at Berkeley University, California, Open Innovation is a new paradigm for managing innovation in the context of ever-faster product development cycles. Critics call it a doctrine and claim that it is not at all a new practice.³⁸² Open Innovation represents a very business-centred perspective. It is primarily concerned with how very large corporations in the high-tech sector, especially hardware, software and pharmaceutical companies that maintain their own research and development (R&D) department, can stay competitive, given that 'not all the smart people work for you,' as a famous slogan by Open Innovation advocates states. Chesbrough translates this as 'they need not be part of your payroll in order to help you innovate.'³⁸³ The original quote stems from Sun Microsystems co-founder Bill Joy who reportedly said it in the mid 1990's in response to a manager who asked him why Sun would venture into open-source software.³⁸⁴ Remarkably, despite the original context of this quote and the similar names of the concepts, Open Innovation is something completely different than open-source. It is a good example of how vague or even contradictory the attribution 'open' often is, particularly in the business context. What Henry Chesbrough means by openness is that a corporation with an R&D department should at any point of the innovation process allow the possibility to buy or sell applicable research results, i.e. innovations, in form of patents or intellectual property rights. Chesbrough's short definition is: 'Open innovation is the use of purposive inflows and outflows of

³⁸⁰ Voß, G. Günther in the foreword to: Papsdorf, Christian, *Wie Surfen zu Arbeit wird: Crowdsourcing im Web 2.0* (Campus, 2009), p. 16.

³⁸¹ Chesbrough, Henry William, *Open Innovation: The New Imperative for Creating and Profiting from Technology* (Boston, Mass: Harvard Business School Press, 2003)

³⁸² Rao, Venkatesh, 'Open Innovation, or Is Business War?', ribbonfarm, 2007 <<http://www.ribbonfarm.com/2007/08/20/open-innovation-or-is-business-war/>> [accessed 17 September 2014]

³⁸³ Chesbrough, Henry William, 'The War for Talent and Open Innovation', Forbes, 2011 <<http://www.forbes.com/sites/henrychesbrough/2011/04/28/the-war-for-talent-and-open-innovation/>> [accessed 18 September 2014]

³⁸⁴ Edstrom, Dave, 'IMTS Insider – Not All the Smart People Work for You', The Association for Manufacturing Technology, 2011 <<http://www.imts.com/show/newsletter/insider/article.cfm?aid=128>> [accessed 17 September 2014]

knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.³⁸⁵ The argument is, that a company doesn't have to invent everything for itself and also should not horde inventions it once made but will not use, instead it should engage in a constant trading of intellectual property rights and see this as an additional business and source of income.

Chesbrough points out that in contrast to open-source software methodologies, 'open innovation explicitly incorporates the business model as the source of both value creation and value capture.'³⁸⁶ He goes on to say that open source proponents 'usually deny or downplay the importance of value capture.'³⁸⁷ By framing it this way, Chesbrough in turn completely denies the political and idealistic roots of the open-source approach in the free software movement (as I have shown in chapter 2.5) and downplays that even the less political open-source proponents argue that there is more value for all stakeholders in not compartmentalising innovation through closed sources and restrictive use of intellectual property rights.

Even though the label Open Innovation is slightly misleading because of its very limited degree of openness, the concept is very influential and frequently referred to in management literature and also in the domain of crowdsourced design. Depending on the context, Open Innovation can also mean the crowdsourcing of ideas (though not the crowdsourcing of labour – I will come back to this tricky distinction.) The platform *jovoto.com*, which I will discuss in detail in the next chapter, tries to win new clients with a typical Open Innovation argumentation: 'Our world is spinning faster and faster. This forces organizations to accelerate their innovation cycles – traditional innovation methods are too rigid or slow and often fail to deliver the desired results.'³⁸⁸ This tone of urgency and the imperative to accelerate the innovation process with the help of 'outside talent' is also perpetuated in recent academic papers from the field of management studies, where there is talk of 'hypercompetition' that allows no business to ignore the crowd any longer.³⁸⁹ Yet, for many businesses, having to share the problems to which they seek a solution with the anonymous crowd it is a daunting proposition. That is why some large corporations such as IBM, Mercedes Benz, Toyota and Deutsche Telekom engage in In-house Crowdsourcing, sometimes also referred to as employee-based crowdsourcing.

Participatory Design or Co-Design is an approach that emerged in the 1960s in Scandinavia under the name Collective Research Approach and was first applied in architecture and urban planning as well as in engaging workers in the development of new systems for future workplaces.³⁹⁰ It has since been established as a methodology and a mind-set in a broad variety of design disciplines. Elizabeth

³⁸⁵ Chesbrough, Henry William, Wim Vanhaverbeke, and Joel West, *Open Innovation: Researching a New Paradigm* (Oxford: Oxford University Press, 2006), p. 2.

³⁸⁶ *Ibid.*

³⁸⁷ *Ibid.*

³⁸⁸ <<http://www.jovoto.com/clients>> [accessed 2 April 2015]

³⁸⁹ Al-Ani, Ayad, Stefan Stumpp, and Thomas Schildhauer, *Crowd-Studie 2014 – Die Crowd als Partner der Deutschen Wirtschaft (Crowd Study 2014 – The Crowd as a Partner of the German Economy)* (Rochester, NY: Social Science Research Network, 14 May 2014) <<http://papers.ssrn.com/abstract=2437007>> [accessed 18 September 2014] – One of the authors, Thomas Schildhauer, is director of two Berlin-based research institutes dealing with electronic business and 'internet enabled innovation' – The Institute of Electronic Business and the Alexander von Humboldt Institut for Internet and Society, he is also one of the co-founders of *jovoto.com*.

³⁹⁰ Sanders, Elizabeth B.-N., 'Perspectives on Participation in Design', in *Wer gestaltet die Gestaltung?: Praxis, Theorie und Geschichte des partizipatorischen Designs*. (Bielefeld: transcript, 2012), pp. 61–74

Sanders, Associate Professor in Design at The Ohio State University and a pioneer and influential voice in this field defines participatory design as an ‘activity of designers and people not trained in design working together in the design and development process.’³⁹¹ And this at first might sound almost like a definition for the crowdsourcing of design – but the mind-set is completely different. *Participatory Design*, or *Co-Design* or *Co-Creation*,³⁹² as it is often called interchangeably, is guided by the ideals of human-centeredness and social responsibility. In participatory design, the future user, though not a professional designer, is regarded as the expert with the most knowledge about the requirements of the sought for design solution and thus has to be consulted early on and taken seriously as a partner. In this approach, professional designers stay in charge of the process but they provide future users with creative tools and guidance to allow them to express and contribute their ideas, needs and expectations. If conventional design is about a company designing something for users and crowdsourcing design is about a company getting the ‘users’ to design something for it, participatory design is about a company developing something in collaboration with the future users.

Unfortunately, when comparing the crowdsourcing of design with participatory design, the term *user* is problematic because it refers to different people, depending on the context. From the perspective of participatory design, the user is the individual that will actually use the design when it is finished – it is the person most affected by the design and to whom it is meant to be most useful. In the crowdsourcing of design, the person to whom the work is outsourced to is typically not a user of the future product but also a professional designer. What they are designing as *users* of a crowdsourcing platform has no *use-value* for them, only an exchange value. In crowdsourcing, people are not consulted because the design solution is meant to solve a problem for them but because they are either regarded as creative outside talent under the open innovation paradigm or because they are regarded as a source of cheap labour – often both. Since they are not the future users of what they help to create, it is more appropriate to call them contributors or better even *crowdworkers*.

Traditionally, participatory design approaches are applied in the earlier stages of the design process, while techniques such as *mass customisation* happen at the very end. Liz Sanders points out that participatory design practices can be applied in all stages of the design process and that they are driven by the hope to either create use value, societal value or monetary value.³⁹³ The latter case is the one with the greatest overlap to crowdsourcing. According to Sanders ‘value co-creation with a focus on monetary objectives is more likely to take place later in the design development process’³⁹⁴ However, I disagree with this statement. On the large commercial crowdsourcing platforms for design, e.g. 99designs, Threadless, Quirky, Jovoto and Lego Ideas, some of which I will discuss in detail in the next chapter, the profit oriented ‘co-design’ process is starting at the earliest stages and is often happening on every stage – from ideation over production to marketing.

³⁹¹ *Ibid.*

³⁹² Co-creation and co-design are the terms more common in the US. But as Sanders points out, they are also used as marketing concepts in order to create brand loyalty and are not always congruent with the human-centeredness of the approach.

³⁹³ Sanders, 2013, p. 65

³⁹⁴ *Ibid.* p. 68



Fig. 30: Illustration from a promotional video by oDesk, 2012.³⁹⁵

Freelance Labour Platforms are a type of platform that is hugely influential in restructuring how work is being organised globally via the internet. The online employment industry, as it is also sometimes called, is revolving around outsourcing a great variety of tasks to a standing army of individual freelancers. Of all the crowdsourcing related web-businesses and platforms that I have discussed in this chapter so far, the Freelance Labour Markets are the largest both in regard to the number of workers and the turnover of money and jobs. Two of the largest platforms in this industry are Elance.com (founded in 1999) and oDesk.com (founded in 2003). Both companies were founded in and have their headquarters in the San Francisco Bay Area (in Mountain View and Redwood City), which shows once again the extent to which the global digital labour landscape is shaped by corporations from this small region in California. At the end of 2013, the two competitors merged, so that their united workforce grew to over 8 million and has done 750 million dollars worth of labour for over two million different businesses in 2013.³⁹⁶ As with all of these platforms, the number of registered users doesn't say much about how many of them are actually active. The average freelancer, based on the numbers above, makes less than 100 dollars per year, but of course, the workload is not spread evenly across the eight million users.

Despite their importance for the future of work, I can only outline this type of platform briefly here, because what they offer is technically not crowdsourcing and thus beyond the scope of this thesis. As mentioned already above, they do not engage a crowd of people in an open call to do a job simultaneously, but instead provide a marketplace for labour on which companies can handpick individual workers as contractors. The freelancers on these platforms are not treated as a mass, their work is not aggregated into a single product, and all work is (usually) paid for but on average not very

³⁹⁵ *Creating a Great oDesk Profile*, 2012 <<https://www.youtube.com/watch?v=4wwQc-heEh8>> [accessed 22 February 2015]

³⁹⁶ Numbers from the company front page: <<http://www.elance-odesk.com/>> For the announcement of the merger see: Empson, Rip, 'Everything You Wanted To Know About The Giant Elance, oDesk Merger & Ensuing Backlash (But Were Afraid To Ask)', *TechCrunch* <<http://techcrunch.com/2013/12/22/everything-you-wanted-to-know-about-the-giant-elance-odesk-merger-ensuing-backlash-but-were-afraid-to-ask/>> [accessed 21 September 2014]

much.³⁹⁷ According to TechCrunch, freelancers offer their labour on oDesk for as little as 0,50 euros per hour, while Elance at least has a minimum hourly rate of 3 dollars per hour.³⁹⁸

Again, *tracking of the workers* plays an important role in order to ensure that they do what they are supposed to do. oDesk uses quite invasive surveillance techniques, for example the ‘oDesk Work Diary’, which the platform describes to its clients like this: ‘This handy-dandy tool captures work-in-progress snapshots of your freelancer’s screen. Taken at 10-minute intervals only when your freelancer is billing time to an hourly contract, the Work Diary makes it easy to see that work is being done.’³⁹⁹ Under certain circumstances, the company even monitors the workers themselves by taking pictures with their webcam.

People who decide to work under these conditions agree to an ambivalent trade-off. They are free to work from any place they want but must endure being constantly monitored. Companies like oDesk advertise this new way of working as if it was a holiday, by frequently using images from exotic sunny places, with pools and palm trees in the background, the workers are called ‘digital nomads’ for whom ‘work is no longer a place’ and ‘every day is an exiting new adventure.’⁴⁰⁰



Fig. 31: Screenshot from an oDesk promotional YouTube video showing ‘Digital Nomads’ at their workplace.⁴⁰¹

³⁹⁷ These platforms typically also offer a money back guarantee to the paying clients.

³⁹⁸ *TechCrunch*, Elance-oDesk Merger, December 2013

³⁹⁹ <<https://www.odesk.com/info/howitworks/client/>>

⁴⁰⁰ oDesk promotional video: ‘Digital Nomads: Goodbye Commute, Hello World’ (2014)

<http://www.youtube.com/watch?v=Rl4OdW3huV8&feature=youtube_gdata_player> [accessed 2 October 2014]

⁴⁰¹ *Ibid.* min. 1.10

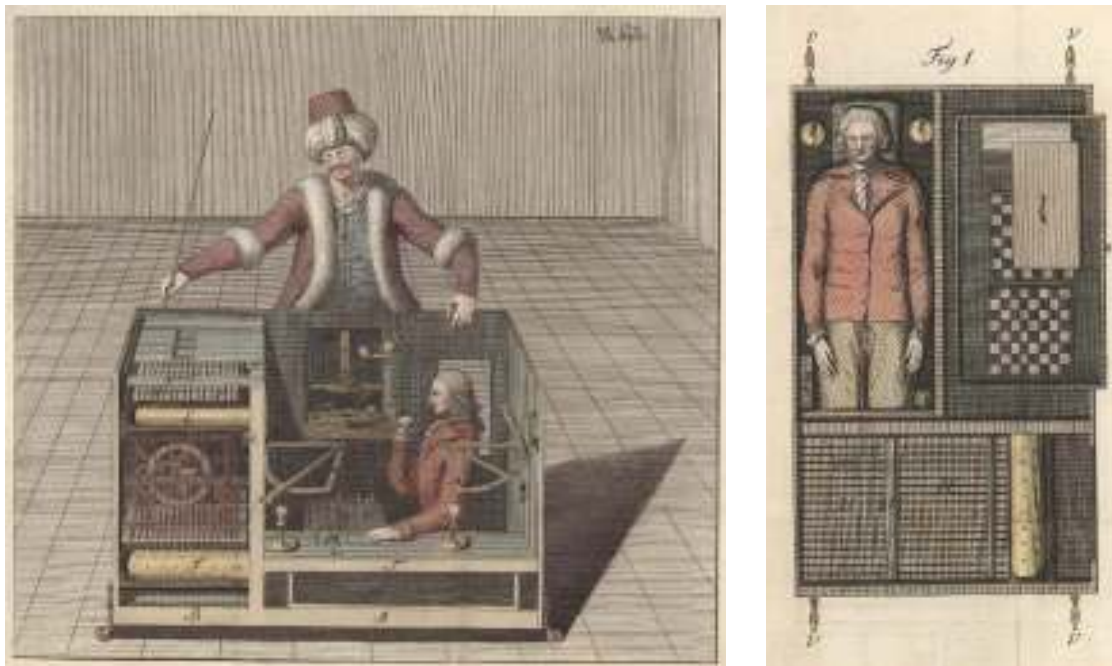


Fig. 32: The Mechanical Turk, invented and constructed by Wolfgang von Kempelen in 1770, here depicted in two copperplate prints from 1789 by Joseph Friedrich Freiherr zu Racknitz.⁴⁰² Racknitz had reverse-engineered the original machine in order to reveal that it was an elaborate hoax.⁴⁰³

3.4 – THE COGNITIVE PIECEWORK OF THE MECHANICAL TURK

In the eighteenth century, the Hungarian nobleman Wolfgang von Kempelen toured from court to court across Europe to baffle aristocratic audiences with a miraculous machine – the Mechanical Turk – which is said to have earned him a small fortune. ‘Der Schachtürke’, as it is called in German, appeared to be a chess-playing automaton in the guise of an oriental-looking wooden robot, residing over a cabinet full of cogs, wearing a turban and smoking a pipe. ‘The Turk’ was an extraordinary chess player who won nearly every match and was even able to checkmate the likes of Edgar Allan Poe, Charles Babbage and Napoleon Bonaparte. As part of his performance, Kempelen opened the various doors of the cabinet to show the audience that there was nothing but machinery inside; how the illusion worked remained a well-kept secret. The Turk was eventually destroyed in a fire, and not until years later it was revealed that actually, there was a small chess master hidden inside the machine, operating the Turk through an intricate system of levers.

A little more than two hundred years later, in 2005, the ‘everything store’ Amazon had to come up with a solution for a tricky problem in data processing. It had to manage a database with millions of products, the descriptions of which came from various manufacturers and retailers. The company thus had (and still has) to constantly clean up its database and merge duplicate entries of new products. As it turned out, this is one of the many tasks that computers are not very good at. It

⁴⁰² Joseph Friedrich Freiherr zu Racknitz, Schachtürke, Tafel 3, 1789, Wissenschaftliche Sammlungen an der Humboldt-Universität zu Berlin <<http://www.sammlungen.hu-berlin.de/dokumente/23241/>> [accessed 15 July 2014]

⁴⁰³ Racknitz, Joseph Friedrich, Über den Schachspieler des Herrn von Kempelen und dessen Nachbildung. (Leipzig, Dresden: J. G. I. Breitkopf, 1789)

requires advanced image recognition capabilities in order to understand whether a product depicted on two different photos is actually the same. It also requires text recognition within images, for example in order to digitise the information from a CD cover and its booklet – the same problem that Luis von Ahn solved with reCAPTCHA in 2006 (as described above). Amazon had already made good experiences with by letting its *working customers* generate product reviews in a decentralised manner, and so, like von Ahn, the company created a mechanism that allowed the outsourcing of the data processing tasks to humans. What they did was essentially a very old trick, known in the field of Human Computer Interaction (HCI) as the Wizard-of-Oz-technique. The trick was originally used as a crutch in the prototyping of HCI interfaces, where humans ‘impersonated’ those parts of the operating system that the prototype could not yet perform.⁴⁰⁴ The design researcher Nigel Cross described the basic idea of such ‘human-behind-the-scene’ prototypes in already 1977. In order to be more flexible in the design process and to save costs, he suggested devising ‘a suitable simulation of a computer-aided design system’:

All that the user perceives of the system is this remote-access console, and the remainder is a black box to him. Viewing the computer-aided design system in this way leads to an obvious suggestion for a simulation technique – one may as well fill the black box with people as with machinery. Doing so provides a comparatively cheap simulator, with the remarkable advantages of the human operator’s flexibility, memory, and intelligence, and which can be reprogrammed to give a wide range of computer roles merely by changing the rules of operation. It sometimes lacks the real computer’s speed and accuracy, but a team of experts working simultaneously can compensate to a sufficient degree to provide an acceptable simulation.⁴⁰⁵

Amazon’s re-invention of the Mechanical Turk covered up the insufficiency of artificial intelligence by transforming the prototyping technique of humans simulating the machine into a real product. The black box was permanently filled with people, and to be able to compete with the speed and accuracy, the people were addressed as crowds. Jeff Bezos, the founder and CEO of Amazon, was among the first to realise that it was much cheaper and more reliable for certain tasks to be solved by humans than with algorithms, and that these humans could be treated just like processors in a system of distributed computing. This is in contrast with Luis von Ahn’s concept of ‘games with a purpose’, which used fun as the key incentive, and reCAPTCHA, which is based on *indirect crowdwork*, Amazon offered the crowd in the box tiny amounts for every task solved. The company used this human powered machine not only to solve its own data processing problem but started to offer access to it as a service to other companies. This is how *cognitive piecework*, one of the two subcategories of *paid crowdwork* came into being.

Amazon created an *API*, an *application programming interface*, that allowed its clients to tap directly into the ‘cognitive surplus’ of the crowd and the company dubbed the trick behind the new service as ‘*artificial* artificial intelligence.’ In late 2005, Jeff Bezos announced the launch of this new ‘marketplace for work’ under the title Amazon Mechanical Turk (MTurk), named after the famous

⁴⁰⁴ Green, Paul, and Lisa Wei-Haas, *The Wizard of Oz: A Tool for Rapid Development of User Interfaces* (Michigan: University of Michigan, Transportation Research Institute, June 1985)

⁴⁰⁵ Cross, Nigel, *The Automated Architect* (Viking Penguin, 1977), p. 107

historical hoax. Sharon Chiarella, the vice president of the new service pointed out that running a marketplace was what Amazon was doing in other areas anyway. Creating a marketplace for work seemed just like the logical next step. MTurk became part of Amazon Web Services, a portfolio that offers various large scale, on demand, scalable, ‘cloud-based’, data storage and processing services over the web – not physical products for end-users but virtual infrastructure as a service for developers.⁴⁰⁶

Humans are much more effective at solving some types of problems, like finding specific objects in pictures, evaluating beauty, or translating text. The idea of the Amazon Mechanical Turk web service is to give developers a programmable interface to a network of humans to solve these kinds of problems and incorporate this human intelligence into their applications.⁴⁰⁷

The platform became the most prominent example of *paid crowdwork*, organised in the form of *cognitive piecework*, also known as ‘microtasking’ or ‘clickwork’. There is now a growing number of competitors, such as microWorkers from Dallas and clickworker from Essen in Germany, and there is also a new class of ‘meta platforms’ like CrowdFlower and CrowdSource, which are partly built on top of the MTurk platform but add a number of services and control mechanisms to better access and organise the workforce for its clients.⁴⁰⁸ Amazon doesn’t see itself as responsible for the crowdworkers. They are not employees but ‘independent contractors’, a classification that conveniently lets the company circumvent minimum wage laws and other forms of worker rights. In 2013, the company CrowdFlower had to fend off a class-action lawsuit by crowdworkers for misclassifying employees as independent contractors, thus violating the Fair Labor Standard Act that entitles workers to a minimum wage.⁴⁰⁹ CrowdFlower eventually settled the class-suit by paying a fee, which is why the problem remains unresolved in legal terms.⁴¹⁰

It is beyond the scope of this thesis to go into the details of all of these other platforms and I will thus confine myself here to the *cognitive piecework* of MTurk and its fundamental differences to *contest-based crowdwork*, as it is typical for the outsourcing of creative work.

⁴⁰⁶ One customer of Amazon Web Services is a conglomerate of 17 US intelligence agencies, including CIA & NSA. After some struggles with the competing IBM, in 2014 Amazon finally signed a \$600 million contract to provide a government cloud for the US ‘intelligence community.’ Konkel, Frank, ‘How the CIA Partnered With Amazon and Changed Intelligence’, Defense One, 11 July 2014 <<http://www.defenseone.com/technology/2014/07/how-cia-partnered-amazon-and-changed-intelligence/88555/>> [accessed 15 July 2014]

⁴⁰⁷ Amazon, ‘FAQs’, Amazon Web Services, Inc. <aws.amazon.com/mturk/faqs/> [accessed 15 July 2014]

⁴⁰⁸ <<https://microworker.com/>>; <www.clickworker.com/>; <www.crowdfLOWER.com/>; <www.crowdsourcing.com/>.

⁴⁰⁹ Schmidt, Florian A., ‘For a Few Dollars More: Class Action Against Crowdsourcing’, *A Peer-Reviewed Journal About (APRJA)*, 2 (2013), <<http://www.aprja.net/?p=836>>; Mack, Eric, ‘The Lawsuit That Could Help Undo (or Cement) Crowdsourcing in the U.S.’, *crowdsourcing.org*, 2013 <<http://www.crowdsourcing.org/editorial/the-lawsuit-that-could-help-undo-or-cement-crowdsourcing-in-the-us/22968>> [accessed 10 January 2013]; Since 2014, CrowdFlower is not using MTurk anymore:

<<http://www.crowdfLOWER.com/blog/2014/01/crowdfLOWER-drops-mechanical-turk-to-ensure-the-best-results-for-its-customers>>

⁴¹⁰ Cherry, Miriam, ‘A Minimum Wage for Crowdwork?’, *Digital Labor Conference*, 2014 <http://digitallabor.org/participants/miriam-cherry>. See also: ‘CrowdFlower Gets \$12.5 Million in Funding; Firm Also Tries Again to Settle IC Suit’, *Staffing Industry Analysts*, 2014 <<http://www.staffingindustry.com/Research-Publications/Daily-News/CrowdFlower-gets-12.5-million-in-funding-firm-also-tries-again-to-settle-IC-suit-31538>>



Fig. 33: Above, the logo of Amazon Mechanical Turk, with the word ‘beta’ in the lower left corner; below, a screenshot of the two-sided landing-page of Amazon Mechanical Turk, 2014,

On the landing page of Mechanical Turk, visitors are confronted with a crossroads. They can either ‘make money’ or ‘get results’, depending on whether they want to be an employer (a ‘requester’ in Amazon’s parlance) or a worker (called a ‘provider’ or ‘contractor’ on the platform). The workers can choose from a list of a few hundred thousand ‘HITs’, short for ‘human intelligence tasks’. Typical HITs are: recognising, describing or tagging content in images to make them digitally searchable, transcribing video or audio recordings, categorising content, moderating user-generated content, filtering out pornography, finding addresses of people or checking them for their validity, cleaning up databases, translating texts, writing copy or filling out scientific surveys.⁴¹¹ What unites the huge variety of tasks is that they are broken down into tiny bits, paid for with tiny amounts of money, and later aggregated and reassembled automatically in order to form more than the sum of the parts.

In times of highly advanced web-services, with slick, shiny, dynamic, customisable, intuitive interfaces that usually convey the impression that the user is king, MTurk seems to be a relict of a different, a prehistoric time of the web. If Amazon.com is the inviting front of a huge department store, MTurk is its shabby delivery entrance, located in a dark alley behind the warehouse. The prob-

⁴¹¹ Mechanical Turk has become an important resource for many scientists to conduct surveys; for psychological studies, it has become an important tool to reach people across the globe very easily; but this has also lead to concerns that universities are taking advantage of the underpaid workers on the platform and treat them as ‘lab rats’. See: ‘Experimental Psychology: The Roar of the Crowd’, *The Economist*, 2012 <<http://www.economist.com/node/21555876>> [accessed 18 January 2013]; Workers now offer a guideline for researchers: ‘Guidelines for Academic Requesters – WeAreDynamo Wiki’, *Dynamo*, 2014 <http://wiki.wearedynamo.org/index.php/Guidelines_for_Academic_Requesters> [accessed 20 February 2015]

lem is not just that the platform *feels* user-unfriendly, but that this surface is indicative of its deeper structure: It is a machine to which the people working within it have to adapt, and not the other way around. *The platform can do without even a veneer of human-centred design.* Employers frequent this back alley because it is the cheapest and fastest way to hire and fire a large and scalable, totally unregulated workforce and the workers go there because they need the few dollars per hour to make ends meet. The third party, Amazon, runs the platform separate from its regular business, according to rumours with only a tiny budget and team.⁴¹² Curiously, almost ten years after the launch of MTurk, the platform still claims to be in ‘beta’ mode.⁴¹³ Yet, it has become the working place for about five hundred thousand people who refer to themselves as ‘Turkers’. With its lack of investment into the platform and the attempt to blend into the background as just a piece of infrastructure, MTurk is a unique phenomenon in the crowdsourcing landscape.⁴¹⁴ What it has in common with other crowdsourcing companies, however, is that Amazon is keen to emphasise its status as a ‘neutral’ platform provider who just creates and maintains the infrastructure for a marketplace, but can’t be held legally responsible for the relationships between buyers and sellers (of labour, in this case) that are taking place on the platform. There is no service team and employers and workers are left to their own devices. But the platform is not at all neutral – it clearly favours one class of ‘users’, the employers, over the other class of ‘users’, the workers.

In its *Terms of Use*, Amazon explicitly gives employers the right to reject work without having to give the workers any reason. If a HIT done by a worker gets rejected, she or he will not get paid and will get a lower approval rate.⁴¹⁵ However, in such a case the employer still gains the right to use the results of the rejected work; critics call this wage theft.⁴¹⁶ The power to reject work without explanation is a function meant to sanction fraudulent, sloppy or incompetent workers, who are either not willing or not able to deliver good results. And since the workers are anonymous to the employer, they might indeed be tempted to aim for quickness not for quality. So there needs to be some form of protection for the latter not to fall prey to a crowd of scammers and dabblers. But the difficulty in this type of crowdsourcing is that the prime goal is to process massive amounts of tasks, as quickly as possible, for as little money as possible. And that means cutting out human-to-human communication wherever possible. It is just too time-consuming and expensive. Whatever can be automated must be automated, no matter the social costs. Amazon tries to stay invisible, the workers don’t have names but numeric IDs and the employers hide behind pseudonyms.

LinkedIn, the social network for business contacts, was one of the largest employers on MTurk for several years (between 2011 and 2014), but the company used the name ‘Oscar Smith’ for its crowdsourcing operations. Users of LinkedIn could use a dedicated smartphone-app called Card-

⁴¹² Amazon itself is very reluctant to give any insight into its Mechanical Turk operations.

⁴¹³ As of May 2015, Amazon Mechanical Turk still had the word ‘beta’ included in its logo.

⁴¹⁴ Irani, Lilly C., and M. Six Silberman, ‘Turkopticon: Interrupting Worker Invisibility in Amazon Mechanical Turk’, in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI ’13 (New York, NY, USA: ACM, 2013), pp. 611–20 <<http://dx.doi.org/10.1145/2470654.2470742>>

⁴¹⁵ <<http://docs.aws.amazon.com/AWSMechTurk/latest/RequesterUI/mechanical-turk-concepts.html>> [accessed 2 May 2015]

⁴¹⁶ Irani, Lilly C., and M. Six Silberman, ‘From Critical Design to Critical Infrastructure: Lessons from Turkopticon’, *Interactions*, 21 (2014), 32–35 <<http://dx.doi.org/10.1145/2627392>>, p. 33. Irani, Lilly, ‘Difference and Dependence among Digital Workers: The Case of Amazon Mechanical Turk’, *South Atlantic Quarterly*, 114 (2015), 225–34 <<http://dx.doi.org/10.1215/00382876-2831665>> p. 227

Munch to seemingly automatically let the service transcribe uploaded business cards, but the cards were actually transcribed manually by ‘Turkers’ – between 45,000 and 50,000 a day, millions all-together.⁴¹⁷ LinkedIn provided the service to its users for free; after all, this was a rich source of valuable business data. The users of CardMunch, in turn, didn’t need to care about whether there were humans behind the interface or an algorithm, as long as the service ran smoothly and was for free. ‘Oscar Smith’ paid crowdworkers \$0,02 per transcribed business card, and according to worker forums it took on average a minute to do the task, depending on the worker. Thus, LinkedIn paid an average hourly wage of about \$1,20 to these workers while making a revenue of about 1,5 billion in 2013.⁴¹⁸ These ‘HITs’ are now discontinued, partly because the algorithmic text recognition (OCR) was significantly improved over the years.

*

There is a lot of uncertainty about the demographics on MTurk, but according to the researchers such as Panagiotis Ipeirotis, the majority of the workforce on MTurk comes from the US and India.⁴¹⁹ ‘The large numbers of crowdworkers based in the US are overwhelmingly college-educated, female and under 35 years of age.’⁴²⁰ The company used to claim that the workers come from 190 nations, but workers from outside the US and India had been disadvantaged for a long time because they are not paid in cash but in Amazon vouchers (which effectively means that Amazon profits from them a second time when they redeemed their wage vouchers to shop at the company store). Since a change of its corporate policy in 2012, Amazon does not accept any new international workers. As with many of its decisions regarding MTurk, the company is very opaque about its reasons, but the speculation on external worker forums was that Amazon had been struggling with a lack of quality and fraudulent behaviour from workers they could not identify through lack of a verified credit card account with the company. This speculation was rejected by Sharon Chiarella, vice president of MTurk, who wrote that the company just introduced a special review process for workers, to which she could unfortunately not provide any details.⁴²¹ It is not clear why Amazon obfuscates its reasoning, but among the workers and researchers that I met at various conferences, there is a consensus that Amazon has not been accepting international workers since 2012.⁴²²

⁴¹⁷ ‘LinkedIn Scales Business Card Transcription with Mechanical Turk’, *The Mechanical Turk Blog*, 2013 <<http://mechanicalturk.typepad.com/blog/2013/09/linkedin-scales-business-card-transcription-with-mechanical-turk.html>> [accessed 6 July 2014]. Lunden, Ingrid, ‘LinkedIn Gives Up The Ghost On CardMunch, Inks Deal With Evernote To Migrate Users’, *TechCrunch* <<http://social.techcrunch.com/2014/05/07/linkedin-gives-up-the-ghost-on-cardmunch-inks-deal-with-evernote-to-migrate-users/>> [accessed 21 February 2015]

⁴¹⁸ <<http://investors.linkedin.com/financials-statements.cfm>>

⁴¹⁹ Ipeirotis, Panagiotis G., *Demographics of Mechanical Turk*, 10 March 2010 <<http://archive.nyu.edu/handle/2451/29585>> [accessed 25 September 2014]; Ipeirotis, Panagiotis G., ‘Analyzing the Amazon Mechanical Turk Marketplace’, *XRDS*, 17 (2010), 16–21 <<http://dx.doi.org/10.1145/1869086.1869094>>

⁴²⁰ Uddin, Zakia, ‘The Dystopian Digital Sweatshop That Makes the Internet Run’, *AlterNet*, 11 September 2012 <<http://www.alternet.org/labor/dystopian-digital-sweatshop-makes-internet-run>> [accessed 25 September 2014]

⁴²¹ ‘The Reasons Why Amazon Mechanical Turk No Longer Accepts International Turkers’, *Turkrequesters*, 2013 <<http://turkrequesters.blogspot.de/2013/01/the-reasons-why-amazon-mechanical-turk.html>> [accessed 24 September 2014]

⁴²² One has to apply to become a worker via a regular Amazon account without having to give any additional information. I tried it myself and was rejected: ‘Greetings from Amazon Mechanical Turk, We have completed our review of your Amazon Mechanical Turk Worker



Fig. 34: Two screenshots of typical ‘HIT’ descriptions on Mechanical Turk from 2014.

The briefs for the requests are written on a strict ‘need to know basis.’ Usually, the workers don’t get to know anything about their employer, the context of the job or what they might contribute to. Through the workers’ qualification level and country of origin, the employers can exclude certain groups of workers and through their ID number after they have done a job. (Since 2011, the better paying jobs can usually be done only by MTurk ‘Masters’).⁴²³

Here is an example of a typical task: ‘You are shown a set of images and you must determine which ones contain a naked vagina.’ 15 minutes are allotted for this specific task by the requester ‘mirador-tech’, who pays \$0.04 for each completed set of images. On one of the worker forums outside of Mechanical Turk, someone who has done this task writes that one set contains about 50 images. The worker willing to click through all available 3409 sets of images could earn about \$136... (for looking at probably 170,000 images of nudity of various degrees).⁴²⁴

Another ‘requester’ is looking for someone to write a 500-word article about ‘web authoring for mobile devices’. The worker must have a HIT approval rate of at least 90% and must be based in the US. ‘The article must be unique and not copied from other sources’, ‘all rights of the article that belong to the author are forfeited on submission and transferred to the poster of this hit.’ ‘If the work is not UNIQUE, PROFESSIONAL, and RELEVANT it will be rejected.’ The allotted time for this hit is three hours and the reward is \$2.50.

Account. We regret to inform you that you will not be permitted to work on Mechanical Turk. Our account review criteria are proprietary and we cannot disclose the reason why an invitation to complete registration has been denied. If our criteria for invitation changes [sic], you may be invited to complete registration in the future.’

⁴²³ DreamScaper, ‘Turk Smarter Not Harder: Problem with Mechanical Turk Masters’ <<http://smarterturker.blogspot.de/2011/07/problem-with-mechanical-turk-masters.html>> [accessed 4 March 2015]

⁴²⁴ The task of separating nudity from legal pornography and from child pornography, as well as fictional violence from the depiction of real violent crimes is a psychologically very burdensome and damaging task that can’t be properly done by computers. This type of work is not only outsourced via Mechanical Turk, but also to companies specialised on such ‘moderation’ of user-generated content. A lot of this work is done on the Philippines, and according to a recent article by Adrian Chen, the workers often suffer from post-traumatic stress syndrome after being continuously exposed to gruesome pictures; see: Chen, Adrian, ‘The Laborers Who Keep Dick Pics and Beheadings Out of Your Facebook Feed’, *WIRED*, 23 October 2014 <<http://www.wired.com/2014/10/content-moderation/>> [accessed 2 November 2014]. For the technological struggle to algorithmically detect ‘assholes and other undesirable body parts’ see: Steyerl, Hito, ‘Proxy Politics: Signal and Noise’, *e-flux*, 2014 <<http://www.e-flux.com/journal/proxy-politics/>> [accessed 18 February 2015]

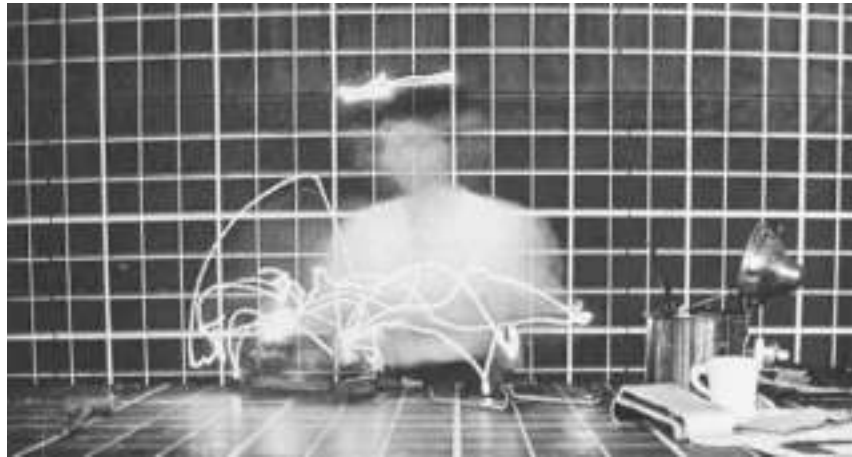


Fig. 35: Photo from the motion studies of Frank Gilbreth, 1913. It shows a worker in a grid, her motions traced by long exposure shots capturing the path of light sources on her hands; an early example of data tracking in the workplace to enhance efficiency.

In many respects, the *cognitive piecework* on Mechanical Turk is reminiscent of the *Principles of Scientific Management*, published by the mechanical engineer and management consultant Frederick Winslow Taylor in 1911.⁴²⁵ These principles, that have become infamous as Taylorism, were developed around the same time as the assembly line, introduced by the car manufacturer Ransom Olds in 1901, and then significantly improved upon by Henry Ford with the introduction of the conveyor belt in 1913; and the photo and film-based motion studies by Taylor's colleague Frank Gilbreth. What unites all of these innovators of industrialisation and designers of modern workplaces, is that they increased efficiency tremendously by breaking large tasks like the manufacturing of a car into the smallest possible 'microtasks' and let the workers only do the same repetitive task continuously, at a pace defined by management and enforced by the machine – a workplace design famously caricatured in Charlie Chaplin's film 'Modern Times' in 1936. Taylor used the terms 'scientific management' and task management interchangeably – the core idea was to separate any form of planning and overview from the worker, who would in turn only do the same task ad infinitum.

The work of every workman is fully planned out by the management [...] and each man receives in most cases complete written instructions, describing in detail the task which he is to accomplish, as well as the means to be used in doing the work. [...] This task specifies not only what is to be done but how it is to be done and the exact time allowed for doing it. And whenever the workman succeeds in doing his task right, and within the time limit specified, he receives an addition of from 30 per cent, to 100 per cent, to his ordinary wages.⁴²⁶

The description by Taylor correlates to some extent with my chart about how *work-like* the different types of crowdsourcing are. My argument was that the less free and self-determined the worker is, and the more effort is demanded of him, the more this has to be counterbalanced with an appropriate remuneration. For the same reasons, Taylor emphasised that the workers who were subjected to his system had to be better paid than normal workers who had more freedom and less pressure.

⁴²⁵ Taylor, Frederick Winslow, *The Principles of Scientific Management* (New York, London, Harper & Brothers, 1911) <<http://archive.org/details/principlesofscie00taylrich>> [accessed 14 February 2014]

⁴²⁶ *Ibid.* p. 39

In Taylor's system, each worker got a second sheet of paper each day, giving him quantified feedback on how well he or she achieved the previous tasks and how high his or her bonus was; when the sheet was yellow, the worker immediately knew that he or she had failed – even if he was analphabetic. Taylor's obsession with constant quantification and feed-back loops not only has a cybernetic ring to it, now that every mouse-click of an online worker can easily be tracked, aggregated and algorithmically analysed, his ideas of good management are very pertinent, not only for the history of work but also its future. In stark contrast to the current tendencies in digital labour, he also wrote that: 'It is a matter of ordinary common sense to plan working hours so that the workers can really "work while they work" and "play while they play," and not mix the two.'⁴²⁷

The problems of this type of piecemeal task work, then and now, are well known: The workers become deskilled and can thus be easily replaced by others, like cogs in a machine, and they become alienated from their work by losing any connection to what they are actually producing. A lot has been written about the dehumanising effects on the contingent industrial workforce and I don't want to recapitulate that discourse here. But it is worth re-reading Taylor because he repeatedly and prominently claimed that he also had the workers' interests in mind when he subjugated them to detailed quantification and high pressure for more efficiency. From his perspective, the biggest problem of his age was that the interests of the workers and the employers were seen as antagonistic, leading workers to deliberately slack off on the job to evade the increasing pressure. He saw 'natural laziness' as a problem, but the 'greatest evil' for him was 'systematic soldiering', the collective and intentional slowing down of the workforce. Today, crowdsourcing companies are also concerned with deliberately bad work, but this is now happening on the level of the individual worker and is regarded as cheating or scamming. Taylor's goal was to eliminate this behaviour by measuring precisely how small a task would have to be to enable a worker to work continuously without getting exhausted while also rewarding him with higher wages for the increased effort and efficiency.

The principal object of management should be to secure the maximum prosperity for the employer, coupled with the maximum prosperity for each employé. [...] The majority of these men believe that the fundamental interests of employés and employers are necessarily antagonistic. Scientific management, on the contrary, has for its very foundation the firm conviction that the true interests of the two are one and the same; that prosperity for the employer cannot exist through a long term of years unless it is accompanied by prosperity for the employé, and vice versa; and that it is possible to give the work-man what he most wants – high wages – and the employer what he wants – a low labor cost – for his manufactures.⁴²⁸

Taylor was convinced, and had ample data to support his claims, that a task management based on the scientific quantification and optimisation of all movements would be so much more profitable that both parties could benefit from it financially. But he also firmly believed that not all workers were fit for this type of microtasking, that they should be chosen and trained by management, and that their capabilities would grow within the company, making them less replaceable. He saw the training as

⁴²⁷ *Ibid.* p. 87

⁴²⁸ *Ibid.* p. 9

something that would, in today's management jargon, be probably called 'an investment in human capital'. To align the interests of the employers with those of the employees and to distribute the gains from more efficient methods – the goal Taylor puts at the very beginning of his influential book – remains, I argue, the crucial task also in the new world of digital labour. One matter that makes things more complicated is that there is a third party today, the platform provider, who has become increasingly influential and also wants a share of the benefits. Furthermore, in contrast to what Taylor had in mind, the workers are not employees anymore; they are contract workers spread across the globe, they self select the tasks and are not bound to a specific factory anymore. They have become *free to* choose what they want to work on and for how long, but they are also *free from* any protection by the company or by labour laws. By becoming a crowd, the workforce has become more contingent than ever, because the employer doesn't invest in the abilities of individual workers anymore and they can easily be replaced not only by other workers in the vicinity of the factory but by anyone with a computer and a reasonably fast internet connection.

As Taylor wrote in 1911: 'A great deal has been and is being constantly said about "sweatshop" work and conditions. The writer has great sympathy with those who are overworked, but on the whole a greater sympathy for those who are *under paid*.'⁴²⁹ More than a hundred years later, we are still discussing what constitutes a sweatshop and what should be a fair payment for piecework. Amazon Mechanical Turk has not only been called a virtual assembly line, but is also frequently described as a sweatshop, though one without a physical location – a sweatshop 'in the cloud', so to speak.

⁴²⁹ *Ibid.* p.17



Fig. 36: Scene from the film *Soylent Green*, directed by Richard Fleischer, 1973.

In 2010, Michael S. Bernstein, an influential computer scientist and human-computer-interaction (HCI) researcher and a number of colleagues published a report about a special crowdsourcing tool they had developed and tested: ‘Soylent: A Word Processor with a Crowd Inside’.⁴³⁰ The tool is designed as a plug in for Microsoft Word that connects to the ‘human API’ of Mechanical Turk and adds another layer in the process of hiding the workforce in the machine. The idea is to outsource tasks such as the shortening of paragraphs, spell checking and the formatting of citations to the crowd without having to leave the interface of the word processor. The crowdworkers are embedded into the interface just like a computational function. The first thing that is striking about this prototype is its name, which is derived from the dystopian science fiction film ‘Soylent Green’ from 1973, in which Charlton Heston’s character tries to survive in an overcrowded and impoverished world. At the end of the film, the hero finds out that the only available nurturing food everybody is eating, Soylent Green, is actually made out of humans. I am not sure whether Bernstein’s choice of name is an expression of cynicism or just nerd humour gone wrong, but it still brings across the core idea brilliantly. The user is buying a packaged product and is supposed to forget that this time, there is not just ‘Intel Inside’ – but humans.

As for all designers of crowd-powered systems, quality control is a big issue for Bernstein and his colleagues. Under the sub-heading ‘programming the crowd’, they write that in their experiments, about 30 per cent of the results provided by the crowd were poor, an error rate unacceptable to the end user. In order to understand ‘the nature of unsatisfactory responses’ the authors identify two problematic groups within the workforce. Again, the language is remarkable:⁴³¹

We might characterize two useful personas at the ends of the effort spectrum, the *Lazy Turker* and the *Eager Beaver*. The *Lazy Turker* does as little work as necessary to get paid. [...] *Eager Beavers* go beyond the task require-

⁴³⁰ Bernstein, Michael S., Greg Little, Robert C. Miller, Björn Hartmann, Mark S. Ackerman, David R. Karger, and others, ‘Soylent: A Word Processor with a Crowd Inside’, in *Proceedings of the 23rd annual ACM symposium on User interface software and technology*, UIST ’10 (New York, NY, USA: ACM, 2010), pp. 313–22 <<http://dx.doi.org/10.1145/1866029.1866078>>

⁴³¹ This might to some extent be due to my nationality. Germany has a long and difficult history of Turkish working-class immigrants (*Gastarbeiter*), to speak of ‘Lazy Turkers’ thus sounds very offensive to German ears.

ments in order to be helpful, but create further work for the user in the process. For example, when asked to re-word a phrase, one *Eager Beaver* provided a litany of options [...]. Without clear guidelines, the *Lazy Turker* will choose the path that produces any signal and the *Eager Beaver* will produce too many signals.⁴³²

Problems like these are typical in human computation, they emerge because normal person-to-person communication between employer and employee is to be avoided at all cost, for reason of cost. Since the time of the person in front of the interface is so much more valuable than that of the people hidden inside the machine, such conflicts have to be resolved algorithmically: the contributions of the crowdworkers are seen only as signals and noise emitted from more or less efficient machine parts.

At the end of the paper, Bernstein et al. conclude their ‘vision of interface outsourcing’ with the suggestion that ‘it may be possible to transition from an era where Wizard of Oz techniques were used only as prototyping tools to an era where a “Wizard of Turk” can be permanently wired into a system.’⁴³³ Three years later, in 2013, Michael S. Bernstein co-authored an influential and extensive paper titled ‘The Future of Crowd Work’, together with Aniket Kittur, a cognitive psychologist from Carnegie Mellon University, Jeffrey V. Nickerson, a computer scientist and HCI expert, and a number of other high profile crowdsourcing researchers.⁴³⁴ In this roadmap for future research in the field, the authors ask the crucial ethical question: ‘Can we foresee a future crowd workplace in which we would want our children to participate?’ A shift in perspective had taken place, from being primarily concerned with efficiency to being concerned with the life of the people hidden behind the interface.

⁴³² *Ibid.* p. 4

⁴³³ *Ibid.* p. 9

⁴³⁴ Kittur, Aniket, Jeffrey Nickerson, Michael S. Bernstein, Elizabeth M. Gerber, Aaron Shaw, John Zimmerman, and others, ‘The Future of Crowd Work’ (presented at the CSCW Conference on Computer Supported Cooperative Work and Social Computing, San Antonio, Texas, 2013)

*[Mechanical Turk] gives us a snapshot of a depressing future in which legions of click-slaves toil away at identifying duplicate Web pages for less than minimum wage. Amazon says it hit on the idea for Mechanical Turk when it realized that there were some tasks that even the smartest computers couldn't perform. I've got an alternate theory: Maybe the computers just didn't want to.*⁴³⁵

JEFF HOWE, 2006

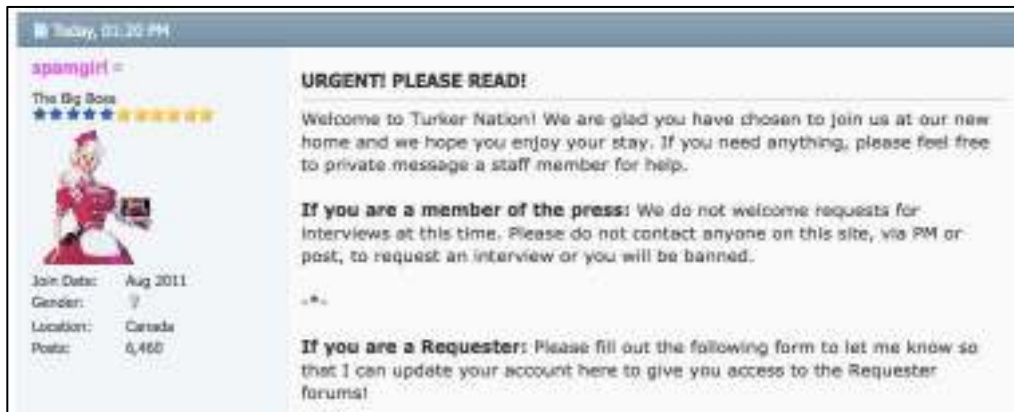


Fig. 37: Screenshot of Spamgirl's welcome message on the Turker Nation worker forum for Mechanical Turk workers, 2014

3.5 – WE HAVE BEEN SOLD AS NOTHING MORE THAN AN ALGORITHM

To summarise the most critical points of *cognitive piecework* in general and Mechanical Turk in particular: the average pay is very low; the workforce is contingent, deskilled, anonymous and atomised across the globe; the workers are systematically dehumanised by being treated as an algorithm hidden within the machine; there is a strong structural power and information asymmetry, internalised in the platform through legal code, computer code and the design of the interface, which weakens the crowdworkers, favours the employer and frees the platform providers from all responsibilities; submitted work can get rejected without reason and still be used legally by the employer; also the work itself is atomised and thus alienating, which is why the workers can't always make fully informed decisions about what they are working on, or who they are working for, because the employers can stay anonymous. It is not unheard of that crowdworkers are used for illegal activities.⁴³⁶ The crowdworkers can't build up a reputation that would be worth anything outside the particular platform they are working on, thus the crowdwork leaves a gap in their resumes. Most importantly, while having to bear the risk of not getting paid at all, the crowdworkers have no worker protection or benefits, no health insurance, sick-days, holidays or pensions. No wonder that the cognitive piecework on Me-

⁴³⁵ Howe, Jeff, 'Crowdsourcing: Taking Measure of Mechanical Turk', Crowdsourcing.com, 2006

<http://www.crowdsourcing.com/cs/2006/11/taking_measure_.html> [accessed 1 October 2014]

⁴³⁶ Harris, Christopher G., 'Dirty Deeds Done Dirt Cheap: A Darker Side to Crowdsourcing' (presented at the IEEE Third International Conference on Social Computing (SocialCom'11), Boston, 2011) <<http://myweb.uiowa.edu/cgharris/papers/c08.html>> [accessed 13 March 2012]

chanical Turk has been described frequently as a ‘digital sweatshop’, a ‘dystopian extreme’, a ‘depressing future’, with workers being reduced to ‘click-slaves’.⁴³⁷

Thus, the two most pressing questions are: why do people put up with these work conditions? And what can be done to improve them? Before I will deal with the second question in more detail, here are, in a nut-shell, the main reasons for becoming a Turker: people can work from their home, even if they live in a remote area, without having to commute. They can work as much or as little as they want, in short intervals and at odd hours, some even do the tasks as a diversion or while watching TV. More importantly, the work can be done while taking care of children or the elderly at home, it can thus be used to ‘top-up’ traditionally female, unwaged labour, i.e. housework.⁴³⁸ The crowdworkers don’t need any formal qualifications like academic degrees, they don’t have to comply with a corporate dress code, get involved into office politics, communicate with others, follow orders, or do anything they don’t want to do. Thus, while being tremendously precarious, the work also offers a lot of freedom.

Microtaskers almost perfectly fit academic Guy Standing’s definition of the precariat (coined from proletariat and precarious): an unorganized casual on-demand workforce working for low pay, without benefits or access to their direct employer. But this precariat workforce could be at the forefront of challenging big business’ most insidious and futuristic attempts to curb workers’ rights.⁴³⁹

Because of the fact that Amazon Mechanical Turk offers no support, protection or communication structure for its vast workforce, the crowdworkers had to self-organise outside of the platform in special forums dedicated to the workers’ concerns. There are now a number of these forums, such as ‘HITs Worth Turking For’, ‘mturk forum’, ‘mturkgrind’ and ‘CloudMeBaby’ – but the largest and oldest one is ‘Turker Nation’.⁴⁴⁰ Probably most Turkers looking for advice on how to navigate Amazon’s workplace as well as most researchers in the field have had at some point an encounter with Spamgirl, the mighty sovereign and community manager of Turker Nation. Spamgirl is a fascinating figure in the digital labour discourse. For years, little was known about who she was, except that she had been a Turker from early on, that she was very articulate and opinionated and that she ruled the Turker Nation with a vengeance. Without hesitation, she banned unwelcome researchers from the Nation.

In 2010, she gave an interview in which she revealed that she is a married mother from Toronto in her thirties with a degree in web-design who had already been moderating online forums for ten years, and that she had been working as a Turker since the start of the platform in 2005; she also

⁴³⁷ Cushing, Ellen, ‘Amazon Mechanical Turk: The Digital Sweatshop’, *Utne Reader*, 2013 <<http://www.utne.com/science-technology/amazon-mechanical-turk-zm0z13jzlin.aspx>> [accessed 20 March 2013]; Uddin, Zakia, ‘The Dystopian Digital Sweatshop That Makes the Internet Run’, *AlterNet*, 11 September 2012 <<http://www.alternet.org/labor/dystopian-digital-sweatshop-makes-internet-run>> [accessed 25 September 2014]; Irani, Lilly C., ‘Tweaking Technocapitalism’, *Turkopticon*, 2009 <http://turkopticon.ucsd.edu/post/tweaking_technocapitalism_> [accessed 31 May 2014]

⁴³⁸ Compare: Federici, Silvia, ‘Wages Against Housework’, 1975 <<https://caringlabor.wordpress.com/2010/09/15/silvia-federici-wages-against-housework/>> [accessed 4 March 2015]

⁴³⁹ Uddin, Zakia, ‘The Dystopian Digital Sweatshop That Makes the Internet Run’, *AlterNet*, 11 September 2012 <<http://www.alternet.org/labor/dystopian-digital-sweatshop-makes-internet-run>> [accessed 25 September 2014]

⁴⁴⁰ <<http://hitworthturkingfor.blogspot.de/>>; <<http://www.mturkforum.com/>>; <<http://www.mturkgrind.com/>>; <<http://www.cloudmebaby.com/>>; <<http://turkernation.com/>> [all accessed 4 March 2015]

disclosed that she had to work from home because of a medical conditions and that she had to spend her life in front of the computer doing microtasking to keep the family afloat since her husband had lost his job.⁴⁴¹ She was portrayed by the interviewer as a sort of ‘mystical figure’, being in the ‘unique position’ of having contact to the elusive Mechanical Turk staff. This enabled her to listen to the grievances of other Turkers and report them to the management as an advocate of the workers. Mostly these grievances revolved around workers who had their work rejected for no reason or who had been banned unfairly from the platform. When Spamgirl was convinced that these were good and trustworthy workers, she could make an appeal to Amazon and convince the platform to reverse that ban. She vouched for them. In that interview, she described herself as being ‘the Hoffa of the Turkers! Trying to help the people.’⁴⁴² Curiously, she is not only defending the workers against Amazon but also the other way around in what sometimes almost sounds like a case of Stockholm syndrome. Despite her grave criticism of the work conditions, she frequently points out that Mechanical Turk is an operation separate from Amazon.com and that the platform simply doesn’t have the means to improve the service for the workers.

I love mTurk, and I love the work I do, and I appreciate everything they have done for me, but I have to work so hard to make enough just to EAT... I can’t wait until the debt is paid off, hubby gets a job, and I can spend some time with my family. I’m a little burnt out.⁴⁴³

Even though Spamgirl has become an unofficial representative of the workers on Mechanical Turk and identifies herself (at least mockingly) with the union leader Jimmy Hoffa, she is not exactly fond of unions or of any involvement from the outside into the relationship between the Turkers, Mechanical Turk and the employers. In May 2013, the following post appeared on Turker Nation:

Hi, I am [K.], I study Graphic Design in Holland and I am currently working on a project about Mechanical Turk. I am trying to design a union for turkers. Turkers work from their home and therefore don’t really have the community of an office and colleagues around them that turk. I want to give the divided community of Turkers a unified, online voice, so that it’s not just individuals, but a group. This group would then for example be able to contact requesters directly and to find out more about the community of workers as a whole. As a group you have a louder voice than you would as an individual. I was wondering what your views on this are, and if people would be interested, since I am only new to turking. Thanks in advance, [K.] :)⁴⁴⁴

⁴⁴¹ Spamgirl, ‘Spamgirl Speaks!’, *BrokenTurk* <<http://brokenturk.blogspot.de/2010/11/spamgirl-speaks-interview-part-1-of-3.html>> [accessed 15 January 2014]

⁴⁴² *Ibid.* Part 2; James ‘Jimmy’ Hoffa, born 1913 was an influential American labour union leader who disappeared in 1975 and had been involved with organised crime before.

⁴⁴³ Spamgirl in an interview with the blog *BrokenTurk*, 2010

⁴⁴⁴ First post in a forum thread on Turker Nation, started by K., a designer from Holland, followed by responses by Turker Nation members and Spamgirl, ‘Turker Union (Forum Thread)’, 2013 <<http://turkernation.com/showthread.php?18874-Turker-union>> [accessed 21 February 2015]. This was brought to my attention through a radio feature about crowdwork by the German journalist Sebastian Strube: ‘Crowdwork: Vom Entstehen der digitalen Arbeiterklasse’, *Zündfunk – Bayerischer Rundfunk*, 2014 <<http://www.br.de/radio/bayern2/sendungen/zuendfunk/crowdwork-arbeiterklasse-digital-100.html>> [accessed 21 February 2015]

K.'s suggestion was met by a wave of comments by Turkers, ranging from scepticism over strong objections to sarcasm. The Turkers questioned her motives and her knowledge of the problem, with being an outsider, not an experienced crowdworker. 'Did a group of workers come to you and ask you for help?' asked one Turker, 'Because there are already plenty of academics who are currently sticking their noses into our business and claiming to speak for us on this issue. They are calling for boycotts of specific companies, regulation of the crowdsourcing industry and other changes that most workers do not care about.' They pointed out that a lot of the crowdworkers have become Turkers precisely 'BECAUSE they don't want to be part of a group thing', because they are individualists and that Turker Nation would already provide everything she suggested for them. Some Turkers found the idea interesting but impractical, but most of the commentators reacted with hostility to the mere mention of the word 'union' and feared that such move would destroy their workplace. One Turker wrote that 'unions ultimately become parasitic to the host they invade and end up sucking the vitality out of it.' Finally, also Spamgirl weighed in:

Unions are a way for greedy people to take advantage of companies. As a person who rallies against corporations who behave in just that manner, I would *never* become a part of any other organization which plans to do the same. As a group, Turker Nation can fight its own battles. We can choose when to fight back and when not to individually. No union speaks on our behalf as no one can truly stand up and speak on the opinions of each individual. We're good, thanks, and I wish all of these knights on white horses would just back off and leave us alone. If we wanted help, we'd ask for it. We don't. So please go away.

The debate petered out after this post, which was followed only by a few snarky remarks that 'the liberator' had already quit the board instead of 'defending her position' and 'engage in the discussion.' When I contacted K. a year later via email, she told me that she had been immediately banned from the Turker Nation forum, right after posting her suggestion; she only learned from the debate that she had tipped off in the forum through me. 'My idea was way more open source, and social media oriented than the top heavy structure they have in mind, so I would have very well been able to participate in their discussion.'⁴⁴⁵

In May 2014, I had the chance to interview Spamgirl myself (together with Vanessa Barth), ironically for a book about crowdwork by the IG Metall, one of the world's largest labour unions.⁴⁴⁶ It was one of the first interviews with her since 2010, but she has now become publically much more visible and has started to contribute to different research projects and the academic discourse under her real name, Kristy Milland.⁴⁴⁷ In November 2014, I met her personally at the Digital Labor conference at the New School in New York, where I learned that at the time she was about to finish a Psychology major at Ryerson University in Toronto and has become very willing to speak with researchers and labour activist. In the interview, Kristy Milland confirmed that she used Mechanical Turk since 2005 but that only since her husband had lost his job in 2010 had she started working full-time

⁴⁴⁵ Quote from an email exchange that I had with K. in February 2014.

⁴⁴⁶ 'We have been sold as nothing more than an algorithm – an interview with Spamgirl' in Benner, Christiane, ed., *Crowdwork - zurück in die Zukunft?: Perspektiven digitaler Arbeit* (Frankfurt am Main: Bund-Verlag, 2015)

⁴⁴⁷ 'Kristy Milland, Turker, Speaker, Psychology Major' <<http://www.kristymilland.com/>> [accessed 22 February 2015]

as a Turker, up to seventeen hours a day, to pay of the debts they were accruing. She identified three distinct categories of Turkers: those who Turk as a hobby in their spare time to earn an extra income whenever they like; those who Turk out of desperation because they can't find another job in the current economic recession; and those who can't do another job because of disabilities, mental illness, other health issues or for legal reasons.

The third group contains people who can either be vulnerable or predator [...]. For people who are in the sexual offender database, have a felony on their record, or can't bring themselves to leave the house, mTurk is also a new opportunity to do something with their life. This is one use of mTurk we must embrace as it provides an opportunity for these lumpen-proletariat to adhere to social or criminal requirements upon them as well as giving them the ability to rebuild their lives and not have to live off government hand-outs.

The fact that the crowd is so heterogeneous, not only on Mechanical Turk but in crowdwork in general makes it so difficult to deal with the hardship that this type of work means for some of the workers. People who do crowdwork as a hobby obviously have totally different needs and expectations than those who have no other choice. The wide variety of motives partly explains the hostility of Turkers against any attempt to regulate or organise the workforce, even though this would seemingly be in their best interest. Kristy Milland thus argues that the best approach to improve the situation is to educate the employers that paying better for tasks will improve not only the self-image of the workers but also the speed and quality of the work.

I think that for certain types of more complex tasks and for employers who are not guided exclusively by profit, this strategy could work – the most promising field is probably academic research conducted on Mechanical Turk. And indeed, a number of researchers and activists, in collaboration with Kristy Milland and other crowdworkers, have put together Dynamo, a community-based website to orchestrate collective action by crowdworkers;⁴⁴⁸ The first project of Dynamo was to develop ethical guidelines for academic requesters on Mechanical Turk.⁴⁴⁹ Given that researchers have to report to Ethical Advisory Boards anyway, it doesn't seem far-fetched that the standards demanded by workers or research subjects, respectively, become generally accepted. But if we recall the earlier mentioned example of LinkedIn using the crowd to transcribe business cards, it is very questionable if they can be *educated* to pay more than two cents per card, as long as people are willing to accept an hourly wage of \$1,20.

Beyond the question of fair pay, Spamgirl also criticised the fundamental problem of framing crowdwork as human computation, an ethos that she sees running deeply throughout the code of Mechanical Turk and which she identifies as the biggest barrier to improve the workplace for Turkers:

⁴⁴⁸ 'DYNAMO – Powering Change on MTurk' <<http://www.wearedynamo.org/>> [accessed 21 February 2015]. The core group of initiators behind Dynamo, among them also Spamgirl, have recently published a very insightful conference paper analysing the difficulties for collective action within groups of crowdworkers: Salehi, Niloufar, Lilly C. Irani, Michael S. Bernstein, Ali Alkhatib, Eva Ogbe, Kristy Milland, and others, 'We Are Dynamo: Overcoming Stalling and Friction in Collective Action for Crowd Workers' (presented at the CHI 2015, Seoul, Republic of Korea: Association for Computing Machinery, 2015)

<<http://hci.stanford.edu/publications/2015/dynamo/DynamoCHI2015.pdf>> [accessed 21 February 2015]

⁴⁴⁹ 'Guidelines for Academic Requesters – We Are Dynamo Wiki', *Dynamo*, 2014

<http://wiki.wearedynamo.org/index.php/Guidelines_for_Academic_Requesters> [accessed 20 February 2015]

We have been sold as nothing more than an algorithm. Requesters don't realize that there is a living, breathing human on the other end of the connection who needs to feed their children, pay medical bills or ensure their home doesn't go into foreclosure. No matter what you work on mTurk, you obviously don't have the resources to be doing something that pays better, but that is no excuse for paying unfairly.⁴⁵⁰

There are two important points in this statement: one is that by distracting from the fact that there are actually humans and not algorithms at work here, hidden behind the interface and the 'human API', Amazon signals the requesters that they don't have to worry about the work conditions (Lilly Irani and Six Silberman have extensively researched and written about this); the second point is, that just because some people find themselves in a situation where *they have to accept* unethical working conditions doesn't mean that these conditions should be regarded as *acceptable* (a common misconception, as I will show in the next few paragraphs).

In an article that appeared on the website of *Forbes* magazine in 2013, the economist Tim Worstall aggressively and sarcastically bashed an article by Nancy Folbre in the *New York Times* that discussed the role of minimum wage for the 500.000 crowdworkers on Mechanical Turk.⁴⁵¹ Folbre, who is an economics professor at the University of Massachusetts, concluded that in order for crowdsourcing to become a sustainable workplace it will 'require forms of collective governance that mitigate the effects of market competition on those treated as mere links in a chain of algorithmic logic [...] it will require some assurance of human rights.'⁴⁵² Worstall, who is a fellow of the Adam Smith Institute, a London-based think-tank committed to 'promote libertarian and free market ideas',⁴⁵³ countered with a position that is common among defenders of the grim conditions on platforms for *cognitive piecework* but that is rarely expressed so bluntly:

Apparently half a million people find work [on Mechanical Turk] at pay rates they're entirely happy with but pay rates that are below minimum wage. Even if we restrict ourselves only to those US based workers there are a quarter of a million people who are unemployed at minimum wage but who are entirely happy, eager even, to work for less than minimum wage. We must assume that they are unemployed at minimum wage otherwise they wouldn't be working for these sums. And we must also assume that they're happy working for these wages because they are in fact doing so. It is all voluntary, after all. So a world without the minimum wage would have more people employed at pay rates that they're happy to earn.⁴⁵⁴

Worstall's whole article is based on the accusation that Nancy Folbre (or the *New York Times* respectively) is 'stupid' because she allegedly jumps to false conclusions, whilst having all the facts lined up correctly. It is ironic that this is exactly the cardinal problem with Worstall's statement quoted above. The first non sequitur is that he claims people are unemployed *because* of minimum wage regulations, the second, more grave one is, that he then insinuates, that the workers must be '*happy, eager even*',

⁴⁵⁰ From the interview I conducted with Spamgirl in May 2014.

⁴⁵¹ Folbre, Nancy, 'The Unregulated Work of Mechanical Turk', *New York Times Economix Blog*, 2013
<<http://economix.blogs.nytimes.com/2013/03/18/the-unregulated-work-of-mechanical-turk/>> [accessed 24 September 2014]

⁴⁵² *Ibid.*

⁴⁵³ <<http://www.adamsmith.org/about-us/>>

⁴⁵⁴ Worstall, Tim, 'On the New York Times Stupidity Over Amazon's Mechanical Turk', *Forbes*
<<http://www.forbes.com/sites/timworstall/2013/03/19/on-the-new-york-times-stupidity-over-amazons-mechanical-turk/>> [accessed 24 September 2014]

to work for less than minimum wage. Indirectly, he even acknowledges that people only suffer this type of job out of desperation, and sure, people who are desperate how to pay their bills or for their food are probably eager to change whatever they can about their situation. But to then assert *four times* that their desperation immediately turns into happiness, as soon as they are allowed to work for \$2 per hour instead of the already quite low US minimum wage, displays not only a crooked logic but a total lack of empathy or a remarkable degree of cynicism. With an argumentation like this, one can justify the most appalling forms of inequality and exploitation.

Most people have an intuitive grasp of what ‘exploitation’ entails, but it is tricky to pin it down precisely. The *Oxford Dictionary of English* defines exploitation like this: ‘the action or fact of treating someone unfairly in order to benefit from their work’; ‘the action of making use of and benefiting from resources’; ‘the fact of making use of a situation to gain unfair advantage for oneself.’⁴⁵⁵ The term has a spectrum of meaning, reaching from merely ‘utilising’ a natural resource and ‘putting it to good use’ to ‘taking advantage’, ‘manipulation’ and ‘victimisation’ of ‘the poor by the wealthy’ – all these are synonyms offered by the *Oxford Dictionary*. There you find also an array of similar terms that I think do capture the essence of a common sense of what exploitation is: ‘fleecing’, ‘milking’, ‘bleeding dry’, ‘sucking dry’, ‘squeezing’ and ‘wringing’ – all these terms indicate the extraction of value, sometimes from a living source, sometimes with force.⁴⁵⁶ This brings up the question of sustainability – how much can you squeeze out of a natural, living source without depleting it, how much do you feed back for the source to be able to regenerate itself. Thus exploitation could also be defined as extracting more resources per time unit than can be reproduced in that time unit. This works for natural resources as well as human labour.

The most thorough political analysis of what exploitation means, is of course that of Marx, but it is also so fundamental and technical that it leads away from this intuitive grasp for fairness, based on common sense, that I think we all have. If we define all forms of wage labour and value extraction as exploitation, that doesn’t leave us in a very useful position to distinguish between the fundamental inherent problems of capitalism as a system and the different degrees of fair and unfair treatment of workers within the system. Also the entrepreneurial risk of investment that employers have to bear must be factored in the calculation.

With value extraction from crowds via the internet, things get even more complicated. First of all because there is no clear line separating work from play anymore; free labour is often perceived primarily as a fun pastime, even if someone else makes a huge profit from it. Secondly, the potentially exploited click on the ‘agree’ button from the safety of their home, without being physically coerced into work, which is why people of the ilk of Tim Worstall argue that exploitation via the internet is not even possible. So a middle ground has to be found between the Marxist reading and the neoliberal reading.

⁴⁵⁵ Oxford Dictionaries. Oxford University Press, n.d. Web. <<http://www.oxforddictionaries.com/definition/english/exploitation>> [accessed 2 April 2015].

⁴⁵⁶ Oxford Dictionaries. Oxford University Press, n.d. Web. <<http://www.oxforddictionaries.com/definition/english-thesaurus/exploitation>> [accessed 2 April 2015].

In *What's Wrong With Exploitation* the philosopher and political theorist Robert Mayer, professor at the Loyola University in Chicago, takes a fresh approach to define the old problem.⁴⁵⁷ He writes that exploiters 'do harm to their victims, even when their interactions are mutually advantageous, by failing to benefit the disadvantaged party as fairness requires.'⁴⁵⁸ Mayer makes clear that even if the workers are, in absolute terms, a little bit better off – for example through the approximately \$1,20 they might earn per hour on Mechanical Turk for transcribing business cards instead of earning nothing, they are exploited when they do not get a *fair share of the value they create*. Coercion, according to Mayer, is a separate wrong and not a necessary precondition; it therefore doesn't have to be forced labour in order to justify the use of the term exploitation. Treating people unfair is enough and what can be considered as fair must be negotiated. Robert Mayer also points to the thorny problem of legal measures. An abolishment of exploitative working conditions can easily take away the little income that people make from getting exploited and therefore in the short-term can worsen their situation instead of improving the conditions step by step towards more fairness. Crowdworkers frequently bring forward this concern, whenever legal measures to regulate crowdsourcing and introduce a minimum wage are under discussion. In 2008, the crowdsourcing researchers and design activists Lilly Irani and Six Silberman collaborated with crowdworkers from Mechanical Turk to find out how their situation could be improved; together with the 'Turkers', they developed a Workers Bill of Rights; only 7 out of the 67 crowdworkers they talked with thought that a minimum wage for crowdwork would be a good idea.⁴⁵⁹ Eventually, Irani and Silberman developed Turkopticon (the name alluding to Jeremy Bentham's infamous Panopticon), a browser plugin as a critical design intervention into Mechanical Turk that is countering the information asymmetry, by giving workers the possibility to rate the behaviour of employers.⁴⁶⁰ Because Amazon's platform only watched and quantified the workers, Irani and Silberman, in accordance with the Turkers, built a worker controlled platform on top of the existing infrastructure so that the workers can now watch out for and avoid exploitative employers.



Fig. 38: A screenshot from the browser plug-in Turkopticon, which allows workers on Amazon Mechanical Turk to evaluate the behaviour of employers (or 'requesters, in Amazon's parlance).

⁴⁵⁷ Mayer, Robert, 'What's Wrong with Exploitation?', *Journal of Applied Philosophy*, 24 (2007), 137–50
<http://dx.doi.org/10.1111/j.1468-5930.2007.00360.x>

⁴⁵⁸ *Ibid.* p. 137

⁴⁵⁹ Irani, Lilly C., and M. Six Silberman, 'Turkopticon: Interrupting Worker Invisibility in Amazon Mechanical Turk', in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '13 (New York, NY, USA: ACM, 2013), pp. 611–20
<http://dx.doi.org/10.1145/2470654.2470742>; For a 2013 edition of the 'Turkers Bill of Rights' see:

<http://turkwork2013.differenceengines.com/> [accessed 2 April 2015]

⁴⁶⁰ <https://turkopticon.ucsd.edu/> [accessed 2 April 2015]

3.6 – SUMMARY AND CONCLUSIONS OF CHAPTER THREE

1. In this chapter, I have shown that the rhetoric of individual empowerment through digital tools has been perpetuated since the late 1960s and reached a peak in the so-called Web 2.0. The tools that have evolved over time into multi-stakeholder-platforms are now also used for the disempowerment of the individual user in the crowd. I regard the coinage of the term crowdsourcing in 2006 as a marker for this paradigm shift. I furthermore argue that since crowdsourcing has evolved from a niche phenomenon to an industry that affects millions of workers, these platforms have to be analysed with great scrutiny.
2. I have defined and mapped the various sub-categories and adjacent fields in the wider crowdsourcing landscape and I have shown that we are confronted with a spectrum that reaches from hardly noticeable ‘microtasks’ to laborious ‘macrotasks’, as well as with a spectrum that blurs the boundaries between work and play. I argue, that while we can’t always make a binary decision if something counts as work, we can locate the various types of tasks in relation to each other on the spectrum and in regard to how ‘work-like’ they are. The distinctions and relations are important in order to understand to what extent the different business models are prone to exploitation and thus also where regulation as a countermeasure is most necessary. I think that it would be wrongheaded to regulate activities that are mostly play, at the same time there is no reason why hard-fought labour-laws that protect workers against exploitation offline should not apply anymore as soon as the tasks move to the internet, as is increasingly the case. The challenge is of course how to apply national laws to internationally operating platforms.
3. I argue that platforms for paid crowdwork are of particular importance, because they have led to the emergence a completely new class of precarious workers – crowdworkers – who need protection against exploitation from platform providers. At the same time, paid crowdwork offers the greatest opportunities for people at the margins of the global economy.
4. In my definition, paid crowdwork is something that is done for an employer, according to his or her conditions, in order to earn a living – in contrast to doing a hobby for one’s own pleasure or to volunteering for a social cause, without anybody making a profit. As I have shown, the best way to distinguish crowdwork from user-generated content or commons-based peer production is to look for a brief, a time frame and a change of ownership of the results after the job has been done. The fruits of labour in crowdwork typically have no use-value for the crowdworkers but a high exchange-value for the platform providers. Thus I define commons-based peer production as many-to-many; and crowdsourcing and crowdwork as many-to-one.
5. I have mapped the fields according to how much a crowdworker has to invest (time, effort, skill), and how free the crowdworker is in deciding what to do, when and how. I argue that tasks that demand a high investment by the crowdsorcees offer little freedom and primarily serve the commercial interest of someone else, must be considered as work in a conventional sense. Work undertaken in performing these tasks must be paid for properly and be subject to fair labour standards and workplace regulations similar to the ones we have in offline workplaces.

6. I have demonstrated that gamification has become one of the key mechanisms to harvest people's so-called 'cognitive surplus' and I have shown that also here we find a gap between emancipatory rhetoric and manipulative practice. The ends for which Gabe Zichermann advocates this method, as a way to trick and exploit users for commercial gain, is a vivid example that digital tools and platform are not in and of themselves a force for good but can be (and at least sometimes are) cunningly designed to operate against the interests of their users.
7. Although I am very critical of the current state of the crowdsourcing industry and have provided plenty of evidence why this is so, I also believe that this new area of work has huge potential for individual workers, especially for those at the margins of the economy. People can work from their home, even if they live in a remote area, without having to commute. They can work as much or as little as they want, in short intervals and at odd hours. The work can be done while taking care of family members or by people who can't get another job due to health issues. The crowdworkers don't need any formal qualifications and they don't have to comply with a corporate dress code or traditional hierarchies. However, I argue that the trade-off for the unprecedented degree of freedom is an extraordinary degree of precariousness and control via invasive surveillance techniques that track and quantify every keystroke.
8. I examined Amazon's MTurk closely as the most infamous and prototypical example for paid crowdwork. As I have shown, this platform is the antithesis of human-centred design, and for Amazon and its clients this is not a bug but a feature. The workers are sold as algorithms in a machine for distributed human computation, so successfully hidden behind a technical interface that they felt they had to remind Amazon CEO Jeff Bezos that they are actually humans.
9. I argue that MTurk is not a neutral marketplace or infrastructure provider. Instead, it is the strongest of the three main stakeholders: as *intermediary* between *workers* and *employers*, it has geared the parameters of the workplace it provides decidedly against the interests of its workers. This is done through legal code, computer code and interface design. As a result, the workers suffer from an asymmetric information and power structure and have to constantly fear wage theft and other disadvantages that are enabled by the terms of use.
10. I argue that cognitive piecework in the style of MTurk is best described as Taylorism on steroids. It intensifies the harshest aspects of Taylor's Scientific Management while ignoring his demand for fair compensation in exchange for the harder working conditions. The average pay is very low; the workforce is contingent, deskilled, anonymous and atomised across the globe; also the work itself is atomised and thus alienating. The crowdworkers can't build up a reputation that would have value outside the particular platform they are working on, thus crowdwork leaves a gap in their resumes. Most importantly, while having to bear the risk of not getting paid at all, they have no worker protection or benefits.
11. While the situation on the unregulated market for crowdwork looks very depressing, this new type of digital labour also solves a number of problems and offers a lot of opportunity. But most measures that would improve the situation of the workers would in all likelihood also make the work more expensive. Thus, it is highly questionable, if the current free market approach – free reign of the invisible hand – will improve the situation. I think that in the long run (and this of course is a political argument), the situation can only be improved by a self-organisation of the workers and by government regulation of the platforms.

Chapter Four: The Crowdsourcing of Design

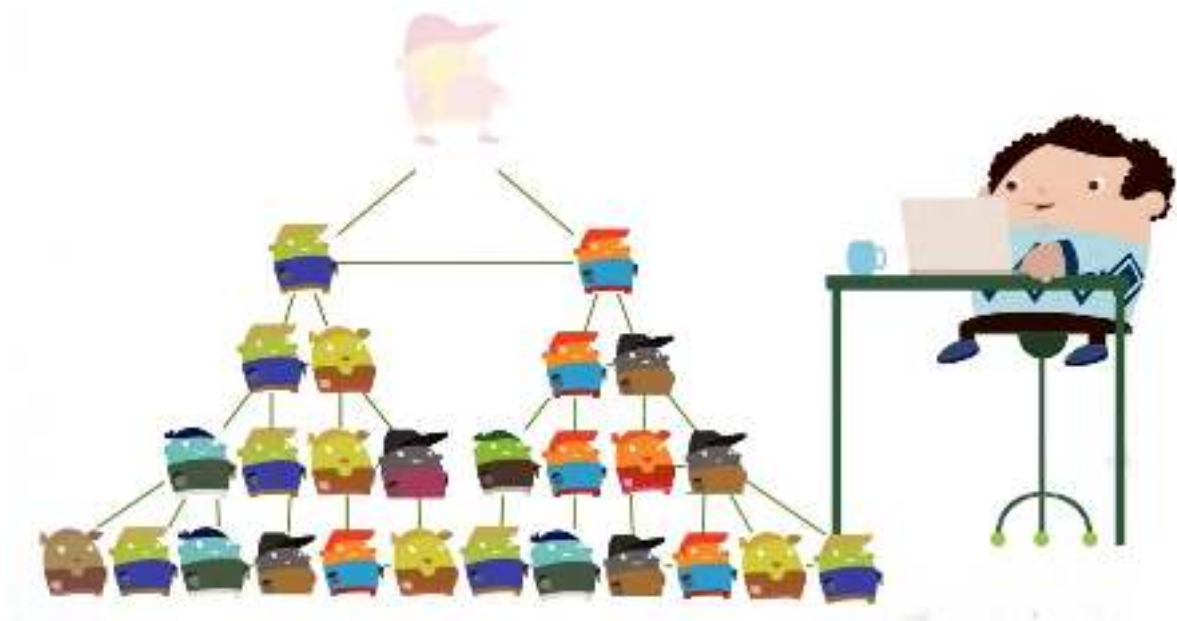


Fig. 39: Illustration of how *contest-based creative crowdsourcing* is organised; from a promotional video by the platform MycroBurst, 2011.

4.1 – CONTEST-BASED CREATIVE CROWDWORK

The use of contests to find creative talent and innovative solutions is a very old method, especially in the field of architecture. Some argue that the history of architectural design contests stretches all the way back to ancient Greece and the reconstruction of the Parthenon in 500 BC; in the Renaissance, Filippo Brunelleschi designed the Dome of Florence as the result of a contest; and the method really started to flourish shortly after the French Revolution; the end of the eighteenth century already saw dozens of architectural competitions with hundreds of contributions.⁴⁶¹

Over the centuries, architectural competitions have evolved into very complex practices with different rules, regulations and procedures in every country.⁴⁶² Since the late twentieth century, they have also become a field of research in their own right (especially in Scandinavia).⁴⁶³ A detailed discussion of this area is beyond the scope of this thesis because there is neither a crowd nor an online platform involved, but I briefly want to point out some of the similarities and differences.

The rise of competitions as a method in architecture was to some extent an expression of the shift towards democracy in the nineteenth century. The decision what to build in a city ceased to be the prerogative of the church or the patron. Architecture affected many stakeholders and so the large building projects became part of a public debate and subjected to the judgement of juries, comprised of politicians, artists, and scientists. The French architectural critic Quatremère de Quincy wrote in his *Encyclopédie Méthodique* (1788-1825): ‘The competition’s main purpose is to remove from the ignoramus the choice of the artists who are responsible for public works and to prevent that scheming does not usurp the work due to talent.’⁴⁶⁴ Aesthetic decisions that affected the whole city were not to be left to the ‘ignorance’ of the client alone, but also favouritism among artists should be prevented through the public and more transparent selection process. These competitions were not about saving the cost of labour – they were emancipatory and participatory devices to restrict nepotism and to bring forth beauty and innovation in the interest of the greater public. As the editors of the most recent book on architectural competitions emphasise: ‘every competition remains a world of possibilities: an intermediary space-time locus for the search for excellence in architecture. In some ways, competition projects function like utopias!’⁴⁶⁵ And yet, they are not without controversy: In the documentary *Urbanized* from 2011, Dutch star architect Rem Koolhaas bemoaned the problem:

There is an incredible amount of wasted effort in the profession. A fair amount of it is generated through the procedure of competitions, which is a complete drain of intelligence. I don’t know of any other profession that would

⁴⁶¹ Chupin, Jean-Pierre, Carmela Cucuzzella, and Bechara Helal, eds., *Architecture Competitions and the Production of Culture, Quality and Knowledge: An International Inquiry* (Potential Architecture Books, 2015)

⁴⁶² Based on research by Cees De Jong and Erik Mattie, Wikipedia provides easy access to the long list of notable architectural competitions since 1792. See: Jong, Cees de, and Erik Mattie, *Architectural competitions 1791-1949 & 1950 – today* (Köln: Benedikt Taschen, 1994); or: <http://en.wikipedia.org/wiki/List_of_architectural_design_competitions> [accessed 4 September 2014]

⁴⁶³ Kreiner, Kristian, ‘Architectural Competitions - Empirical Observations and Strategic Implications for Architectural Firms’, *Nordisk Arkitekturforskning*, 21 (2009); Andersson, Jonas E, Gerd Bloxham, Magnus Rönn, Kungl. Tekniska högskolan, and Rio kulturkooperativ, *Architectural Competitions: Histories and Practice*, 2013; Andersson, Jonas E., Magnus Rönn, and Leif Östman, ‘Editorial. Architectural Competitions II. The Dynamics of Competing and Organising Competitions in Architecture and Urban Design’, *FORMakademisk*, 7 (2014)

⁴⁶⁴ *Ibid.* p.14

⁴⁶⁵ *Ibid.* p.12

tolerate this. At the same time you are important, we invite your thinking, but we also announce that there is an eighty per cent chance that we will throw away your thinking and make sure that it is completely wasted.⁴⁶⁶

Architectural competitions are labour-intensive, fiercely competitive, and subject to some of the same criticisms as crowdsourcing. *The waste of labour created by letting people work on the same task in parallel but separately, when ultimately only one solution is needed is the inherent, unsolvable problem of organising work in the form of a contest and not collaboratively or cumulatively.* In the previously discussed *cognitive piecework*, people typically work on tiny fractions of a much larger task – there is also systemically redundant work done here as a form of quality control – but in principle, the work of every participant is meant to become part of the greater, unified result of the distributed micro-work. In contest-based crowdwork, however, the goal is to find that *one* best solution or talent, a synthesis of them can happen but is unusual. This is why from the perspective of the creatives, the great majority of work done for a contest is wasted (although there is also the argument that they can build up a portfolio this way; I will come back to that). For the party conducting the contest, however, the many ‘bad’ solutions are necessary to be able to identify the ‘best’ solution. By only looking at one solution in isolation, it would be much harder to evaluate it.

Despite the similarities, there are also important differences between architectural contests and the crowdsourcing of design work. The most important one is that in architecture, the studios don’t finish the complete project beforehand; they are instead competing with ideas for a complex job for which they will eventually be properly remunerated. Furthermore, architectural competitions are prestigious events that create a lot of publicity for the studio that wins, but also for the short-listed contributions.⁴⁶⁷ The designs of the contestants are discussed in architectural magazines, and this contributes to the reputation of the architects and can be transformed into the acquisition of new clients and the recognition of peers. As in most forms of crowdsourcing, there are also three main parties involved, but in architecture these are the client (typically municipalities or governmental agencies), a jury (typically a group of high profile experts and stakeholders) and number of invited architecture studios.

The client doesn’t want to outsource the labour of production to the crowd but the decision making process to a public jury of experts: the jury contributes to the prestige of these contests and raises the bar in regard to professionalism and innovation in construction and artistic expression; the studios are invited based on their qualification, experience and merits; sometimes they get paid for participating. So in contrast to a crowd, which is by definition open to everyone, the entry barriers for the architecture profession, as well as its competitions, is still very high – the internet hasn’t changed much in this respect. Everybody can declare himself a designer, while the architecture profession is protected (for obvious reasons – an amateur architect can cause much more damage than an amateur graphic designer), so the dynamic of the contests in the two fields is very different. I don’t want to lessen the problematic of the free labour in architectural competitions, especially because the effort by

⁴⁶⁶ Hustwit, Gary, *Urbanized* (PlexiFilm, 2011), quote at min. 51,50.

⁴⁶⁷ See also: Cubero Borrego, Angel, *The Competition*, 2013 (unfortunately, this new film about architectural competitions is impossible to come by at the moment, it is running exclusively at film festivals and private viewings and I thus only saw clips and read reviews) <<http://vimeo.com/59223875>> [accessed 4 September 2014]

professional studios over many weeks is much more labour and cost intensive than that of an individual designing a logo at home with a laptop. But on crowdsourcing platforms for design work, hundreds of designers complete the entire job simultaneously and in advance; because there is no pre-selection, the number of participants is higher and the chances to win are lower, and who wins is subject to arbitrariness, because typically, there is no jury involved (it is the *ignoramus* who decides). What's more, to win a logo-contest on a platform of industrial size like 99designs (where there are thousands of open contests in any given moment), is not to win the appreciation of professional peers, critics or affluent clients. Even if one gains new clients through such contest, as many participants report and the platforms promise, it is probably a hard sell for the designer to convince the new client that he now will not get 99 designs for free anymore by paying for just one. What is more: since March 2015, the terms of use on 99designs demand that all following communication and future contracts between the designer and the client has to go through the platform for the next two years, so that 99designs gets a percentage of every follow-up job. The only option for designers to get out of this contract is to pay 2500 dollars to the platform to buy him or herself free.⁴⁶⁸

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It is noteworthy that the crowdsourcing of '*creative*' tasks is typically organised in the form of *contest-based crowdwork* and hardly ever in the form of *cognitive piecework*, which lends itself more to '*uncreative*', repetitive tasks with a predictable outcome that can be evaluated algorithmically. I'd like to avoid the slippery slope of defining what exactly is creative and what not.⁴⁶⁹ But some distinction is necessary: to recall examples from the last chapter on *cognitive piecework*, most people would agree that transcribing business cards or recognising genitals in pictures is not at all creative, while some might already defend the description of content that is depicted on a photo as a creative act. Translating an isolated sentence from a manual would probably not be regarded as creative, while translating a haiku might very well be. Writing a search-engine optimised product description that is also sufferable for a human reader might be considered creative but is certainly less so than writing a short story.⁴⁷⁰ Creativity demands some level of originality, individuality and freedom to find an innovative solution to a problem, usually one that also touches on questions of aesthetics and quality. The tricky

⁴⁶⁸ <http://99designs.com/legal/terms-of-use>, update from March 2015, section 4 'Exclusivity and Non-Circumvention: 'for 24 months from the time you meet any party through the Site (the "Exclusivity Period"), you must use the 99designs Services as your exclusive method to request, make, and receive all payments for work directly or indirectly with that party or arising out of your relationship with that party (the "99designs Relationship"). You may opt-out of this obligation only if Customer or prospective Customer pays 99designs an "Opt-Out Fee" computed to be the greater of the following amounts: (a) \$2,500; or (b) 15% of the cost to the Customer of the services to be performed in the 99designs Relationship during the Exclusivity Period, as estimated in good faith by the prospective Customer.

⁴⁶⁹ The German sociologist Andreas Reckwitz opens his book *Die Erfindung der Kreativität* (The Invention of Creativity) with the observation that in our contemporary economic and cultural climate, it has become unconceivable to not have the wish to be creative. *Not being able* to be creative is problematic, but this sad shortcoming can be overcome by enough special training and effort – *not wanting to be creative*, however, is as shocking today as it would have been in other times to not wanting to be moral, normal or autonomous. This holds true for individuals, corporations and cities alike. Reckwitz, Andreas, *Die Erfindung Der Kreativität: Zum Prozess Gesellschaftlicher Ästhetisierung*, Suhrkamp Taschenbuch Wissenschaft, 1995, 3. ed. (Berlin: Suhrkamp, 2013) p. 9.

⁴⁷⁰ Then again, there is a contemporary discourse about how what is taught as 'creative writing' is often so riddled with clichés that it might be more creative to be uncreative and let an algorithm write a story by cutting, pasting and randomising found footage; see: Goldsmith, Kenneth, *Uncreative Writing: Managing Language in the Digital Age* (New York: Columbia University Press, 2011)

thing about innovation or novelty, ideally of the type that the industrial designer Raymond Loewy once described as ‘most advanced but yet acceptable’ (MAYA), is that nobody knows beforehand what it will look like and whether it will actually turn out to be acceptable.⁴⁷¹ What’s more, value judgements about aesthetics are never objective but lie in the eye of the beholder. Whether or not innovation will turn out to be acceptable will only be found out after the creation has come into being. In the field of user-generated content, people have learned that this is not necessary a problem; it has become a truism that ninety per cent of everything is crap (Sturgeon’s Law),⁴⁷² but the good stuff bubbles to the surface anyway, thanks to the free labour of ranking, rating, linking, liking, tweeting and so on. So, for those content aggregators who want to skim the cream of social production, the problem of quality is much less of an issue than was originally thought in the early days of the so-called ‘Web 2.0’.⁴⁷³

Yet, seen from the perspective of someone who wants to get someone else to solve a particular problem that demands a creative solution, according to a specific brief and within a predetermined timeframe, this is actually still tricky, especially if that person wants to treat the creatives fairly. The traditional model was to hire a carefully selected creative person, based on previous work, credentials, recommendations and price. But this entailed the risk of having to pay for something that one didn’t like. Crowdsourcing seems to offer the perfect solution to that problem: why tie yourself to the creativity of just one person when you can hire hundreds? Obviously, until recently, hiring so many agents and orchestrating them would have been forbiddingly expensive, but now that the costs of communication and labour have dwindled, the outsourcing of creative task has become a whole new world, full of possibilities and complications.

The striking thing about the crowdsourcing of creative work in general, and that of design work in particular, is that it falls almost entirely into the category of *contest-based crowdwork*. *The majority of contest-based crowdwork is design work and the crowdsourcing of design work is almost always organised as a contest*. What are the reasons for this correlation? What are the consequences of organising design work in this way? What does it say about design as a practice, that it lends itself so much to the contest model? And could the crowdsourcing of design also be organised differently? In a way that is fair and sustainable for all stakeholders? In the following sections, I will first describe the platform ‘99designs.com’, which is a prototypical example of the contest-based crowdsourcing of design work. After discussing the core principles and operations of this platform, the positions of the different stakeholders and the controversies that derive from it, I will compare it with Jovoto.com, another platform for contest-based creative work that is designed differently in a number of significant aspects.

⁴⁷¹ Loewy, Raymond, *Never Leave Well Enough Alone* (Baltimore: Johns Hopkins University Press, 2002) p. 277

⁴⁷² Also known as Sturgeon’s Revelation, first occurred in the Science Fiction magazine *Venture* in September 1957; via Prucher, Jeff, ed., *Brave New Words: The Oxford Dictionary of Science Fiction* (Oxford ; New York: Oxford University Press, 2007), p. 224.

⁴⁷³ See: Keen, Andrew, *The Cult of the Amateur: How Today’s Internet Is Killing Our Culture* (New York: Doubleday/Currency, 2007)



Fig. 40: Toyota logo from 1936, result of a crowdsourcing contest.

4.2 – LET THEM DESIGN LOGOS

The contest-based crowdsourcing of creative work today is particularly strong in the area of logo designs, and also here we have historic precursors. In 1936, the Japanese car manufacturer Toyota organised a large crowdsourcing competition to create a new logo. The company received some 27,000 entries and the winner was awarded 100 Yen. Toyota took the input of the crowd seriously and the logo that emerged as a winner from the contest was registered as the company's new trademark in 1937.⁴⁷⁴ Two years later, Toyota built on this success with a 'a public contest to compose a song for an automobile convoy [and] a contest to design the name, body color, and mascot for a mid-sized passenger car' – this time, the company received 600,000 entries'.⁴⁷⁵ Also the Procter and Gamble Ivory Soap carving contests, conceived and orchestrated by Edward Bernays in the 1920s and 1930s (as described in chapter one), can be regarded as an early example for the large scale application of contest-based crowdsourcing for creative work, although in this case, the designs of the crowd had no influence on the visual identity of the company itself. The customer input was not valued in the same way as it was at Toyota.

In both cases, the main motive was the marketing of products, not the harvesting of cheap labour. For Toyota it was certainly much more expensive to advertise the campaign through newspapers across the country and then handle between 27,000 and 600,000 designs suggestions in analogue form, than it would have been to simply hire a number of professional designers. In the case of the Ivory Soap contests, it was an additional benefit for the company that in order to participate the crowd had to buy copious amounts of its white soap. What unites these two historic examples is that they were clever publicity campaigns, forerunners of a branch of crowdsourcing for marketing purposes that finds wide application today, with the crowd being asked to contribute mottos, names and label designs for special limited editions of products – and even ideas for prominent TV commercials.⁴⁷⁶ Sometimes, these campaigns backfire terribly, and the crowd of seemingly docile customers turns into

⁴⁷⁴ Toyota, '75 Years of TOYOTA – Advertising and Publicity: 1935–1945', Toyota Motor Corporation Global Website <http://www.toyota-global.com/company/history_of_toyota/75years/data/automotive_business/sales/activity/japan/advertising/s10.html> [accessed 10 August 2014]

⁴⁷⁵ *Ibid.*

⁴⁷⁶ Heitner, Darren, 'What Is The Cost Of Crowdsourcing Super Bowl Ads?', *Forbes*, 22 January 2013 <<http://www.forbes.com/sites/darrenheitner/2013/01/22/what-is-the-cost-of-crowdsourcing-super-bowl-ads/>> [accessed 18 August 2014]

a mob, mocking or attacking the brand publicly with puerile or hostile contributions. The history of Toyota provides an example of this from 2009 (the company organised a pitch with five advertising agencies to come up with a TV-spot for a new car, one of them, Saatchi & Saatchi, sub-outsourced the job to the crowd and the clip that emerged from this process turned out to be ‘degrading to women and having incestuous overtones’).⁴⁷⁷ While also being profit orientated, crowdsourcing for marketing is usually a one-off PR stunt and therefore precarious labour is not an issue in this area.

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In the spring of 2008, several now very large crowdsourcing platforms for the contest-based crowdsourcing of logo design were launched independently of each other, but only a few months apart. Most operate in an almost identical way or are outright clones of each other (still they are often celebrated locally for their innovative business model).⁴⁷⁸ The largest and best known of these platforms today is 99designs, founded by Mark Harbottle and Matt Mickiewicz in Melbourne. On its landing page 99designs describes itself as ‘the world’s largest online graphic design marketplace,’ boasting over 850,000 registered designers.⁴⁷⁹ Its largest competitor, DesignCrowd, is also from Australia and was founded by Alec Lynch and Adam Arbolino in Sydney; it describes itself as ‘the world’s #1 custom design marketplace,’ with over 440,000 registered designers.⁴⁸⁰ And also crowdSPRING, launched by Ross Kimbarovsky and Michael Samson in Chicago claims to be ‘the world’s #1 marketplace for logos, graphic design and naming,’ with over 160,000 registered designers and writers.⁴⁸¹ From 2009 onwards, these platforms entered into a phase of rapid growth and in recent years, the larger ones with access to venture capital have swallowed some of their smaller competitors. After an acquisition of Worth1000, for an undisclosed sum in July 2014, DesignCrowd grew from 180,000 to 400,000.⁴⁸² It is likely that this type of ‘market adjustment’ will continue for a while, leaving a smaller number of very large platforms. But these numbers are very treacherous, because they represent only the number of designers who have at some point registered with a platform, and don’t allow a distinction between those designers who just registered and never came back and those who actually work on the respective platform on a regular basis. This became particularly evident when between August and September 2014, the number of designers supposedly working on 99designs jumped from about 300,000 to 850,000, without any acquisition being the cause; the company had just decided to count differently, in reaction to seemingly being overtaken by DesignCrowd. As Eva Missling, founder and former CEO of the German logo crowdsourcing platform 12designer

⁴⁷⁷ Tice, Carol, ‘Crowdsourcing Is Great – Except When It Fails’, *Entrepreneur*, 2009 <<http://www.entrepreneur.com/blog/218590>> [accessed 10 August 2014]

⁴⁷⁸ To give just one example, the German logo platform *designenlassen.de*, one of the clones or parallel inventions of 99designs etc., launched in November 2008 and won three different awards for their innovative business models by the German Ministry for Economic Affairs and by the Chamber of Commerce, in 2009 and 2011.

⁴⁷⁹ ‘99designs’, 99designs <<http://en.99designs.de/about>> [accessed 6 August 2014]

⁴⁸⁰ ‘DesignCrowd’, DesignCrowd <<http://www.designcrowd.com/>> [accessed 6 August 2014]

⁴⁸¹ ‘crowdSPRING’ <<http://www.crowdspring.com/how-it-works/>> [accessed 6 August 2014]

⁴⁸² Root, Anton, ‘DesignCrowd Acquires Creative Contest Platform Worth1000’, *www.crowdsourcing.org*, 2014 <<http://www.crowdsourcing.org/editorial/designcrowd-acquires-creative-contest-platform-worth1000/32379>> [accessed 6 August 2014]

and now Head of 99designs in Europe told me, they used to count only the designers who had at least once uploaded a logo to the platform, but thought this number would misrepresent the size of 99designs in comparison with their competitors – now they count everyone who ever registered.⁴⁸³

As with most social networks and online marketplaces, strong ‘network effects’ make it beneficial or at least promising for clients to frequent a very large crowdsourcing marketplace to find a designer. So for the platforms it makes sense to convey the impression that they have a ‘standing army’ of hundreds of thousands of creatives eager to work for the client. From the perspective of the designers, however, it is questionable, to say the least, whether they improve their situation by joining such a large crowd of competitors. But because platforms attract a lot of clients through their sheer size, the participating designers hope that they will stand out from the crowd by winning contests and thus generate contacts to clients whose attention they wouldn’t get otherwise.

Several factors fostered the sudden rise of contest-based platforms for design in 2008. Widespread fast internet connections, easy access to professional tools and tutorials for graphic design and the high popularity of working in the creative industry have enabled the crowdsourcing platforms for design to tap into three vast and overlapping new groups of creatives willing to work for payments far below the industry standards in developed countries: professional designers in the global South, amateurs designing in their spare-time and young designers at the beginning of their career – three groups marginalised by the established design industry in the global North, for whom it is otherwise hard to win the trust of a client and develop their skills on real projects (I will come back to this in section 4.4.).

The new platforms developed out of the experience with the so-called ‘Web 2.0’. Several years of experience with user-generated content on platforms such as YouTube and Wikipedia had proven that the crowd could actually produce results that were seen as valuable by other users and that could be transformed into profits by the platform providers, often through linking the content with targeted advertising. It turned out that the high volume of low quality content that inevitably resulted from the new *access to tools* was not a problem, as long as there were filters in place that allowed the small percentage of good content to be harvested. This was in itself a task that could be solved with crowdsourcing – through tags, user-reviews, rankings, ratings, click counts and other forms of distributed evaluation of content through the users.

As Jeff Howe put it in 2009: ‘Aided by a new generation of sophisticated start-ups, ever cheaper creative tools and – most of all – a recession that is forcing cost-saving measures on businesses, crowdsourcing is rapidly migrating from the fringe to the mainstream.’⁴⁸⁴ In 2006, in the first article about crowdsourcing, he had written about how iStockphoto.com, a crowdsourcing website for stock photography had ‘disrupted’ the stock photo industry by reducing the worth of an image by 99%. In 2008, Howe still posed the question, whether stock photography was only an isolated case in

⁴⁸³ I had met Eva Missling for the first in 2009, briefly after she had started her platform 12designers. In August of 2012, her platform was acquired by 99designs for an undisclosed sum; until 2014, the two platforms continued to run in parallel, but now 12designers was discontinued. In January 2015, I met Eva Missling for an interview in Berlin, now in her role as General Manager Europe for 99designs. She was puzzled to hear that anyone even noticed that they had ramped up their numbers.

⁴⁸⁴ Howe, Jeff, ‘Is Crowdsourcing Evil? The Design Community Weighs In’, *Wired Business*, 2009
<<http://www.wired.com/business/2009/03/is-crowdsourcin/>> [accessed 19 March 2013]

the digital creative industries or the canary in the coalmine. In 2009, he announced that ‘the canary is prone, lying motionless on a bed of its own droppings. It looks like it’s time to find another mine.’⁴⁸⁵ The stock photo industry is a prime example for *platform capitalism* at work: the platform Shutterstock, which sells crowdsourced stock photography, charges up to 85% of the revenues per image for its service of providing the virtual marketplace for photographers.⁴⁸⁶

‘Disruption talk’, as Evgeny Morozov calls it, is endemic in the digital start-up culture as it entails the promise of huge profits for those investors who are backing a company that is dismantling an old and established industry – by making it digital, lean, efficient, deregulated and global. While Howe early on also pointed to the downsides of crowdsourcing, disruption has, in the technology start-up culture at least, only positive connotations. The word has become shorthand for Joseph Schumpeter’s notion of creative destruction: ‘The opening up of new markets [...] illustrate the same process of industrial mutation [...] that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism.’⁴⁸⁷ Schumpeter’s argument is, that while this process undoubtedly causes hardship in the short run, the benefits of getting rid of out-dated, ossified structures will prevail in the end (that is, until the next disruption strikes). Unsurprisingly, the appetite for disruption is also what drives the pioneers of the crowdsourcing industry. As Alex Lynch, founder of DesignCrowd explained: ‘I could see the global design industry was large – at least \$44B – and ripe for disruption.’⁴⁸⁸ In 2013 he estimated that the crowdsourcing industry had managed to get a 0.1% share of that business, \$44 million in other words.⁴⁸⁹ Not a big proportion, but one that is quickly growing. And the share of the industry that the crowdsourcing platforms were able to claim for themselves was won by making the lowest end of the design industry, populated by myriads of freelance graphic designers working with nothing but a laptop, even cheaper, while leaving the large agencies unaffected. Large design projects typically demand a large and well structured team that orchestrates the division of work, takes the responsibility for its completion, functions as a reliable partner for the client over longer stretches of time and is also able to maintain a level of confidentiality regarding the strategic decisions and internal processes of the client, all this is hard, if not impossible to achieve via crowdsourcing.

Unsurprisingly, the sudden rise of platforms for contest-based design work triggered a wave of indignation among designers accustomed to and stubbornly insisting on getting paid for their work, as I will show in the following sections. The chorus of outrage was countered by incomprehension on the side of the platform owners and also on the side of the customers of crowdsourced design, who were happy to get a bargain while thinking of themselves as also offering emerging designers a great opportunity. And indeed a new breed of graphic designers was emerging, that could only now enter

⁴⁸⁵ *Ibid.*

⁴⁸⁶ ‘What Does iStock Pay? We pay contributors a base royalty rate of 15% for each file downloaded with iStock Credits or Pay As You Go pricing. If you are an Exclusive contributor you can earn up to 45%.’ <<http://www.istockphoto.com/sell-stock-photos.php>> [accessed 2 May 2015]

⁴⁸⁷ Schumpeter, Joseph Alois, *Capitalism, Socialism, and Democracy* (London; New York: Routledge, 1994), p. 83

⁴⁸⁸ Simon, Phil, ‘Crowdsourcing Design: An Interview with DesignCrowd Founder Alec Lynch’, Huffington Post, 2013 <http://www.huffingtonpost.com/phil-simon/crowdsourcing-design-an-i_b_4179653.html> [accessed 12 August 2014]

⁴⁸⁹ *Ibid.*

the profession, thanks to unprecedentedly low entry barriers. This group had nothing to loose in the contests. One could also argue, that the start-up culture on the internet, with its uncountable new small business, websites, blogs etc., as well as the imperative for every ‘brick-and-mortar business’ to also have an online presence, has created an unprecedented demand for logos, a problem to which the logo mills have provided the appropriate answer. According to data gathered by *Forbes* magazine, there were 28 million small businesses (smaller than 500 employees) in the US in 2012, 22,5 million of which were ‘nonemployer’ firms (no staff), 52% of the small businesses were home-based, and every month more than half a million new businesses were founded in the US alone (though only half of them survived the first five years); the most common new businesses were auto-repair shops, beauty salons and dry cleaners.⁴⁹⁰ According to another estimation, between 137.000 and 270,000 businesses are started (but also closed, ‘birth’ and ‘death’ rates are supposedly about the same) every day across the globe.⁴⁹¹ These numbers are only approximations, but they give a glimpse of the dimension of the global demand for new logos, and potentially also websites and stationary, by businesses with a small budget. (At the moment 99designs provides about 10,000 businesses a month with new designs; for DesignCrowd, this number is at about 3,000.)

In reaction to the emergence of the new platforms, there was also the occasional schadenfreude and resentment against designers by parts of the business press. In an article in *Forbes* magazine, about the Chicago based logo design platform CrowdSpring, the author reported that the founders of that platform had the goal to ‘help thousands of struggling entrepreneurs.’⁴⁹² The subtitle of the article suggested that the thousands of struggling graphic designers in turn got just what they deserved: ‘CrowdSpring aims to slash the cost of graphic design work – and democratize a snooty business.’⁴⁹³ This kind of sentiment against designers, especially in combination with the questionable use of the term ‘democratisation’, is something very common among those promoting the crowdsourcing of design. And it is never quite clear what is meant by democratisation. Does it mean that design, as a profession, is now more accessible to young designers without a degree? Or that it is more affordable to clients? Or that design quality is now something being decided on by vote? Or does it mean that the design industry, once supposedly characterised by the closed ranks of a professional elite, is now guided by a truly meritocratic and open approach? In cases like the *Forbes* headline, the term democracy remains blurry and it is thus hard to argue against it – it is such an unequivocally positive term – never mind that is being instrumentalised to justify letting people work for free to help struggling entrepreneurs.

Alec Lynch, founder of DesignCrowd, started his very first blog post to promote his fledgling company by sneering at the £400,000 that the brand agency Wolff Olins got paid for the branding of

⁴⁹⁰ Nazar, Jason, ‘16 Surprising Statistics About Small Businesses’, *Forbes*, 2013 <<http://www.forbes.com/sites/jasonnazar/2013/09/09/16-surprising-statistics-about-small-businesses/>> [accessed 19 February 2015]

⁴⁹¹ ‘Worldwide Business Start-Ups - Global Entrepreneurship Monitor, GEM, Ownership, SBA, International, Developing Countries’ <<http://www.moyak.com/papers/business-startups-entrepreneurs.html>> [accessed 24 February 2015]

⁴⁹² Steiner, Christopher, ‘The Creativity of Crowds’, *Forbes.com*, 16 February 2009 <<http://www.forbes.com/forbes/2009/0216/062.html>> [accessed 18 January 2013]

⁴⁹³ For some reason, *Forbes* removed the subtitle from the online version of the article, but the many reactions to it from the design community can still be found online. See: Airey, David, ‘Forbes Calls Designers Snooty’, *David Airey* <<http://www.davidairey.com/forbes-calls-designers-snooty/>> [accessed 18 January 2013]

the London 2012 Olympics. ‘I looked at that logo and thought “I know 10 people that could do better than that” – but they were never given the opportunity.’⁴⁹⁴ Lynch went on to announce that his company aspired to shake the graphic design business by making it more accessible and do away with conventional reputation. ‘We are not exclusive, we are an open meritocracy.’⁴⁹⁵ What is often overlooked by those who claim that ‘everybody could have done this or that design’, is that a corporate identity is much more than just a fancy logo.⁴⁹⁶ The corporate identity of the Olympics is actually a good example for that, questions of taste aside, it is a whole system of colours, shapes and a dedicated font, that has to function in a wide range of contexts, culturally and technologically, from small printed documents to facades of large venues. Then again, not every small shop needs a full-blown corporate identity, and the platforms cater to exactly those clients who just want a quick and cheap solution. For the level of complexity needed there, it is indeed questionable if the designer must have studied several years at an art school. However, outsourcing the responsibility of developing the corporate identity for an international event of the scale of the Olympics to the crowd would be reckless: it demands a reliable team of well trained and experienced professionals to develop and apply the design concept for the various scenarios in which it has to function. Still, many people seem to think that the design process starts and ends with the logo and the rest is just a scam by the design profession. The Philadelphia based platform MycroBurst.com, yet another of the logo mills that claimed to be ‘world leading’, wrote on its landing page: ‘Traditional marketing firms are professional and know how to manage a customer, but they will charge somewhere between \$2,500 and \$15,000 for a branding package. These packages often include superfluous services including “research” and lengthy presentations.’⁴⁹⁷ And the relatively small platform ZenLayout.com advertised its marketplace with the slogan: ‘Cool designers working for you. Hire 700 designers. Pay one.’ It is no wonder that established designers started to decry the devaluation of their profession.

⁴⁹⁴ Lynch, Alec, ‘Fire Up and Disrupt the Market’, DesignCrowd Blog, 2008 <<http://blog.designcrowd.de/article/1/fire-up-and-disrupt-the-market>> [accessed 12 August 2014]. At that point, the platform was still called ‘DesignBay.’

⁴⁹⁵ *Ibid.*

⁴⁹⁶ Boylan, Brian, ‘The Surprisingly Smart Strategy Behind London’s Infamous Olympic Branding’, *Co.Design* <<http://www.fastcodesign.com/1670429/the-surprisingly-smart-strategy-behind-london-s-infamous-olympic-branding>> & Hurst, Nathan, ‘FAIL! Why Olympic Designers Got It So Wrong (and Occasionally Right) | Design’, WIRED, 2012 <<http://www.wired.com/2012/08/olympic-design/>> [accessed 12 August 2014]

⁴⁹⁷ ‘MycroBurst – Leader in Graphic, Web and Logo Design Contests’ <<http://www.mycroburst.com/>> [accessed 10 August 2014]. As of early 2015, MycroBurst was discontinued and merged with Zillion Designs, <<http://www.zilliondesigns.com/>> [accessed 30 March 2015], another ‘logo mill’, supposedly with 100,000 designers working on it.



Fig. 41: Screenshot of Zenlayout.com, one of the smaller platforms for crowdsourced logo design. They put it bluntly: ‘Hire 700 designers. Pay one.’⁴⁹⁸ (The not very Zen-like aesthetic of the site indicated that the offer is about a bargain not necessarily about good design.)



Fig. 42: Fighting logos with logos – protest material by the initiative Spec Watch, 2009

In the English speaking graphic design community, there had already been awareness and occasional debate about so-called speculative work for decades.⁴⁹⁹ On the internet, controversy has sporadically flared up when a designer reported in a forum that she or he had been asked by a client to design something for free, with the prospect of maybe getting a big contract later if the client is satisfied. Whenever the issue came up in forums, designers closed ranks, dismissed such offers as ‘spec work’, and agreed that professional work ethics demanded that such offers to work for free should always be declined, since experience showed that they rarely evolved into a good designer client relationship.⁵⁰⁰ Needless to say many did spec work anyway, but it was something that happened occasionally in specific situations. When the contest platforms emerged on the scene in 2008, the debate came to the boil. Now that platforms started to build their entire business model on spec work, designers had to fight back. They gathered under the banners of organisations such as the American professional asso-

⁴⁹⁸ ‘Logo Design Contest by Zenlayout.com’, <<http://www.zenlayout.com/>> [accessed 10 August 2014]

⁴⁹⁹ Creative Business, ‘Why We Don’t Make Speculative Presentations’, 2003 <http://www.creativelatitude.com/articles/articles_cb_spec.html> [accessed 20 August 2014]. In an email, Cameron Foote, long time editor of the trade publication Creative Business told me that they had first written about ‘Spec Work’ in 1992, but that he believes that ‘the term was in common use well before then.’ Online, the debate became more frequent since 2005, see: ‘Spec Work! - Graphic Design Forum’, 2005 <<http://www.graphicdesignforum.com/forum/forum/graphic-design/general/11655-spec-work>> [accessed 20 August 2014];

⁵⁰⁰ AIGA Position on Spec Work’, AIGA – the professional association for design, 2009 <<http://www.aiga.org/position-spec-work/>> [accessed 10 August 2014]

ciation for design (AIGA),⁵⁰¹ and the Alliance of German Designers (AGD) as well as of such single purpose initiatives as ‘SpecWatch’, ‘No!Spec’ and ‘Anti-Spec.’⁵⁰² In Germany, the intellectual property lawyer Sabine Zentek fought for fair contests and offered legal advice in her association Fidius e.V..⁵⁰³ The core argument of all of these initiatives was that the systematic organisation of design work in a way where getting paid became a gamble would inevitably erode and eventually destroy the design profession – i.e. that the contest model is unethical and economically unsustainable. As a countermeasure they started campaigns to educate young designers and clients about the detrimental effects of this practice. They tweeted about specific contests in which the client didn’t pay anyone at all and about those in which the client chose a plagiarised logo. They also started to attack the crowdsourcing platforms by spamming the forums with propaganda against spec work – fighting logos with logos. I write about these initiatives in past tense because after a burst of activity, most of the initiatives gave up the fight – No!Spec, run by the graphic designer and writer David Airey from Northern Ireland, is the only project that I know of that is still active. In March 2015, I interviewed Airey via email, he rejected my impression that designers were fighting against spec work: ‘I wouldn’t call it a battle.’ Airey explained, ‘As designers, avoiding spec work is about having respect for ourselves, for our education, our time, and our experience. What impression do we give our clients (and future clients) if we value our work at nothing?’⁵⁰⁴

The anonymous Twitter account of SpecWatch stopped tweeting in 2010 (with the exception of a few tweets in late 2014), Sabine Zentek officially gave up her fight in August 2012.⁵⁰⁵ In a final statement she explained, that in order to cope with the steep increase of legally questionable contests, she would have needed support from design schools and the government and also from designers willing to go to court, but none of that happened. From Sabine Zentek’s point of view, the design contests were the latest iteration in the on-going trend towards insufficient remuneration in the creative industries and designers should refrain from taking part in these contests in order not to undermine their right for fair payment.⁵⁰⁶

In January 2012, tech-journalist Sarah Lucy wrote: ‘Get over it haters, 99designs has tipped.’⁵⁰⁷ She went on to explain that the designers had to accept that the internet had disrupted every other service industry and that design would not be an exception. She wrote that it is only ‘the people in the middle who haven’t yet made a name for themselves, but feel they are above designing logos

⁵⁰¹ *Ibid.*

⁵⁰² No!Spec <<http://www.nospec.com/>> still active; SpecWatch <<http://www.specwatch.info/>>, discontinued, last tweet was in January 2010; AntiSpec <<http://antispec.com/>>, discontinued, last post on its Facebook page was in October 2012 <<https://www.facebook.com/AntiSpec>>.

⁵⁰³ Sabine Zentek was also a speaker at the conference ‘Volkssport Design’ which I organised in 2009. Back then she was still very engaged in the cause of unfair competitions. But not enough designers were willing to take legal action, thus she discontinued her activism in that area three years later. See also: AGD Allianz deutscher Designer, ‘Zu viele Beschwerden, zu wenig Klagen - der Fidius e.V. beendet die Arbeit. AGD Allianz deutscher Designer’ 2012 <<https://agd.de/magazin/2012/fidius-beendet-arbeit>> [accessed 2 April 2015].

⁵⁰⁴ Interview via email on 5 March 2015.

⁵⁰⁵ <<https://agd.de/magazin/2012/fidius-beendet-arbeit>> [accessed 2 April 2015].

⁵⁰⁶ *Ibid.*

⁵⁰⁷ Lacy, Sarah, ‘Get Over It, Haters: 99designs Has Tipped’, PandoDaily, 2012 <<http://pando.com/2012/01/24/get-over-it-haters-99designs-has-tipped/>> [accessed 2 May 2014]

and tshirts [*sic*] on spec who balk.’⁵⁰⁸ To Sarah Lucy’s incomprehension, the designers ‘balked’ even though 99designs was ‘sending out Tshirts [*sic*] and modest bonuses’ and was ‘also investing in some game mechanics to keep designers motivated: Things like ratings, leader boards and more contests and recognition for good work.’⁵⁰⁹ Lucy also praised the amounts of money that individual designers made on the crowdsourcing platforms and concluded, that designers had two chances: ‘Get in the game or keep complaining on the sidelines.’⁵¹⁰

While I think that it is inappropriate to reduce the critics of crowdsourcing to ‘haters’, one can’t argue with the fact that the platforms in question have reached a tipping point and are now widely adopted in a certain segment of graphic design, and in logo design in particular. The platforms are unlikely to disappear any time soon, despite the criticism from the outside and the problematic working conditions that they offer on the inside. However, to imply that there is easy money in crowdsourcing (for anyone else than the platform providers), and that designers are just too proud to take advantage of it, is deceptive and statistically wrong. So how are the win/lose ratios? How much money is involved and how do those using the platforms deal with the situation?

⁵⁰⁸ *Ibid.*

⁵⁰⁹ *Ibid.*

⁵¹⁰ *Ibid.*



Fig. 43: Screenshot from a promotional video of 99designs on YouTube, 2010.⁵¹¹

4.3 – 99DESIGNS – ONE WINNER.

In what follows, I will describe the workings of 99designs in some detail, because it is the platform with the largest turnover and with methods that are very typical for how the crowdsourcing industry for graphic design operates in general. I will refer to other platforms only in so far as they either differ significantly or offer additional insights.

99designs was founded by the serial entrepreneurs Mark Harbottle and Matt Mickiewicz as a spin-off from their company SitePoint, which offers tutorials for web developers. Mickiewicz explained in an interview that ‘the design contests idea was born out of the SitePoint forums – designers basically started to create logos and other designs for people in exchange for the chance to win a certain amount of money, and that happened quite organically.’⁵¹² Mickiewicz has an impressive biography: born in Poland in 1982, he had just moved to Melbourne a year before he and Harbottle founded SitePoint in 1999. They were so successful with online advertising – it was the times of the dot.com boom after all – that Mickiewicz had difficulties finishing school, being too busy as a successful manager at the age of seventeen, and subsequently he never went to college.⁵¹³ Harbottle, who is Australian, was twenty-six years old at the time. With Flippa, a marketplace for buying and selling websites, the two later founded their third successful web-company, after SitePoint and 99designs, and both entrepreneurs became multi millionaires.⁵¹⁴ It is interesting to keep this in mind because of the misleading overuse of the term entrepreneur in this field. It is used to describe the founders of the

⁵¹¹ 99designsOfficial, How to Find the Right Graphic Designer, 2010

<http://www.youtube.com/watch?v=c4HK2zPOwf4&feature=youtube_gdata_player> [accessed 19 August 2014]

⁵¹² Interview with Matt Mickiewicz – Master Webmaster And Co-founder Of Sitepoint, 99Designs, Flippa, 2010, min 20.

<<http://blog.jointbf.com/matt-mickiewicz-sitepoint-99designs-flippa/>> [accessed 6 August 2014]

⁵¹³ *Ibid.*

⁵¹⁴ According to the Australian magazine Business Review Weekly, Mark Harbottle had a net worth of 70 million dollar in 2013, ten million more than the year before: ‘Young Rich 2013: 25. Mark Harbottle’, BRW. Business Review Weekly <http://www.brw.com.au/p/lists/young-rich/2013/young_rich_mark_harbottle_9SXb7VRBDcVTFprxUWIKTM> [accessed 6 August 2014]. In 2013, the estimated net worth of Matt Mickiewicz was 100 million dollar, he appears in various listings of the most influential your tech entrepreneurs: ‘The 20 Most Successful Tech Entrepreneurs Under 30’, *Elite Daily* <<http://elitedaily.com/slideshows/20-successful-tech-entrepreneurs-30/>> [accessed 6 August 2014]

platforms, their clients and even the members of the crowd, who are sometimes referred to as micro-entrepreneurs.⁵¹⁵ However, it is highly questionable to use the same term for all three groups of stakeholders, since the way risk and chance for profit are distributed among them is very uneven. The extension of the term entrepreneur to include even the smallest, most precarious self-employed crowdworker is an expression of a very neoliberal ideology, because it hides the fact that inequality is inherent and necessary to the system, by casting it as incidental or just a result of individual industriousness. According to the Oxford Dictionary of Business and Management, an entrepreneur is:

An individual who undertakes (from the French *entreprendre* to undertake) to supply a good or service to the market for profit. The entrepreneur will usually invest capital in the business and take on the risks associated with the investment. In most modern capitalist economies the initiative of entrepreneurs is regarded as an important element in creating a society's wealth; governments are therefore led to establish conditions in which they will thrive.⁵¹⁶

But the people who work on platforms like Mechanical Turk, 99designs, Uber, TaskRabbit etc. don't have any financial capital to invest; their only capital is their labour, and by doing work for only a few dollar an hour it is impossible to accumulate enough financial capital to break out of this cycle. The risk they have to undertake is not getting paid enough for their time: the chance to make a fortune and contribute to society's wealth is next to not existent. These people are certainly not the heroic 'captain of industry' type figures that Ayn Rand liked to write about as role models in *Atlas Shrugged* or the *Fountainhead* (very popular books in the Silicon Valley, according to Adam Curtis).⁵¹⁷ Classifying precarious workers as entrepreneurs is very convenient for the platforms, because it falsely evokes the impression that all stakeholder are at eye-level, and of course labour laws and worker protection measures don't apply to contracts between entrepreneurs.

*

Today, Patrick Llewellyn runs 99designs. He had joined the company in 2009 and has been its CEO since 2011. Under Llewellyn, 99designs opened offices in Silicon Valley, London, Paris and Rio de Janeiro and Berlin. In 2011, the platform raised \$35 million in venture capital from Accel Venture Partners.⁵¹⁸ The following year, this investment allowed 99designs to acquire its Berlin based competitor 12designer.com, which at that point had a crowd of about 30,000 registered designers.⁵¹⁹

⁵¹⁵ Wong, Jamie, 'The Rise Of The Micro-Entrepreneurship Economy', *Co.Exist* <<http://www.fastcoexist.com/1679903/the-rise-of-the-micro-entrepreneurship-economy>> [accessed 25 February 2015]

⁵¹⁶ *A Dictionary of Business and Management*, 5th edn (Oxford University Press, 2009) <<http://www.oxfordreference.com/view/10.1093/acref/9780199234899.001.0001/acref-9780199234899>> [accessed 25 February 2015]

⁵¹⁷ Curtis, Adam, *All Watched Over By Machines of Loving Grace*, 2011 <<http://thoughtmaybe.com/all-watched-over-by-machines-of-loving-grace/>> [accessed 25 February 2015]

⁵¹⁸ 'Startup Grind Silicon Valley Presents Patrick Llewellyn (99designs)', Startup Grind <<http://startupgrind.com/event/startup-grind-silicon-valley-presents-patrick-llewellyn-99designs/>> [accessed 6 August 2014]

⁵¹⁹ Llewellyn, Patrick, '99designs Acquires 12designer, Launches European Headquarters in Berlin', *The Creative Entrepreneur* <<http://99designs.com/customer-blog/99designs-acquires12designer/>> [accessed 2 April 2015], note the name of 99designs' customer blog.

The founder of that company, Eva Missling, became the General Manager of 99designs Europe. 99designs now offers localised versions of its services in German, French, Spanish, Dutch and Italian.



Fig. 44: Display of current numbers of contests and payouts on the platform 99designs, screenshot from August 2014.

Like most contest-based platforms for design work, also 99designs has a prominent and constantly updating display of numbers on their front page which at any given moment informs visitors about the current number of open contests, the sum of all contests done in the past, the total amount of money paid out and the number of registered designers. In the case of 99designs, the number of registered users rose from 96,000 in March 2011 to 216,000 in November 2012 to 298,000 in April 2014. While this clearly indicates that the platform has been getting more and more attention from potential designers, the number of registrations is of limited significance, since (as mentioned above) it is difficult to tell how many of those who once registered are actively using the site or may have only registered once and never showed up again. Part of the problem is that 99designs doesn't allow visitors to search the profiles of the designers in order to compare how active they are. But Eva Missling told me in an interview that every month, between 5,000 and 10,000 new designers upload a logo to the platform.⁵²⁰

The Brazilian computer scientist Ricardo Matsumura Araujo found out in a quantitative study that in 38,000 contests on 99 designs between 2010 and 2012 about 63,000 designers participated, although 40% of them only once.⁵²¹ That means that in that time, about a third of the registered designers got involved, so it seems. Estimates from the area of *cognitive piecework* assume that only about 16% per cent of the registered users are active workers.⁵²² Assuming that on the design platforms, approximately a third tries it and half of those stick to it, the numbers would be similar, somewhere between 15 and 20% – or approximately 60,000 active users on 99designs in 2014. The platforms themselves don't publish these numbers because they try to win over potential clients by boasting with the size of their workforce. They don't seem to be worried that the high number of registrations could deter potential designers.

⁵²⁰ I conducted the interview with Eva Missling on 22. January 2015 in Berlin. It was the second time that we met; our first conversation was five years earlier, in November 2009, also in Berlin. At that time she had just launched 12designer.com and she consulted me for ideas on how to ensure better quality in contest-based creative crowdwork. Her idea in 2009 was, that maybe designers should pay a fee to be allowed enter the contests in order to ensure that they only contribute quality work. I suggested that this was not exactly to the designers advantage and would not work.

⁵²¹ Araujo, Ricardo Matsumura, '99designs: An Analysis of Creative Competition in Crowdsourced Design', in First AAAI Conference on Human Computation and Crowdsourcing, 2013 <<http://www.aaai.org/ocs/index.php/HCOMP/HCOMP13/paper/view/7519>> [accessed 15 August 2014]

⁵²² Bratvold, David, Definitive Guide to Microtasking, 23 January 2013 <<http://dailycrowdsourcing.com/content/research/viewdownload/6-research/67-definitive-guide-to-microtasking>> [accessed 11 August 2014]

What makes it even more difficult to estimate the total number of designers working on crowdsourcing platforms on a regular basis is that many of the designers in question are experimenting with, or are active across multiple platforms before either settling with one to build up a profile and a reputation or deciding that the crowdsourcing of design is not for them. But even then, they continue to be counted as part of the workforce.

The amount of money that has been paid out to the respective design crowds on each platform is a more meaningful number for estimating the size of the business. It is also more reliable because it is the sum of all contests, which are documented on each platform. Looking at these numbers leaves no doubt that the platforms are doing well and are still growing. In this respect, 99designs that can rightfully claim to be the leader in the crowdsourcing of graphic design. As of summer 2014, the company had hosted a total of over 300,000 contests and had paid out a total of over \$80 million. In their first three years in business, they had paid out \$19 million in total; in the next three years they paid out three times that much. In late 2014 and early 2015, they paid out \$2 million on average each month to the crowd. Because they take a commission of approximately 40% upfront (more on that later) they have a turnover from the contests alone of about \$3,3 million per month, of which they keep about \$1,3 million as commission. With only 75 employees the platform generates a revenue of at least \$160 million a year.⁵²³ However, Patrick Llewellyn, the CEO of the company, said in an interview in 2013, that because of their high investment in marketing aimed to win over clients, and because of their expansion into new markets in Asia, South-America, Europe, they are not profitable at the moment, although they once had been.⁵²⁴



Fig. 45: A ready-made, generic logo for something wine-related on 99designs, 2014.

Via 99designs, a variety of design tasks can be outsourced as a contest for the crowd – from web design to book covers and illustrations – but the core of the business is the design of logos. This is why platforms like these are sometimes referred to as ‘logo mills’. 99designs also has an online-shop for readymade logos, selling at the price of \$99, where only the client’s company name has to be added

⁵²³ This is the number of employees that is listed on the company website. <<http://en.99designs.de/about>> [accessed 6 August 2014] However, in their user forum, a community manager wrote in 2014 that they had almost a hundred employees.

⁵²⁴ Ho, Victoria, ‘Design Competition Model Is Working For 99designs, Especially In Asia’, TechCrunch, 2013 <<http://techcrunch.com/2013/08/06/design-competition-model-is-working-for-99designs-especially-in-asia/>> [accessed 5 May 2014]

after purchase. When 99designs sells one of these logos (see fig. 44), the designer only gets 30 dollars; the rest is commission for the platform.⁵²⁵

The most typical scenario, however, is that a new and small business is using the platform to quickly and cheaply have the crowd generate a custom-made new logo. 90% of 99designs revenue comes from hosting contests.⁵²⁶ The process usually takes between one and two weeks. In order to initiate a design contest, the client has to first fill out a form and describe what the logo should be like, enter some information about his or her business and link to a few examples for inspiration. Via a dashboard of sliders, the client is then asked to define ‘what values the logo should communicate.’

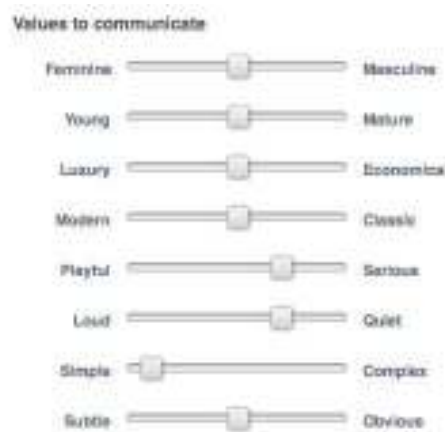


Fig. 46: A client on 99designs can use sliders to communicate to the designers what characteristics a new logo should have.

After giving the information for the brief, the client has to choose how much she or he is willing to pay. 99designs offers different packages, from ‘Bronze’ to ‘Platinum.’ In the more expensive categories the platform offers a ‘dedicated account manager’ and makes a pre-selection of designers allowed to take part in the contest. By handpicking a smaller number of designers, the quality obviously rises, and so does the chance for the individual to win. Eva Missling pointed me to the interesting trade-off in regard to fairness here: is it fairer to have smaller crowds and thus let less people work for free? Or is it fairer to not exclude anyone who also wants to participate and is willing to take the risk, lowering the statistic chance to win of everybody else?⁵²⁷ (I will come back to this crucial conundrum of crowdsourcing in the conclusion.)

During the contest, the client can browse through all incoming designs and give ratings in form of one to five stars, as well as comments on specific designs or eliminate those that don’t fit. Depending on the type of the contest, the contributions of the designer are visible to others and can serve as guidance, inspiration or source for plagiarism.

⁵²⁵ As of April 2015, 99designs lists over 60,000 ready-made logos, <<https://99designs.de/readymade/logos>> [accessed 2 May 2015].

Regarding the commission, 99designs writes: ‘Once your design is approved, it’s time to kick back and wait for the sales to roll in. To start with, you’ll get 30% of each sale. As you sell more logos, win more contests, and submit more designs to the 99designs Ready-made Logo Store, your percentage of the sale will increase up to 50%!’ <<https://99designs.de/readymade/help/manual>> [accessed 2 May 2015]

⁵²⁶ *Ibid.*

⁵²⁷ Personal interview with Eva Missling from 22 January 2015.

On 99designs, it is the client alone who decides who wins and through that even if anyone gets paid in the end. 99designs and most of its competitors offer a ‘100% money back guarantee’ if the client doesn’t like the results. However, the client can guarantee upfront to pay someone at the end of the process in order to attract more designers. A contest has two rounds, the client can choose up to six designers to move to the second round. From that point on, the client has to guarantee that she or he will eventually choose and pay a winner. When a contest is won, all intellectual property rights go from the designer to the client, this is already factored into the prize money.



Fig. 47: The four different packages for logo design 99designs has on offer; the information that the platform takes up to 50% of the money is neither disclosed to the client nor to the designers.

Even though the website boasts a lot of numbers about registered designers, open contests and the total sum of money paid out to the designers, the pricing scheme of 99designs is complicated and deliberately opaque in regard to the commission the company takes. What is not directly visible, neither to the designers nor the clients, is that the platform keeps a large percentage of the money that the client pays. Nowhere on the site, not even in its Terms of Use is it made explicit how much 99designs actually charges, which has caused a lot of controversy among its users.⁵²⁸ Yet, it is not difficult to calculate the amount case by case for finished contests, as it is possible to look up separately how much the client paid and how much the designer got. As it turns out, the percentage of commission varies for the different types of design and the different packages, but for logo design contests, in 2014 I calculated the following proportion of the client’s payment taken as commission: Bronze: 33,5%; Silver: 40%; Gold: 43,8%; Platinum: 50%.

99designs provides a forum for its users, where designers and clients can discuss issues, ask questions and make suggestions to the company. In March 2012 a user named ‘Vitcom’ opened a thread in the forum, demanding from the platform to lower the commission or at least make it trans-

⁵²⁸ In April 2014, I contacted 99designs several times in order to get an accurate figures for the commission of each of the packages, but the company only gave evasive answers. The UK marketing manager of 99designs offered me to give me the figures in exchange for me mentioning the company on the website of the RCA, which I declined. After that, he stopped replying to my requests for numbers. When I asked Eva Missling about the exact fees (in my interview from 22 January in Berlin) she said they were not a trade secret and they would tell them if asked, but she still remained evasive and didn’t give me a concrete answer.

parent to the contest holders.⁵²⁹ Even though it was one of the most actively debated topics in the forum, and many users agreed with Vitcom, 99designs ignored the thread for one and a half years before explaining that they needed the money for marketing and that they were supposedly explaining the pricing to the clients. Several comments by clients suggested otherwise. One design client posted anonymously on 17 May 2013:

Hi, I am a new contest holder on 99designs. I was shocked at how big a commission they take, 25% seems reasonable. 40% seems like robbery not to mention the fact they do not make this fact public to the contest holders. I only discovered it when publishing my contest to twitter it said the actual amount given to designers and then using a calculator I figured out their commission fee percentage. [...]

Another client wrote under the name Giorgi on 8 August 2013:

I just ran a design contest where I paid \$799, and the winning designer only made \$387! That's over \$400 (about 52%) in commission. I wish I had at least been informed about how little the designer would've made before I ran the contest.

On 15 May 2014, a client wrote anonymously:

NOPE, the percentage is NOT stated as part of the contest agreement! I'm a customer, and I had to go sniffing around to find out how much of my prize was paid as overhead (the answer: 30%!) I was NOT told this up front, nor was it possible to search "HELP" to find out. I had to create a designer account and look at the contest as an outsider!

Finally, Ashish Desai (Head of Product, 99designs) closed the thread on 10 July 2014, declining the demand for a lower commission fee as well as for more transparency:

Hi All,

We have left this thread open for a long time because we like the open dialogue and honest feedback. However, at this point, we feel that we have answered the original question and have clearly articulated the value that we provide to the creative process. If you believe that our fees are not aligned with the value we provide, then we certainly encourage you to find an alternative that is more in line with your perceived value.

At this point, the thread was closed by 99designs; the demand was declined in spite of 1,598 votes in favour of it. I can only agree with the many users in the thread, who came to the conclusion that the company doesn't care about transparency at all when this interferes with its profit margin. Another user quickly opened a new thread on the same issue, but there is no reason to believe that this will make any difference, especially since new designers are not in short supply.

When I interviewed Eva Missling, I asked her about the reasoning behind this lack of transparency, also in connection to the fact that on her old platform, 12designer, one could very clearly see how the pricing structure came about, and with twelve per cent the fee was substantially smaller than on 99designs. She answered that the fixed price packages on 99designs would be a service to the cli-

⁵²⁹ <<https://99designs.uservoice.com/forums/198-01-general/suggestions/2714560-lower-the-commission-99designs-takes-from-designer>> [accessed 15 August 2014] – In February 2015, 99designs created a new user-forum, the old entries are not available anymore.

ent, who doesn't want to get confused by a complicated pricing scheme.⁵³⁰ She also argued, that even for taking only the twelve per cent on her old platform, she was heavily attacked by designers via email. She expressed that the designers generally don't seem to appreciate the high costs of running a platform and the service they get from it. Missling implied, that if the designers protest anyway, even with a very low fee, the platforms might as well take substantially more.

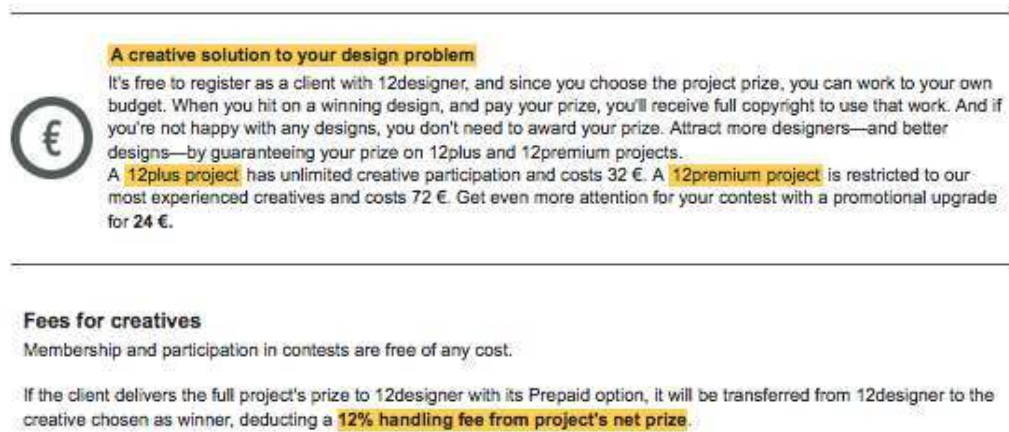


Fig. 48: Two screenshots from December 2014, showing the disclosure of the pricing structure on 12designer.com, the now discontinued platform founded by Eva Missling.

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Fig. 49: Screenshot; 99designs announces the winner of a Gold contest, August 2014.

To show how the process works, here are two examples from summer 2014. The Berlin-based company Peak Ace needed a new logo and chose the Gold package for its contest. In the brief it said: 'We are looking for a smart design. Preferably with a subtle "aha" effect. A design that tells a little story about either what we do, or one that is connected to the name of the company.'⁵³¹ Unusually many designers participated, presumably because the awarded price money was by comparison to the more common Bronze packages quite high, the logo was supposed to be very simple, abstract, black & white, and the client communicated clearly with the designers. As 99designs announced after the contest was done: 'For just \$799, they received 1,630 designs from 377 designers. From the perspec-

⁵³⁰ Interview from 22 January 2015 in Berlin.

⁵³¹ <http://en.99designs.de/logo-design/contests/want-smartest-design-logo-395592/brief#contest-breadcrumbs>

tive of the client, each of the 1630 designs handed in came at the cost of just 0,49 dollars. In the end, it was ‘Suhartinipaimin’, a designer from Indonesia, who won \$450 for his contribution, while 99designs made \$349 – the other 376 designers, who each handed in between four and five logos, had worked completely for free.



Fig. 50: Screenshot; 99designs announces the winner of a Silver contest, August 2014.

The sportswear company Shūma from Atlanta in the US also needed a new logo and was willing to pay \$499 for it. In contests with less money involved, such as this, fewer participate. So, while the potential award is lower, the chances to win are higher. With a chance of 33 to 1 against him, ‘LeverageDesign’, a designer from India, managed to earn \$300, while 99designs earned \$199 without even having to employ a ‘dedicated account manager’ as this was a just ‘Silver’ contest, which means the company does not have to get involved in the process at all. It just provides access to the platform for a 40% cut. It is the client who gives feedback to the logos that are uploaded, and who is ideally, but not always, guiding the process, while the designers adapt their work to this input and create a number of revisions or alternative logos.

*

As of February 2015, 99design had paid out almost \$95 million to designers in about 377,000 contests. What sounds like a lot for one platform also means that on average, only about 252 dollars were paid out per contest. This also shows that most clients choose the cheapest package. I have made this calculation every few months between 2012 and 2015, and the average payment per contest of about 250 dollar remained quite stable.

Often there are not as many contributions as in the two examples above, but according to calculations that I made in 2012 and 2013, a contest has on average 116 contributions.⁵³² That means the average remuneration per logo comes down to about \$2.30, before tax. Paying tax falls into the responsibility of the individual designer: they have to report their income from the platform to their local tax authorities. 99designs has stopped publishing the total number of designs uploaded to the platform, it used to be one of those numbers shown prominently on the website. But last time they did mention that number was in an interview in June 2013. It was 23 million, and at that point, \$54 mil-

⁵³² In 2013, the platform had run about 2000.000 contest to which the crowd had contributed 23 million designs. The average entries per contest is a number that 99designs used to display on the website. It was usually between 110 and 120.

lion had been paid out to the designers.⁵³³ Again, this means a single logo was worth \$2.30 in 2013, and there is no evidence to suggest an increase in this value.⁵³⁴

On other platforms similar to 99designs, the average number of logos per contest is usually in the same area, a little bit above 100. It seems that when the number of contributions climbs over that point, less people deem participating a risk worth taking, except when the awarded prize money is higher than usual. At least this is typically the case. In the interview from January 2015, Eva Missling explained that sometimes she is irritated by the herd instinct that can occur in the design contests (as in the case of the ‘Peak Ace’ contest described above), when the task is relatively simple and the awarded money is higher than the average 250 dollars but still quite low. This constellation can lead to a surge of contributions, substantially lowering the chance for each participant to win. According to Missling, there are other contests, like those for web design, where the price money is much higher but only very few participate, despite of the higher chances. It seems that more people are willing to take the high risk of wasting a few hours of work on a task of low complexity than taking a much lower risk of wasting more working hours on a more complex task. This behaviour might not be economically reasonable but is very understandable, especially if we take into consideration that many designers who are using these platforms are at an early point in their career or work on the tasks as a hobby in their spare time. Eva Missling pointed out, that this is also reflected in the popularity of contests in which the client wants the crowd to draw a mascot, a task that is for many regarded as more intrinsically rewarding and fun than developing a website.



Fig. 51: Screenshot; header of the profile page of 99designs user HendraKurniawan in 2011.

There is another number that tellingly disappeared from the 99designs website in early 2014. On the platform, each participating designer has a portfolio page that shows designs entered in previous contests as well as the performance of the individual designer. 99designs used to display the number of contests *entered* as well as the number of contest *won* for each designer. The header of a portfolio site used to look like fig. 50, which is taken from the profile page of the Indonesian designer Hendra Kurniawan in 2011. The ratio is displayed prominently in the top right corner and the small blue tabs below in the middle even show the total number of designs handed in. In this case, the designer won 57 out of 509 contests, to which he contributed a total of 1393 designs. He earned altogether \$18.000 – or \$315 in every contest he won, or \$35 in every contest he participated in, or almost \$13 dollar for every design. He managed to win at a ratio of one to ten. His performance is clearly above average.

⁵³³ Wee, Willis, ‘99designs: “There’s Raw Talent in Indonesia and Philippines”’, Tech in Asia, 2013 <<http://www.techinasia.com/99designs-raw-talent-indonesia-philippines/>> [accessed 15 August 2014]

⁵³⁴ Quite the opposite, in April 2011, based on \$20 million paid out for 6.5 million logos, I calculated that the price per logo was \$3.



Fig. 52: Screenshot; header of the profile page of 99designs user HendraKurniawan in 2014.

As of 2014, the profile page of the same designer (fig. 51), who now goes by a different user name,⁵³⁵ shows significantly less information. Now, 99designs only shows the number of contests won and the number of contests in which the designer was shortlisted. The ratio obviously looks much better this way. It could be argued that the platform has done a service to the designers, because they now look more successful. But it could also be argued, that this new set of numbers is deceptive for designers considering to participate, because it obliterates how low the chances of winning actually are.

Since 99designs now hides the total number of contests entered per user and also does not allow to search and compare the database of design portfolios, the following screenshots are from 99designs' German subsidiary 12designer (fig. 52), which allowed access to that data even though the platform was not active anymore, and from designenlassen.de, a German competitor (fig. 53-55).

The most active participant on 12designer was 'd-brain', a German living in Spain, who has contributed a total number of 33,005 designs to 1,515 different contests, out of which he won only 104. Another participant, probably the most successful one on that platform, CencoCP, another German living in Spain, contributed a total number of 175 designs to 148 contests and won 139 of them. So he won at the astonishing rate of 93%. This illustrates a phenomenon that becomes visible on other platforms for contest-based crowdsourcing too: there is always a small number of highly successful individuals – which makes winning for the majority of the contributors all the more unlikely.

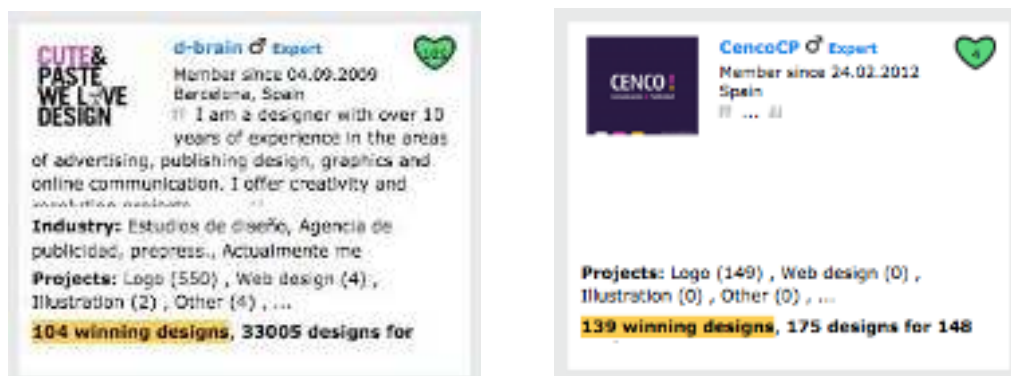


Fig. 53: Two screenshots of user profiles on 12designers from August 2014, showing the number of winning designs in relation to the number contributed.

⁵³⁵ Both screenshots show the profile <<https://en.99designs.de/people/hendrakurniawan>>; the first one in 2011, the second one in 2014. The first one was published by 99designs in the context of another redesign: <<http://99designs.com/designer-blog/2011/08/30/new-portfolio-pages/>>; in 2011, the platform also published a little interview with this particular designer, because he was doing well: <<http://99designs.com/designer-blog/2011/08/04/designer-profile-hendrakurniawan/>> [accessed 12 August 2014]

In the only extensive quantitative study of 99designs to date, the Brazil based professor of Computer Science Ricardo Matsumura Araujo collected and analysed data from over 38,000 contests conducted on the platform between 2010 and 2012.⁵³⁶ He wanted to find out whether there is a correlation between the number of designers per contest and the quality of the results, measured by the ratings clients gave to uploaded designs. His results showed that indeed, ‘higher financial incentives lead to an increased number of designers submitting to contests and ‘a higher financial incentive also has a positive impact in a contest’s probability of success.’⁵³⁷ But he was also able to show that it is only a very small number of designers who turn out to be very good at winning these contests, while the majority lose even more often than might be expected statistically.

From the 63,049 designers in the data set, 25,384 (40.2%) only participated in one contest. The most active designer participated in 1071 contests and the mean is 7.8 contests per designer. The most successful designer won 150 contests (0.4% of the total number of finished contests). On the other hand, 84% of designers did not win a contest and 8% won a single contest. The distribution closely follows a power-law.⁵³⁸

Araujo found out that the most successful designers choose the contest they participate in carefully and then put a lot of effort in them, in form of several revisions of a design, based on the client’s wishes. The research confirmed that, indeed, a larger crowd increases the chance that the client is satisfied in the end, but not because of the total amount of good work. Instead, he notes, ‘having more designers is just a way to increase the odds of having those good designers, but it may not be the most effective way to do so. In the limit, if one knew beforehand who the best designers are, one could do better by approaching them directly.’⁵³⁹

	designers	won	participated	success rate	evaluation
#1	kookkoka (Ricarda Thümmel-Ped.)	545	3283	17 %	★★★★★ direct order
#2	kuno4design (Florian)	219	1775	12 %	★★★★★ direct order
#3	mdesign (Thomas)	212	1161	18 %	★★★★★ direct order
#4	portmatt (Germany)	100	321	31 %	★★★★★ direct order
#5	Good (Germany)	106	533	20 %	★★★★★ direct order

Fig. 54: Screenshot showing designer rankings based on ‘projects won’ on the German platform designnonclick.com / designenlassen.de, August 2014.

⁵³⁶ Araujo, Ricardo Matsumura, ‘99designs: An Analysis of Creative Competition in Crowdsourced Design’, in First AAAI Conference on Human Computation and Crowdsourcing, 2013 <<http://www.aaai.org/ocs/index.php/HCOMP/HCOMP13/paper/view/7519>> [accessed 15 August 2014]

⁵³⁷ *Ibid.* p. 4

⁵³⁸ *Ibid.* p. 6

⁵³⁹ *Ibid.* p. 8

Another German platform for the crowdsourcing of logos, designenlassen.com (or designonclick.com, as they call themselves in their English version) is also very telling in this respect. Here, visitors to the platform can get the designers displayed in a ‘top 100 lists,’ according to the absolute number of contests won or their success rate. What is interesting here is that even within the top 100, the success rate quickly drops to just 16%.



	designers	won	participated	success rate	evaluation	
#1	 ModernWeb Concepts Germany	5	7	71 %	★★★★★	direct order
#2	 dktize Germany	4	6	67 %		direct order
#3	 organic Serbia and Montenegro	3	6	50 %		direct order
#4	 phormoschismus Germany	51	108	47 %	★★★★★	direct order
#5	 GPF Germany	4	9	44 %		direct order

Fig. 55: Screenshot showing designer ranking based on the ‘success rate’ on the platform designonclick.com, August 2014.



#98	 sandwink Germany	15	92	16 %	★★★★★	direct order
#99	 wdrini Germany	15	95	16 %	★★★★★	direct order
#100	 DUTACK Indonesia	21	131	16 %	★★★★★	direct order

Fig. 56: Screenshot showing the lower end of the top 100 designer ranking based on the ‘success rate’ on the platform designonclick.com, August 2014.

The blue buttons on the right in the ranking of designonclick.com allow the client to place a direct order with a specific designer. This feature seems almost like a response to Ricardo Araujo’s conclusion. It is more efficient to hire a good designer directly, as there is no need to sift through the flood of mediocrity and give everybody in the crowd a feedback. The problem for the client is usually to find or attract the good designer in the huge crowd. The ranking makes this easy. For the designers in the lower ranks, however, it is unlikely to get the attention of clients for a direct order. It is again a winner-takes-it-all game.

In conventional, professional graphic design, the development of a professional logo takes a lot of time and involvement. The designer and the client enter into a professional relationship and analyse together how to best convey and condense the strategic perspective of the business into a visual form. If done thoroughly, this usually takes days or weeks. But if the price per logo comes down to \$2.30, professional designers trying to compete in markets such as 99designs only have two options. Either, they think economically and spend only a few minutes on each design. They then upload

generic or derivative logos of low quality and little inspiration, often slightly altered copies of free vector files, clip art, stock illustrations – literally clichés.⁵⁴⁰ The contests on 99designs are abundant with examples of this type of logo-trash and, as the anti-spec movement was able to show on many occasions, people actually win contests by just uploading clip art.⁵⁴¹ The other option that participating designers have is to aim for quality and contribute well-designed logos, tailored to the clients particular requirements and strategic perspective. It takes at least several hours for studying the brief, the client's business environment, the design of the client's competitors, communication with the client, following the feedback that the client gives to other contributions in the same contest, first drafts, changes according to the clients wishes, and for finally producing a polished final version in different formats for print and web. If designers seriously aim for quality, it is almost impossible under these conditions not to fall into the trap of self-exploitation.

Being a graphic designer myself, and also someone who participated in platforms such as 99designs (as outlined in the introduction), I can tell from experience that it is hard to resist the temptation of putting far too many hours into such a design than would be economically reasonable. In a professional relationship with a client, it makes sense to always produce the best possible results. These form an investment into future business. On the platforms this is not necessarily the case, because the designers are expendable and interchangeable. There are different factors at play here. First of all, a professional honour or a work ethic, that makes it difficult to stop working on a design that can still be improved. Then, a competitiveness to create the best and beautiful solution for the brief, a design that stands out from the crowd, a winning design. Ideally, the design conveys the core characteristics of the client's business, makes the designer proud, leaves one's peers impressed and, most importantly, convinces the client to decide the contest in one's favour. It is this mixture of professional work ethic, ambition, vanity, and thrill of gambling, which drives many designers to put in the extra hours, and this is significantly enhanced by the existence of the portfolio page on the platform but also by the notion that designers have, of always working on their portfolios. In the conventional graphic design world outside of crowdsourcing, designers also often take on badly paid jobs, pro-bono work and unpaid internships, especially early on in their career, in order to have presentable real world examples of their skills in their portfolio, to have something impressive to show to potential future clients or employers. In the case of 99designs and other 'logo mills', the portfolio is in a sense even more important, because it is permanently public and there is no real opportunity for personal contact or recommendation by other clients. The quality of the designer will be judged by peers and clients, primarily based on the quality of the works in the portfolio.

Speaking from my own experience, but also from knowing many other designers, a design that is publicly accessible in the world, attached to the name of the designer, feels, to some extent, like a piece of the designer's personality; at the very least it is a calling card, proudly promoting the designer's skill. The design has to stand for itself in the world, nobody who looks at it later and out of context cares about whether there was no time to do it properly or whether there was only a small

⁵⁴⁰ Clichés were used in printmaking in the 19th century, metal *stereotype* blocks to include images into moveable type.

⁵⁴¹ Douglas, Steve, 'An Anti-Spec Work Parable – the Jon Engle vs. Stockart.com Story', The Logo Factor Design Blog, 2009 <http://www.thelogofactory.com/logo_blog/index.php/anti-spec-work-parable/> [accessed 20 August 2014]

chance of eventually getting paid. It has to look professional and original. My argument here is, that platforms such as 99designs, because they organise public contests with public portfolios and constantly foster the hope of finding new clients through the exposure of work done for free, entice designers to act in a way that is economically unreasonable. It is an inversion of the problematic at play on platforms for *cognitive piecework* such as Amazon Mechanical Turk. While there, the situation is problematic or, as many argue, exploitative, partly because the workers are anonymous, dehumanised and alienated – treated like exchangeable processing units in a machine, the situation on the crowdsourcing platforms for design is, that designers fall for self-exploitation, because they, their personality and their portfolio is so exposed. They constantly have to invest in the creation of their persona. They constantly have to come across as the friendly, cheerful, creative, diligent and industrious performers, whose every contribution – designs and words – is being recorded on the platform, published and searchable. It's a cheery Panopticon of a workplace, one that never forgets but constantly gives gamification points (see chapter 3) for favourable behaviour.

The exposure of one's portfolio has a strong effect on a designer to work more, but this is then significantly enhanced by the gambling aspect that comes with the contests. The dangerous delusion that it is worth putting in just a few hours more for the win, to be the best – against all odds.

For those who try not to fall into the trap of self-exploitation, there is still the other option, cheating, or trying to game the system by uploading plagiarised designs. As much as it is against the ethos of originality usually held in high esteem in the design community, and despite the fact that designers are legally obliged to respect copyright, this strategy is very common in contest-based creative crowdwork (see fig. 56). Many designers seem to underestimate the risk of uploading stolen graphical elements – if a client buys such a design, uses it and then gets sued for copyright infringement or has already printed book covers that then can't be used, it is the individual designer who is liable for damages, not the platform. For the small chance of winning a few hundred dollars by taking an illegal shortcut in a contest, one can easily face costs many times higher than the prize money.



Fig. 57: Two screenshots, on the left, an example of a plagiarised logo posted on 99designs, based on a tattoo clip-art from the website waktattoos.com, depicted on the right, 2012.

In one 2012 contest on 99designs, in which I participated myself, a community college from the US wanted the crowd to design a logo based on their mascot animal, a sculpture of a lion. As usually,

dozens of designs were submitted, among them, also the lion on the left in fig. 56. It wasn't before long that another competitor in the contest pointed out to the client:

google head or lion head tattoo, you can find so many lion head that really similar with the designs that submitted here. for example: design #97 is an istock image, you can find it here: [http:/ ...](http://...) or a little bit customized from lion head tattoo, design #38 #39 from tattoo design here: <http://waktattoos.com...> you can see the hair pattern is so similar. just fyi :)⁵⁴²

And indeed, the hair pattern turns out to be an exact copy (with slight modifications) of the vector file found under the given address, while the face of the lion handed in to 99designs seems to be pasted in from another source.

99designs describes itself as a 'community.' And many of the designers who work on the platform accept that terminology. However, it is highly questionable, what the communality or the shared interest of this particular community is, since the interactions of the crowd constantly revolve around winner-takes-it-all contests. It is an environment in which everybody fights for herself (in one of the following sections I will show with the example of jovoto how a crowd can be transformed into a community.) But on top of the already problematic situation of having to win a contest against all other 'community members' in order to get paid, the two approaches of trying to make ends meet in this environment – self-exploitation or plagiarism – create, at times, a poisonous working environment in which community members have a strong incentive to report each other's misconduct to the contest platform and the client. Understandably, those who invest many hours into an elaborate original design can't risk being outmanoeuvred by fraudulent competitors with a copy and paste attitude. But as a consequence, in addition to the design work, the crowd also has to take on the job of policing itself and reporting transgressions of community members to the platform or to the client. Maybe it is too much to ask for solidarity in cases of fraud, but what becomes evident is that the individuals in the crowd are pitted against each other in a race towards the bottom. The clients are not able to tell which designs are rip-offs because they lack the expertise and don't do a systematic search for potential visuals or sources – but the designers in a contest do. This is how they find out about 'recycled' clipart in the first place, because it is the standard procedure to first do an image search in various image data bases to see how a certain design problem, such as creating a logo of a lion, has been solved previously and what can be recycled without plagiarism. Despite the high commission fee, 99designs doesn't engage in this kind of policing: they let the crowd do it and only then take action after a copyright breach has been reported, when this happens after the design was sold, the client gets her money back from the platform.

⁵⁴² < <https://99designs.de/other-art-illustration/contests/help-pierpont-community-technical-college-art-illustration-204333/messages> > [accessed 2April 2015]

4.4 – GLOBAL DESIGN CROWD, LOCAL COMMUNITY

Given how tough the competition on platforms such as 99designs is, one might wonder who is willing to work under these conditions and why? There are at least two major forces changing the design business through crowdsourcing: *amateurism* and *globalisation*. They both provide a seemingly unlimited supply of cheap labour. The impact of globalisation can easily be backed up by solid numbers, based on the location of the workers, its impact quickly becomes evident by looking at the countries of origin of the contest participants. But before I come back to this point, I want to briefly discuss the problem with amateurism, which is an important factor, too, especially in creative crowdwork, but also a very slippery notion. The problem is, that the term amateur is often used to belittle the quality and value of the work done by people it refers to, and it is almost impossible in many cases to draw a clear line between amateurs and professionals. Different people mean different things when they use the term amateur.

It once described men of nobility making forays into art and science, sometimes on a very high level, but without having to make money from it – such mundane matters were below them. It can also mean hobbyists passionately and skilfully pursuing a craft in their spare-time, while also having a ‘proper’ job to make a living.⁵⁴³ Some people describe themselves proudly as amateurs, whilst others use the term in a condescending way, meaning dabblers and dilettantes (see chapter 1.3). In the course of ‘Web 2.0’, the term underwent a tremendous revival, though its ambiguity was, if anything, only enhanced, especially in the design world.⁵⁴⁴ In a press kit that can be downloaded from their website, the founders of CrowdSpring assert that *their platform makes geography as irrelevant as academic degrees, job titles and experience*. ‘A creative could be a janitor by day and a designer by night, or a stay-at-home mom who doesn’t have the time to run her own web studio.’⁵⁴⁵ So, the platforms do address amateurs directly – amateurs in the sense of people having a day job, doing design on the side. Professional designers, those who do design as a first job and have to make a living from it, often use the term amateur as a strategy to belittle the participants on the crowd platforms. For them, amateurs are those without talent, skill and education – good reasons, they insinuate, why clients should stay away from the platforms if they want good design. This perspective is also perpetuated by Jeff Howe, who on different occasions described the situation of crowdsourcing in the creative industries with ‘barbarians at the gate’ of the professions – the old elites under a siege by an army of amateurs,⁵⁴⁶ a tone that is very much reminiscent of the 19th century crowd debates.

Yet, Daren C. Brabham, assistant professor at the Annenberg School for Communication & Journalism at the University of Southern California and an expert on contest-based crowdsourcing has

⁵⁴³ Knott, Stephen, ‘Amateur Craft as a Differential Practice’ (unpublished Ph.D., Royal College of Art, 2011) <<http://researchonline.rca.ac.uk/1132/>> [accessed 19 August 2014]

⁵⁴⁴ Schmidt, Florian A, et al. *Kritische Masse von Profis und Amateuren im Design* (Berlin: form + zweck, 2010)

⁵⁴⁵ Kimbarovsky, Ross, and Mike Samson, ‘crowdSPRING Press Room’ <<http://assets.crowdspring.com/docs/cS-Press-Kit.pdf>> [accessed 16 August 2014]

⁵⁴⁶ Howe, Jeff, ‘Is Crowdsourcing Evil? The Design Community Weighs In’, *Wired Business*, 2009 <<http://www.wired.com/business/2009/03/is-crowdsourcing/>> [accessed 19 March 2013]

compellingly shown, that ‘the crowd of amateurs in crowdsourcing is a pervasive myth.’⁵⁴⁷ And I do agree with him on this point. Though there are many amateurs trying out platforms such as 99designs, those who are doing the majority of the work, who are winning the contests and are building up a portfolio over time, are seriously trying to build a career in graphic design and see this as an entry point. As such, they are not appropriately described with the term amateur. And as Brabham has pointed out, to do so justifies low recompense and inhibits self-organisation of the workers and a fight for fair labour standards. The ‘myth of the amateur crowd’, as he calls it, creates an atmosphere of democratisation and inclusion while perpetuating a fiercely capitalist logic.

Any individual in the crowd engaged in a for-profit crowdsourcing application, amateur or professional, accepts his or her position within a capitalist enterprise. That the crowd controls the products they produce or the means of production through their submissions to a crowdsourcing site is an illusion. They are laborers, not owners, and ‘amateur’ laborers accept an even lower status in that arrangement than ‘professionals’. Yet, the label of amateur conjures a democratic, ‘of the people’ impression of what is really taking place on a crowdsourcing Web site.⁵⁴⁸

In this sense, the false classification of the members of the design crowd as amateurs is just another way for the platforms to eschew responsibility for them as employees or workers. Paradoxically, the platforms from time to time publish portraits of their most successful designers to demonstrate how professional they are and how well they are doing in their business. So the platforms are sending mixed messages here by addressing designers first as amateurs, with the offer to ‘become a designer’, while also presenting them as professionals. Behind that is of course the promise of a transformation from amateur to entrepreneur, as in the story of Nicolas Sheriff, a ‘natural-born entrepreneur’, or so the 99designs blog assures us, who grew on the platform and now has a job as a product manager at a San Francisco start-up via a client he met through crowdsourcing.⁵⁴⁹ In that blog post, 99designs paints a picture of itself as a business school: ‘Sheriff considers the 99designs model to be somewhere in between being a freelancer and running a business. The site teaches designers how to deal with a series of clients on a particular time schedule. It teaches time management in a semi-corporate business structure.’⁵⁵⁰

The seemingly paradoxical approach of addressing individuals in the crowd as unskilled workers and, at the same time, as entrepreneurs also has legal implications. It allows crowdsourcing platforms to outsource all risks and responsibilities that would come with employees doing labour for a company. Mechanical Turk for example is emphasising in its Terms of Use that its workers are ‘independent contractors’ who do not fall under regulations such as the Fair Labour Standards Act – the US law from 1938 that determines whether workers are entitled to minimum wage (see chapter 3.4). As for the design platforms, their users might be moonlighting janitors and stay-at-home moms (in the parlance of CrowdSpring), but when they agree to the Terms of Use, they legally become independent

⁵⁴⁷ Brabham, Daren C., ‘The Myth of Amateur Crowds’, *Information, Communication & Society*, 15 (2012), 394–410
<<http://dx.doi.org/10.1080/1369118X.2011.641991>>

⁵⁴⁸ Brabham 2012, p.14

⁵⁴⁹ Lekach, Maya, ‘Nicholas Sheriff Grows from 99designer to Business Innovator’, 99designs Designer Blog
<<http://99designs.com/designer-blog/2014/08/25/nicholas-sheriff/>> [accessed 5 September 2014]

⁵⁵⁰ Ibid.

contractors, not entitled to any worker protection. They alone have to bear the risk of not making the transition from amateur to entrepreneur. But the system in which they find themselves hardly allows even the more successful ones to generate an income that would justify the constant risks of not getting paid at all. Not when things like health insurance and sick days are factored in anyway. Except when they have a very low cost of living and no other option to find clients nearby because they often live in remote areas or regions with a struggling economy. This is why globalisation is the most relevant economic driving force behind the rise of the crowd platforms for design. To describe the outsourcing workforce in developing countries sweepingly as amateurs is a blatant misrepresentation.

The role of globalisation in shaping the way the crowdsourcing of design has developed can hardly be overestimated. As Thomas L. Friedman has described vividly in his seminal book on outsourcing, ‘the world has become flat’.⁵⁵¹ For jobs that can be done by an individual on a laptop – a significant portion of design work – the internet has created an increasingly level playing field. The main prerequisites are that both parties in an outsourcing operation speak the same language, have access to a fast internet connection and that the product or service can be digitised. Within professions where that is given, everybody stands or will stand in competition with everybody else who is offering the same service over the internet. In this respect, crowdsourcing is really just an intensification of a much larger economic development that has been going on since at least the 1990s, only now the partners on both sides of the outsourcing process are potentially individuals, not necessarily companies anymore. This is unlike Apple outsourcing to Foxconn. With crowdsourcing, the competition happens on the individual level on both sides and without anyone being employed anymore. With the click of the mouse you can either hire or join a crowd no matter where you are.



Fig. 58: Screenshot of a map showing the distribution of the 208 self organised local ‘Meetup’ groups of the global 99designs workforce.⁵⁵²

According to an interview that 99designs CEO Patrick Llewellyn gave *TechCrunch* in 2013, about half of the money that the platform pays out to designers goes to Asia – to the Philippines and India in

⁵⁵¹ Friedman, Thomas L, *The World Is Flat: The Globalized World in the Twenty-First Century* (London: Penguin, 2007)

⁵⁵² ‘99designs Meetups Everywhere’, Meetup <<http://www.meetup.com/99designs/>> [accessed 16 August 2014]

particular, while about 70% of the clients come from the US and 15% from Europe.⁵⁵³ Unsurprisingly, the outbreak of indignation regarding the business model of 99designs happened primarily in the wealthy western nations, while designers from poorer regions in the world are more likely to identify with doing spec-work for a living. This becomes very clear when looking at the size of the self-organised local MeetUp groups of 99designs workers, which can be found in more than 200 cities worldwide. To join such a group and go to the regular meetings shows a level of identification and dedication that is geographically very unevenly distributed. While in 2014, the groups in London and Berlin only had eight members each, the ten largest groups were:

1. Yogyakarta (Indonesia) 164 designers
2. Belgrade (Serbia): 130 designers
3. Novi Sad (Serbia): 124 designers
4. Davao (Philippines): 78 designers
5. Bucharest (Romania): 74
6. Bandung (Indonesia): 70
7. Manila (Philippines): 70
8. Jakarta (Indonesia): 60
9. Karachi (Pakistan): 57
10. Dhaka (Bangladesh): 56



Fig. 59: A picture of the 99designs Meetup in Yogyakarta, Indonesia from 2012, with a 99designs mural in the background.⁵⁵⁴

⁵⁵³ Ho, Victoria, 'Design Competition Model Is Working For 99designs, Especially In Asia', *TechCrunch*, 2013
 <<http://techcrunch.com/2013/08/06/design-competition-model-is-working-for-99designs-especially-in-asia/>> [accessed 5 May 2014]
 See also: Wee, Willis, '99designs: "There's Raw Talent in Indonesia and Philippines"', *Tech in Asia*, 2013
 <<http://www.techinasia.com/99designs-raw-talent-indonesia-philippines/>> [accessed 15 August 2014]

⁵⁵⁴ 'An Epic 99designs Meetup in Yogyakarta, Indonesia', Get the creative edge <<http://wsblog.99designs.com/designer-blog/2012/02/24/epic-99designs-meetup-yogyakarta-indonesia/>> [accessed 19 August 2014]

The local 99designs community of Yogyakarta in not only the largest one, but so it seems also the most dedicated. At a meeting in 2012, depicted on the photo above, they composed a creed that is a remarkable expression of their identification with and their loyalty to the platform:

We who are present at the 99designs Meetup in Yogyakarta-Indonesia are proud of our identities as Indonesians and as designers, and we are committed to representing our community with integrity and professionalism. Sadly, there are some negative perceptions of our community that have taken root because of the unsavory actions of a small minority of players. We are here to take a stand against those perceptions by establishing and maintaining a high set of behavioral standards.

Resolutions:

- We strive to cultivate an informed and respectful community of designers who are well educated in international copyright law and the 99designs Code of Conduct and help share that knowledge with others.
- We will carefully review any copyright infringements and accurately report violations of the 99designs Code of Conduct to the site administrators.
- We will help minimize negative and inappropriate comments targeting designers and clients by setting a positive example and cultivating a community of professionalism and respect.
- We support the crowdsourcing platform as an outlet for creative and professional services. We invite all fellow designers to join us and help uphold its rules and regulations.

We hope that with the creation of this resolution of graphic designers in the Meetup Yogyakarta-Indonesia, creatives and designers from all countries will understand the true and honest spirit of the Indonesian graphic design community. We are members of 99designs and we will always strive to do clean and honest work while maintaining a purity of creativity in accordance with the rules of the site.⁵⁵⁵

This creed is remarkable on several levels. First of all it shows how differently 99designs is perceived in a developing country like Indonesia. Then, it is a highly visible and symbolic expression of a crowd that has transformed into a local community, by meeting in one place, doing a design project together,⁵⁵⁶ and most importantly by setting themselves rules that they pledge to abide. What they did could be regarded as the epitome of professionalism. Almost like a guild, they guarantee to ensure quality to the outside world by applying social self-control in regards to ethics and standards of a craft. They also directly address one of 99designs' biggest problems with quality, namely plagiarism and neglect of copyright issues. They seem to have the feeling that they as Indonesian designers of 99designs have to defend themselves against such accusations and they decide to do this by building a local community that is proud of its identity, first of all as Indonesians and then as designers. To be able to work together, designers and clients need to speak the same language, and for good design work, also an understanding of local culture. Which is why the trend goes towards huge platforms with local branches in the language of the respective country.⁵⁵⁷

⁵⁵⁵ *Ibid.*

⁵⁵⁶ At least as a gesture – everybody contributed to the background of the mural but it was one designer who did the actual motive, as can be seen on a video recording of the event: <<https://youtu.be/MES2xbgLFnw>> [accessed 2. April 2015]

⁵⁵⁷ I have tried to interview the authors of the creed, but unfortunately they denied my request, referring to their insufficient English skills.

To fully understand crowdsourcing, it is crucial to acknowledge the huge opportunities it offers for people who were previously excluded from participating in the western creative industries, not because they were amateurs or 'barbarians', held at bay by a 'snooty elite' of professional designers, but because of much larger inequalities and injustices of the capitalist world order. Designers in the rich half of the world must be very careful not to attack the injustices of crowdsourcing by dismissing their colleagues in the other half of the world as amateurs. What is needed instead is solidarity between the designers and a critique of the platforms on the level of the asymmetrical power structure they systemically establish.

*

In March 2011, Grace Oris, a designer from the Philippines published a remarkable and much read post on her blog about quitting her 'Spec Addiction'.⁵⁵⁸ Her voice is important because it comes from a country where the salary per day can be, according to Oris, as low as \$4. She described her experience with the logo platforms as a trap novice designers can easily fall into:

It may start with 'Wow, that's easy! I can do a much better design than that.' So you sign up and if you are any good, you might get 4 or 5 stars and feedback that goes something like: 'I really, really love your design! Could you please make the following changes...?' Anticipating a win, you happily make the changes, create as many variations as possible and go so far as to show your design in context. Unfortunately, you lose. You wonder what you did wrong, was definitely sure you were going to win, and overall feel pretty rotten. But you move on to the next contest. [...] It's a pathetic cycle of excitement-discouragement-delight-dejection...

Grace Oris is an engineer by training, writes fluently in English and is very outspoken. In her blog post against the 'spec addiction', she referred to numerous articles from professional bodies of the western design industry and especially from the anti-spec movement.

I stumbled into design through this (crowdsourcing) design backdoor while looking for online work. Although I am grateful that these contest sites introduced me to a passion I wasn't previously aware of, I am certainly not proud of it. After reading countless anti-spec articles (you can start by reading David Airey and No!Spec), I was convinced spec work was unethical. You can sum up all the arguments in a simple analogy like, would you order various dishes at a restaurant and pay only for the one you like best? It is embarrassing that I used to value myself so poorly as to be counted among seemingly dispensable designers who get no compensation for hours of work.

All this makes this a good example to show that it is a prejudice that outsourcing is limited to unskilled, uncreative labour, being piped to people otherwise disconnected from the labour market. Western design activists such as David Airey (from NO!SPEC) took notice and posted responses in the comments section on her blog, together with many long statements by designers from developing countries, either strongly agreeing with Oris or defending crowdsourcing as a boon. The entire thread is 17,000 words long. The world of digital creative labour has truly become flat, with a shared lan-

⁵⁵⁸ Oris, Grace, 'How I Quit Working for 99Designs, Crowdspring and Mycrobust', 2011 <<http://graceoris.com/2011/03/how-i-quit-working-for-99designs-crowdspring-and-mycrobust/>> [accessed 30 April 2014]

guage, the same access to resources like tutorials and image databases, the same digital tools, and shared concerns exchanged in trans-national debates, connected via social media.

Grace Oris is also an example that the professionalisation promise of 99designs can to some extent be true in so far as she describes that only through the platform she had discovered her passion and talent for graphic design, which she went on to do full time – though not by participating in contests anymore. She looks back at the platforms with disgust – because they provide an ‘atmosphere’ as she puts it, ‘that could eat you.’ She makes clear that even if one can manage to generate a living wage this way because of low cost of living, what remains is her sense of indignation of having to gamble for fair payment. Which is why she argues that people from developing countries have to come to recognise their true value in a globalised economy. The Philippines is a country with a large number of adults working abroad, for example as sailors or nannies, often having to leave their children behind.⁵⁵⁹ For Oris, the internet is the great opportunity to put an end to that, yet she came to regard crowdsourcing as a trap undermining the strive to become a self-determined and proud professional.

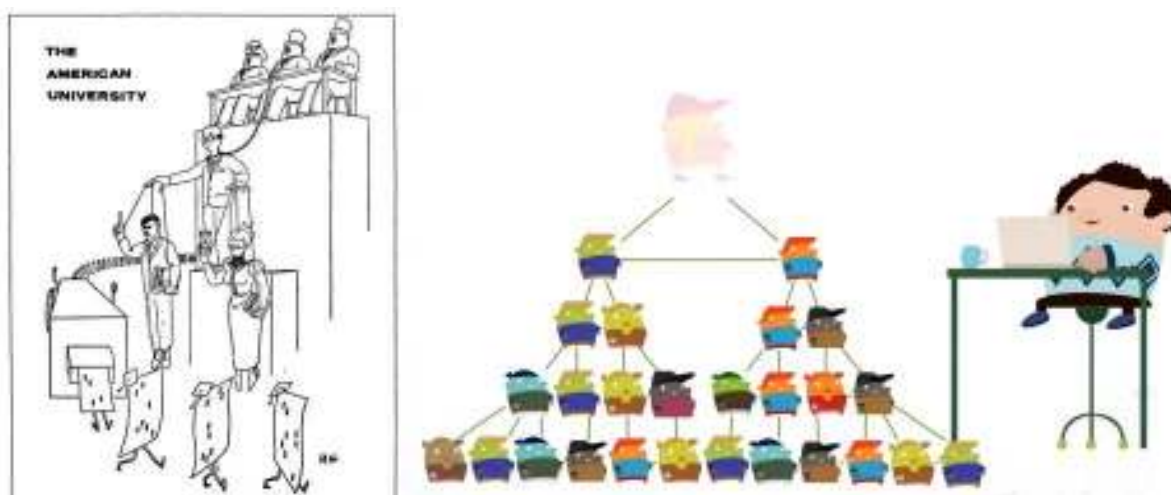


Fig. 60: Juxtaposition of two illustrations about computer-enabled pyramid structures; on the left, a critique from the 1960s student movement, on the right a contemporary promotion of such structure.

Similar to the situation in *cognitive piecework*, the platforms for *contest-based creative crowdwork* have geared the legal and financial framework for the distribution of work decidedly against those actually getting the work done. The business model of the platforms relies on a very asymmetric power structure designed to the disadvantage of the workers. Coming back to the illustration from a promotional video by the logo platform MycroBurst introduced at the beginning of this chapter, it is remarkable to see how this structure is actually something that is being marketed as an advantage. The illustration might as well be a satire, critiquing the rigid commercial pyramid structure with masses of

⁵⁵⁹ These people are called Overseas Filipino Workers or OFW. In 2012, the Commission on Filipinos Overseas estimated that about 10,4 million Filipinos were living abroad at that point. < http://cfo.gov.ph/images/stories/pdf/2012_Stock_Estimate_of_Filipinos_Overseas.pdf> ; see also <http://en.wikipedia.org/wiki/Overseas_Filipino> [both accessed 2 April 2015].

sub-humans at the bottom, and one person in charge, residing over the production process while comfortably sitting on a chair at a table. The structural similarities between the 1960s illustration from Berkley criticising the power structure of the computerised American University and the illustration from 2011, which promotes the power structure of the computerised crowdsourced design production, are astonishing.⁵⁶⁰ In both cases, there is a pyramid of people doing work, with strings attached as if they were marionettes. Those in control are not part of the pyramid, but outside of it. What is new, and one could say revolutionary, about the crowdsourcing approach is that now everybody who is able to spend some money can buy ‘fifteen minutes’ of being in charge of the pyramid – they can be the one giving orders to the crowd. In that sense, the power structure is seemingly very open, some would probably even say ‘democratic.’ But the colourful illustration from 2011 is incomplete; it lacks two layers. The true power lies with those who own the structure, i.e. the platform providers, who harvest up to fifty per cent of the transactions that pass through it while outsourcing the risk to those in the pyramid. It is the platform providers who had this illustration made, but they left themselves out of the picture. And on top of them, equally invisible, there is another layer, the guys with the (imaginary) top hats, the venture capitalists, enabling rapid expansions and acquisitions and expecting a hefty return on investment. Depending on the position you have in the structure, the phenomenon of contest-based crowdsourcing for design looks very different.

⁵⁶⁰ The illustration is actually a still from a short promotional animation film: MycroBurst Video – How It Works, 2011 <http://youtu.be/Rc7gMwf_HBk> [accessed 12 August 2014]

4.5 – JOVOTO – TRYING TO DESIGN A FAIRER CROWD CONTEST SYSTEM

The previous sections showed that *contest-based crowdwork* in design, in the way as it is championed by 99designs, can be characterised as a race to the bottom. It is a winner-takes-it-all system for the participants, who have to gamble for getting paid. It is a fierce competition, based primarily on price not on quality, resulting in self-exploitation and plagiarism and a working environment in which designers are pitted against each other also in regard to self-policing, that is, the reporting of copyright infringements. The platform providers take a large percentage of the money that the clients pay, while only providing and advertising the arena for these ‘hunger games’ of graphic design, without taking any responsibility for their workers. All legal and economic parameters are geared decidedly against the participating designers; the platform has successfully outsourced all the risks to the crowd and deliberately obfuscates its pricing structure and the win/lose ratios. Despite its rough working conditions, many creatives, especially designers from developing countries but also amateurs and young professionals, those who enter the field with little to lose, still perceive 99designs as an opportunity, and some actually manage to be quite successful on the platform. I argue, that as a system, 99designs is exploitative, because of the way risk and opportunity, workload and profits are distributed across the stakeholders and because of the deceptive display of pricing structure and actual chances to win.

The questions that arise from this: are these negative conditions inherent to crowdsourcing or is it possible to create a system with a better balance between the interests of the three main stakeholders, the clients, the designers and the platform providers? And, can *contest-based crowdwork* in the field of design be organised in a way that is fair and economically sustainable for all stakeholders?

The Berlin-based platform jovoto⁵⁶¹ aspires to do just that, and has been doing so since its public launch in October 2008. The company was created in 2007 at the University of the Arts in Berlin and was financed by individual investors, so called ‘business angels.’⁵⁶² Its founder and CEO, Bastian Unterberg, has studied computer science but also design, and his art-school background and that of the platform might be why jovoto is more sympathetic to the position of the creatives. In many interviews and presentations Unterberg often explicitly distances jovoto from platforms like 99designs and emphasises the importance of fairness for running a crowdsourcing platform for design.⁵⁶³ He describes jovoto as an ‘evolved form of crowdsourcing’ with the goal of being ‘as sustainable as possible for the community.’⁵⁶⁴ Unterberg claims that his platform deals with the ‘future of creative work’, which he envisions as transparent, collaborative and interdisciplinary, with open pro-

⁵⁶¹ <http://www.jovoto.com>

⁵⁶² One of them is Prof. Dr. Thomas Schildhauer, who is also the head of the Institute of Electronic Business, associated with the Universität der Künste Berlin. Jovoto originated from this institute.

⁵⁶³ I met Unterberg personally in 2009 and 2010 at the conferences Volkssport Design and Typo Passion, both held in Berlin, were I invited him in my role as conference organiser to speak about his business model. I met him again for an in-depth interview in October 2014. The following synopsis is partly derived from these encounters and conversations. ‘Volkssport Design’, Alliance of German Designers, 2009 <<http://www.agd.de/727.html?&L=1>> [accessed 26 August 2014]; ‘Quo Vadis Design Profession’, Typo Berlin 2010, 2010 <<http://www.typoberlin.de/2010/index.php/97/2>> [accessed 26 August 2014]; Grüner, Herbert, Florian A. Schmidt, *Volkssport Design: Symposium zur Lage der Designprofession. Nachspiel* (Berlin: Kunsthochschule Berlin-Weißensee, 2010)

⁵⁶⁴ Unterberg, Bastian, and Joel Kaczmarek, Bastian Unterberg (Jovoto) im Interview: ‘Wir bringen Menschen aus unterschiedlichen Disziplinen zusammen’, 2011 <<http://www.gruenderszene.de/interviews/bastian-unterberg-jovoto>> [accessed 22 August 2014]

cesses and flat hierarchies.⁵⁶⁵ Unterberg states that the launch of the company was a partly a response to the question ‘How do we want to work? In what kind of structures?’ In an interview in 2013, he said that his key motivation for founding jovoto was the observation that ‘too much exploitation of creative talent happens in the idea industries. No matter if you look at fashion, design, architecture or advertising most of these industries are not doing a good job at nurturing talent.’⁵⁶⁶ According to Unterberg, the entry barriers for new designers to get into the creative industries are far too high and the goal of jovoto is to change this by connecting big brands with a large pool of young creatives. For obvious reasons, interviews with CEOs tend to contain a good deal of self-promotion and thus have to be assessed in that light, but Unterberg claims that he approaches the crowdsourcing of creative work from the perspective of the creatives and thinks that the controversial method could be instrumental *against* exploitation. For Unterberg, crowdsourcing, as a concept, is first of all a neutral form of organising work and can be structured in a way that is fair and sustainable for the participating designers. So how does jovoto operate exactly and can it hold up to its ambitious goals of being *fair* and *sustainable*?

Jovoto is significantly smaller than 99designs in regard to the size of its crowd, the number of contests held and subsequently also its turnover. As mentioned above, 99designs is now running up to 10,000 contests a month, while jovoto has run a total of about 250 contests throughout its existence. Jovoto has twenty employees in Berlin, a core group of 2,500 very active members of the crowd who are on the platform almost every day, and a total of about 62,000 registered designers who only contribute occasionally. In comparison, as of April 2015, 99designs had almost a million registered designers; if we assume that the proportion of really active users is of a similar size, about five per cent, 99designs would have a core group of 50,000 very productive designers, a workforce twenty times that of jovoto. Both platforms were launched around the same time in early 2008, but the model of 99designs became mainstream and spawned many copies while jovoto has created a small niche without direct competitors; there are other platforms that compete for a similar crowd, but not for the same clients and not with the same platform architecture. In 2010, jovoto unsuccessfully tried to expand into the US market and opened an office in New York, but by now the company has downsized again to its Berlin office plus one representative for American clients, who is based in Silicon Valley. The company has now been profitable for two years.⁵⁶⁷

In comparison to the ‘logo mills’, the structure of jovoto is significantly more elaborate in almost every aspect – in regard to the variety and complexity of the tasks, the way the contests are organised and moderated and also the structure of the *community*; the term community, as mentioned earlier, is always a bit problematic in the context of crowdwork platforms, but the crowd on jovoto is

⁵⁶⁵ *Ibid.*

⁵⁶⁶ Translation of an interview with jovoto’s founder Bastian Unterberg in Colombia’s newspaper El Tiempo, June 2013
 <<http://www.jovoto.com/blog/2013/06/interview-with-jovotos-founder-bastian-in-colombias-key-newspaper-el-tiempo/>> [accessed 22 August 2014]

⁵⁶⁷ In Unterberg’s view, ‘jovoto started too early, the market wasn’t ready in 2009 and the company almost went bankrupt in 2011 because it was doing to many things at once; since 2013 they reach break even at the end of the year; no huge profits yet’. (From my interview with U., October 2014.)

certainly more community-like than on the ‘logo-mills’ because the platform tries to encourage collaboration in addition to competition (I will come back to this).

Jovoto’s clients are not small new businesses in search of a cheap logo but well-established multi-national brands such as Starbucks, Coca Cola and Unilever, NGOs including Greenpeace and the World Wildlife Fund and even political parties like the Sozialdemokratische Partei Deutschlands (German Social Democratic Party) and Die Grünen (Green Party) in Germany. In general, it can be said that the projects on jovoto are much more about *ideation* than about finished design products; consequently, jovoto markets itself a platform for *open innovation* (see chapter 3.3), meaning that it renders itself not primarily as a solution for corporate clients to outsource labour but as a way for them to harvest fresh ideas from the creative crowd.

In regard to the value that is created by the crowd, ideation is very hard to evaluate, because the quality of ideas doesn’t directly correlate with the number of hours worked on them. Moreover, coming up with new ideas can feel less like work and more like play, and good ideas potentially generate much more value than the cost of labour (it is important not to confuse *play*, the free experimentation without strict rules, with *gamification*, which is a rule-based, quantified reward system installed on top of play and work; jovoto is a playground as well as a workplace that uses gamification to reward certain behaviour). If we compare the repetitive labour of cognitive piecework, the industrial production of logos and the development of ideas for marketing and product design, the work process becomes increasingly playful and harder to measure and evaluate, and the same is true for the results. A brilliant and a lousy idea can take equal amounts of time to generate, so a piece rate or an hourly rate as a basis for remuneration doesn’t work well in an open crowd in which contributors potentially try to scam the platform or the client by just uploading anything.

Jovoto’s contests spread over a wide spectrum of creative disciplines. The platform categorises its tasks into four categories of work: Design & Branding (50% of the contests; mainly graphic design); Innovation (32% of the contests; mainly ideation for product design); Communication (11% of the contests; mainly marketing and advertising) and Architecture (8% of the contests; mainly interior design).⁵⁶⁸ Designers who have at some point participated on jovoto came from 190 different countries; the active members come from 83 countries.⁵⁶⁹ 24% of the members come from Germany, Austria or Switzerland, 44% in total from Europe (including the German-speaking nations), 19% from the Americas and 11% from Asia, mainly from China and India.⁵⁷⁰ The strong German speaking member base in combination with a high percentage of clients from Germany sometimes lets the conversations on the platform slip into German, but jovoto encourages its members to converse in English.⁵⁷¹

⁵⁶⁸ The percentages stem from an info-graphic jovoto released in December 2013. <http://www.lead-digital.de/aktuell/social_media/jovoto_feiert_crowdstorm_rekord> [accessed 22 August 2014]

⁵⁶⁹ ‘About / Jovoto’ <<http://www.jovoto.com/about>> [accessed 22 August 2014]; the number of countries the active users come from is from the interview in the next footnote; the total number of countries ever registered is 190, according to [jovoto.com](http://www.jovoto.com)

⁵⁷⁰ The numbers date from April 2014 and were published on Slideshare: jovoto GmbH, ‘Jovoto Company Presentation’, 2014 <<http://de.slideshare.net/jovoto/jovoto-unternehmenspräsentation-23404102>> [accessed 27 August 2014]

⁵⁷¹ On jovoto’s support page it reads: ‘Since jovoto is an international platform, it’s best to use English because it’s generally the language that most people can understand. <<http://www.jovoto.com/support/ideas#7>> [accessed 26 March 2015]

The prize money that is awarded per contest on Jovoto is much higher than that on the logo platforms. Common sums paid to winners in the crowd are between 2,500 and 5,000 euros; occasionally the prize money passes the mark of 10,000 euros per contest. The Swiss army-knife brand Victorinox, one of Jovoto's best and returning clients, awarded a prize pool of 24,500 euros in December 2013,⁵⁷² and in January 2011, the founder of LifeEdited, Graham Hill, paid the crowd on Jovoto the record sum of 70,000 dollars for architectural design ideas for an ecologically sustainable flat in New York.⁵⁷³



Fig. 61: Rendering of the modular and flexible interior design 'one size fits all' that won the Clients Award in the architectural LifeEdited contest on Jovoto in 2011. The design, illustrated in dozens of renderings, was submitted by the Jovoto users 'catalin_sandu' and 'flow_ugf' (Adrian Iancu) two architects and interior designers from Bucharest, Romania. The design was licenced by the client for 10,000 US dollars. In the community ranking, this design made it on place eight.⁵⁷⁴

Equally relevant as the higher sums per contest is the fact, that Jovoto is not based on a winner-takes-it-all system, there are always second and third prizes, usually up to ten, and in the case of Victorinox, there was even a fifteenth prize. Winners on the higher ranks usually get rewards of about a thousand euros; those on the lower ranks earn about 250 euros per win. Most importantly, it is the community, not the client, who decides about the ranking through voting.

Such a spread of the prize money across several competitors is actually a demand that, since 2012, more than 3,000 designers have called for in the user forum of 99designs – until now unsuccessfully: 'Designers spend their lives to create for 99designs, so they deserve to be awarded for 2nd and 3rd places. All contests should be guaranteed [...] no work without payment, designers are not a "crowd" or "herd," we are humans and deserve payment for our hard work.'⁵⁷⁵ Obviously, the total sum of money that is being awarded per contest must be relatively high in order to allow for a reason-

⁵⁷² <<https://victorinox2014.jovoto.com/briefing>> [accessed 22 August 2014]

⁵⁷³ <<https://lifeedited.jovoto.com/briefing>> [accessed 22 August 2014]

⁵⁷⁴ <<https://lifeedited.jovoto.com/ideas/10288>> [accessed 22 August 2014]

⁵⁷⁵ <<https://99designs.uservoice.com/forums/198-01-general/suggestions/2649337-award-2nd-and-3rd-places-all-contests-should-be-g>> [accessed 22 August 2014]

able distribution to a number of winners. Since this is not compatible with 99designs' discount approach, this demand of the crowd, like the one for transparency, will most likely remain unheard.

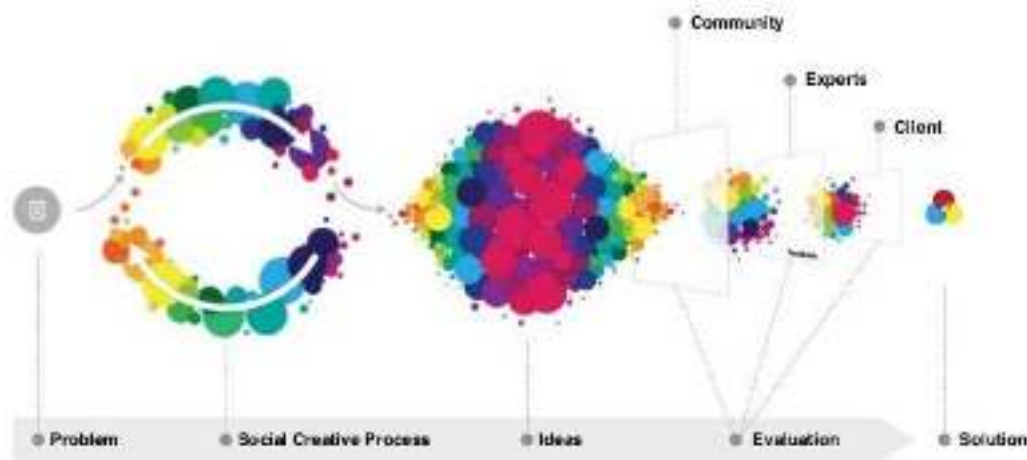


Fig. 62: Illustration of the creative process on Jovoto, showing the different stages of filtering of ideas; out of a company presentation from 2014.

Even though also designers on Jovoto experience work without payment – it is a contest platform after all – all contests are guaranteed, in the sense that in any case a number of designers will win some money. In every contest, a large part of the money gets distributed based on the votes of the crowd; Jovoto calls this the ‘Community Prize.’ In addition, a ‘Client’s Choice’ award is given to a designer if the client wants to actually use a particular outcome of the contest – this award is then coupled with an additional licensing fee for the transfer of the copyright. Until that point, all copyright remains with the participating designers, although for six months they are not allowed to sell their idea to a third party, in case the client decides that he or she wants to buy the idea after the contest is over. A third type of award, the ‘Jury Prize’, is sometimes awarded by a designated group of experts, typically in the more prestigious, large and public contests (this then resembles the architectural competitions discussed at the beginning of this chapter).

The client has to decide before initiating a contest on which level of the platform it should take place. There are three layers: ‘Jovoto.Public,’ ‘Jovoto.Private’ and ‘Jovoto.Invited’. In public contests, everybody can participate, no matter the qualification, and the whole process happens in the open. This can be attractive for clients who want to generate publicity for a product or a brand via various social networking platforms (crowdsourcing as marketing). Private contests are limited to designers who have reached a certain level of seniority on the platform or have applied with a portfolio to prove their professional skills. These contests are smaller, more focussed on quality than on quantity and often confidential. This means that the designers have to sign a non-disclosure agreement (NDA), which protects information that the client wants to share with the crowd but not with the public (e.g. concepts for a new product line still in development). In the third layer, Jovoto works only with a small number of designers, handpicked for that particular project. This third layer used to be

called ‘jovoto.labs’ and would guarantee payment for every contributor. Not organised as a contest, it functioned more like outsourcing work to a (tightly monitored) community of freelancers.⁵⁷⁶

In a 2014 business-to-business presentation by jovoto, the company explained its pricing structure in a model calculation.⁵⁷⁷ For public contests, jovoto charges two to three times more than for private contests – the company explains this with the fact that the community management is more expensive for a large crowd with unrestricted access and also more prize money is needed to move the crowd. The length of the contest, usually between 5-7 weeks, is also a factor (on 99designs, the contests take about a week). Jovoto separates its billable positions into five categories:

- 1) Access to the community and infrastructure;
- 2) Strategy, project management and community management
- 3) Award money for the community;
- 4) Evaluation;
- 5) Documentation and analysis.

The cheapest package in this model calculation, for a private contest without any extras, costs 25,500 euros (with 6,500 euros going to the crowd); the most expensive one, for a public contest with extras costs 82,600 euros (with 15,600 euros going to the crowd). Optional positions are the inclusion of external juries, a ‘Facebook Voting App’, and an analysis and presentation of the results by jovoto. Fifty-five per cent of all projects on jovoto are public; the rest are private.⁵⁷⁸ In comparison with 99designs, the crowd gets an even much smaller share of the client’s money: seventy-five per cent or more of the fee goes to the platform. However, the difference is that jovoto is more involved in guiding the design process and consulting the client, from developing the brief to guiding the designers, with a lot of expertise, giving them productive professional feedback based on the brief. The company also helps the client with the evaluation of the outcome, putting the results in a meaningful context for the client. While 99designs only advertises and then provides the platform to the client and usually stays out of the production process, jovoto operates more like a design agency with an army of mostly unpaid interns. They are not *just* a platform, but their company is built on free labour nonetheless. Undoubtedly, jovoto’s employees substantially contribute to the successful outcome of the design process, in close collaboration with the community, which is why the platform doesn’t have to fight off as much accusations of being exploitative and is not even accused of asking for spec work (though it certainly does, too).⁵⁷⁹ Still, the gap between the market value for the aggregate labour of the huge expert crowd and the market value of the skills and infrastructure to guide the crowd is remarkable.

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⁵⁷⁶ As the name already indicates, jovoto.labs is used for experiments on how to better reimburse the crowd and raise the quality of the output.

⁵⁷⁷ Jovoto GmbH, ‘Jovoto Company Presentation’, 2014 <<http://de.slideshare.net/jovoto/jovoto-unternehmenspräsentation-23404102>> [accessed 27 August 2014]

⁵⁷⁸ The proportions are from the info-graphic released by jovoto in December 2013 (see above) – for some reason, they haven’t factored in the percentage of jovoto.invited projects.

⁵⁷⁹ <<http://dodamp.com/blog/jovoto-com-exploiting-talent-and-diluting-the-value-of-design/>> [accessed 27 August 2014]

Gamification (see chapter 3.3) plays an important role for managing the behaviour of the crowd on jovoto and for transforming it into a community. The virtual gamification currency that is applied by jovoto to reward desired behaviour is called ‘Karma.’ The concept of ‘Karma Points’ to incentivise good behaviour in online communities was first introduced in the late 1990s by the news site Slashdot in order to coordinate its system of distributed content moderation. Today it is commonly used on large websites such as Reddit. As jovoto explains on its support site: ‘Karma shows us how active a person is and what quality the community member’s activity has. High Karma is always a good thing!’⁵⁸⁰ Community members get Karma points for contributing ideas and for rating and commenting the designs of others. The rating of ideas is very important because it serves not only as a feedback loop to guide the design process but is also a voting mechanism by which it is decided who will get one of the Community Prizes in a contest.

Since the voting behaviour of the crowd has direct financial consequences for the individuals within it, some users try to turn the odds in their favour and game the gamification system. One such strategy that has caused disputes among community members in the past was to get friends that were previously not on jovoto to open accounts just to vote in ones favour. Now, members have to first gather 150 Karma points before their ratings are counted. By doing so, jovoto has stopped this form of manipulation or at least made it much harder. Another strategy employed by contributors to manipulate the outcome is the so-called ‘bashing’, the systematically negative rating of the contributions of competitors, regardless of their actual quality: also alliances between members that always rate each other’s contributions positively are a known problem. Such strategies are harder to pin down, but jovoto is monitoring the voting behaviour algorithmically as well as through its community managers in order to discover such irregularities.

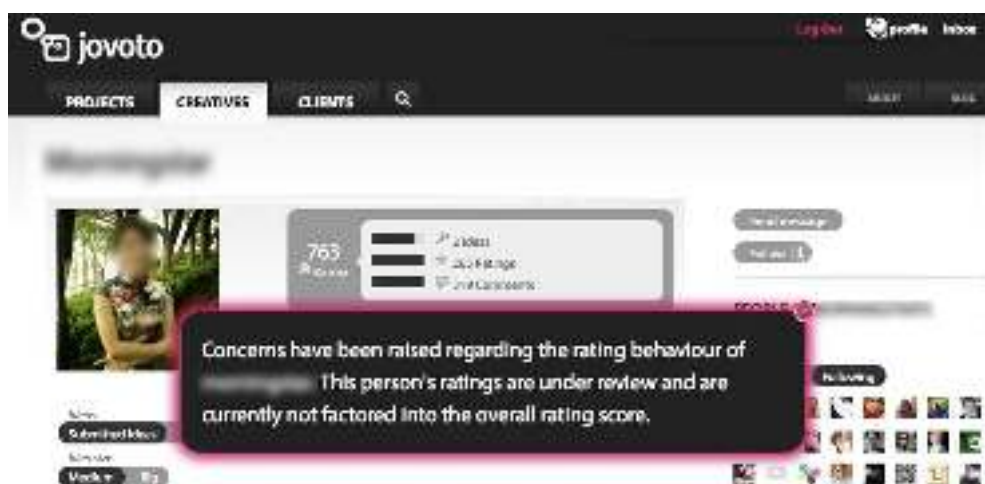


Fig. 63: A profile page of a jovoto user (with 763 Karma points) who was flagged because of her rating behaviour.

⁵⁸⁰ <<http://www.jovoto.com/support/profile#5>>

The Karma point system provides designers on Jovoto with a strong incentive to interact with each other as well as to rate and comment on the ideas of others. Through this, they get to know and help each other and evolve from an anonymous crowd into a community, with a shared history and a shared goal – to be as creative as possible for the international brands, which they are proud to get the chance to work for. Because of the fact that it is the community that decides by vote about the distribution of the money (at least to some extent), the designers have much more creative freedom. They can allow themselves to take the client's brief as just a loose starting point and 'think out of the box' to develop something that might not be marketable but still wins them a prize when the community recognises its originality and quality. In that sense, the designers on Jovoto have much more creative license than their freelancing colleagues or those employed in agencies. Tasks can be approached like in an art school. But in order to be awarded money, they have to rank high in the popularity contest on the platform. While the system seems to work quite well, in the sense that the highest ranked designs on Jovoto, in contrast to the winners on 99designs, tend to be also the most elaborate and creative ones, it can also become a problem that the ranking is not exclusively decided based on the quality of the designs, but also on the popularity of the respective designer on the platform. Voting and commenting is a reciprocal activity and community members who are very engaged in this tit-for-tat exchange increase their chance to get a community prize. An effect of this is, that the feedback that designers give each other on Jovoto is overwhelmingly positive and very short. The typical tone is that of excited cheering and constructive criticism occurs rarely and if it does, it is often interpreted as bashing.

I confronted Unterberg with my observation that the communication between the designers on the platform, although marketed to the clients as a surplus insight, tends to degenerate into a form of meaningless white noise. Unterberg admitted, that he is not happy about the 'lack of criticality among community members.'⁵⁸¹ He told me that he had sometimes intervened personally with critical feedback to specific designs, but that this has already led to an active community member leaving the platform for good. He explained: 'I was personally frustrated about the cheesy comments that praise mediocre ideas. And so I posted what I really thought of an idea, and I asked why it was praised to such an extent and why nobody was telling the author constructively that this could have been done better.' In order to address the problem of the hyper-friendly lack of criticality, Jovoto is experimenting with adjustments of the incentive and gamification system. In October 2014, Unterberg explained that a special 'Best Feedback Award' would be introduced, through which the company wants to reimburse those people who give meaningful, critical comments – the money for that is taken out of the budget of the Community Award.⁵⁸² This means, the amount of money that the community can decide about will be smaller and the platform is introducing a new lever to steer certain behaviour through tracking and positive reinforcement in form of a financial reward.

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⁵⁸¹ Interview I conducted with Bastian Unterberg on 8. October 2014 in Berlin.

⁵⁸² *Ibid.*

Like designonclick.com, jovoto has a feature to rank all the designers on the platform according to the number of contributed ideas, but also according to their Karma points – and nobody has more Karma than Xavier Iturralde, a designer from Guayaquil, Ecuador. In early 2015 his counter read 64,026, about four thousand Karma points more than the runner-up on the leaderboard. Xavier (who goes only by his first name on jovoto), joined the platform in September 2010 and has since then rated 10,911 ideas, commented 10,354 ideas and submitted 314 ideas of his own to 123 different projects. 73 of his ideas won a prize, in many cases one of the lower community prizes worth 250 euros, but occasionally he won more than a thousand euros for an idea. In his four years on jovoto he has earned a total of 34,577 euros, which is on average earning of 110 euros per idea or 720 euros per month.⁵⁸³ Xavier is one of the members in the crowd for whom it is beneficial to invest not only in the quality of his designs but also in the affective labour of positively commenting thousands of other ideas.

In his most successful contest so far, a 2011 poster campaign for Cisco Systems, advertising a specific router,⁵⁸⁴ Xavier won a total of 6,000 euros. He had submitted five different design concepts to this contest, one poster series got the 2nd place of the community prize, worth 3,500 euros. Another idea, based directly on the image *Brain/Cloud (With Seascape and Palm Tree)* by artist John Baldessari, was awarded 9th place in the competition and the community prize of 500 euros, and was additionally licensed by Cisco for 2,000 euros (which of course raises the question if he and jovoto even had the copyright to sell this image to Cisco.)

In 2014, I found out that he had just launched Pictosis.com, his very own crowdsourcing platform for design. The platform is very much inspired by jovoto, in style as well as in method; as of February 2015 it has run two contests, one for a company from Berlin that sells travel baggage and awarded 5000 dollars to the participating designers, the other one for Ecuavisa, a television network from Ecuador that awarded 4,500 dollars prize money; like on jovoto, the money was split between twenty winners, who produced exceptionally elaborate illustrations.

In an interview that I conducted with Xavier Iturralde in September 2014, he was very enthusiastic about every aspect of creative crowdsourcing. Iturralde had studied design, advertising and communication at the Universidad Casa Grande in Guayaquil, is 33 years old and has 13 years of work experience as a designer in an agency, until 2013 he was working on jovoto as a second job in the evenings. ‘Jovoto has been always my side work, the last 7 years I was a prisoner at a local agency working as Head Creative Director and Designer, but finally I claimed my independence day in August 2013 to build my dreamed design studio and private crowdsourcing platform.’⁵⁸⁵ Before jovoto, he had also contributed to Threadless, a highly successful and large platform for the contest-based crowdsourcing of T-Shirt designs. Via a cooperation between Threadless, Starbucks and jovoto, Xavier discovered the platform 2010 and stuck with it. His original motivation was to just see if his designs could live up to the standards of international clients and competitions. He perceived the chance

⁵⁸³ The minimum wage in Ecuador is 318 US dollars <<http://www.reuters.com/article/2012/12/22/ecuador-correa-idUSL1E8NM1PP20121222>>; With his 745 Euro or 980 US Dollar per month, Xavier earns three times as much through jovoto.

⁵⁸⁴ Cisco systems is a multi national corporation based in Silicon Valley, selling hardware for networked computing. In 2013 the company had an annual revenue of 48 billion US Dollar.

⁵⁸⁵ From the interview I conducted with Xavier Iturralde in September 2014 via email.

to work for globally known brands already as a reward in itself, even without winning. He reported that he had tried out various other crowdsourcing platforms but came to the conclusion that ‘for me jovoto is the best of all by far according to: prizes, community members, type of projects, team members, interaction, brands, professionalism, fairness [...] and community sense [...]’.⁵⁸⁶ Xavier reports that he was even able to build up an on-going client relationship with a German company through jovoto. Furthermore, he points out that jovoto has continuously improved the platform, under involvement of the community, with the goal of making the contests as fair as possible. This is certainly very different from how 99designs deals with its crowd, where, as I have shown above, the demands of thousands of designers in the support forum were ignored for more than a year and the discussion then shut down without any concessions.

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To return to my initial question: Can contest-based creative crowdwork be organised in a way that is fair and sustainable for all stakeholders? I think that the way jovoto has designed and developed its platform over the recent years shows that the company is sincere about creating a fair system. When it comes to platforms for contest-based creative crowdwork, jovoto is definitely fairer than comparable platforms. However, considering that Xavier Iturralde, as one of the most successful designers on the platform is on average earning only 110 euros for elaborate design concepts that he is doing for big brands, this is still a very badly paid and precarious job and I would argue that he is investing much more value than he is getting paid for and is thus still getting exploited by the system; especially when we take into account the enormous amount of additional affective and cognitive labour that he has to invest in form of rating and commenting on the ideas of others, in order to have such a high Karma level, be friends with everybody and increase the chances of winning a community prize. It is definitely a question of character: one has to be extremely passionate and enthusiastic about designing for big brands and living at least part time in an online community, both are obviously the case for Iturralde. If all the communication on the platform is not perceived as extra labour but as fun, and if all the design work is perceived essentially as learning and not as work, it is hard to argue that this is exploitation; especially in cases like that of Xavier Iturralde, who obviously knows exactly what he is doing and is quite successful at it. But because of the fact that only a tiny minority can get as much out of the platform as Iturralde and because of the imbalance between the amounts of unpaid labour and the money paid out to the crowd in total, this is a system that takes more from its contributor than it can reimburse them for. Jovoto might be a fairer system than 99designs, but it is still exploitative and, because of the use of gamification methods, also manipulative. What can be said with certainty is that jovoto does not provide a sustainable workplace for those in the crowd. Unterberg says that ‘It is evident, that only a fraction is earning real money on the platform – under five per cent – our job as platform providers is it to think about the next steps towards how to further develop the system in a way that those who understand it as a workspace also get some security.’ He is very aware that the

⁵⁸⁶ *Ibid.*

fundamental problem is the contest model itself, that this can never be sustainable for the majority of the participants. Unterberg acknowledges that ‘a contest-based model of course benefits first of all the client in regard to price and not the workers.’ But he continues to explain that they want to leave the contest approach for certain jobs and only handpick the best designers from the crowd and pay them in full. He tries to identify those community members who perceive Jovoto primarily as a workplace and he is thinking about how to ‘improve their income perspectives sustainably and generate more security for them’. ‘We have to offer more security to the people – get out of the contest model, in this segment.’

However, Unterberg stated as a fact, that in order to keep the company afloat, they rely on the large percentage of the community that regards its labour on the platform not as a job but as a creative leisure time or as professional training. ‘We need the contest model, and it makes sense, when many people work together, learn from each other, have fun and also generate solutions; some earn money, others generate new skills or a network then that is ok for everybody, and at the end of the day there are solutions for clients who pay for it. We just need the large talent pool in order to extract from it the best.’ Unterberg’s vision for the future of creative crowdwork, the way he imagines it will be in 2030 is the following:

I see a creativity playground for a quarter million people who get the possibility to test out their abilities, get access to tasks ... and that has something of an internship ... from among those are five thousand people (2%) who went through an assessment centre within the system in order to then work in a space that offers them all the securities that an employment would, but with the advantage that they can choose with whom they want to work, when they want to work, on which topics they want to work. We will even create safety measures such as labour union engagement, lobbying for the creatives, [...] and think about different insurance policy products, so that people can work securely also in these environments [...] that is the great goal that we are aiming for with Jovoto.

No matter how fair Jovoto designs its contests, it can’t do without them and it is thus best described as a very lean design agency that manages to run its business with ninety-five per cent of its staff being *unpaid externs*. Like with internships, this can make sense for young designers as a stage to pass through, but it is certainly not a sustainable source of income. The biggest problem with Jovoto as a model, or proof of concept, is that it makes it feasible also for big clients to take advantage of the crowd and use it to develop projects much more complex and valuable than on more primitive platforms like 99designs. The logo platforms exert pressure on individual freelance designers, Jovoto has constructed a system by which it can use the freelance designers to exert pressure on other design agencies and compete for much larger budgets. By doing so, Jovoto is eating into another, more up-market segment of the design industry. As of 2015, this seems to be working, but the comparatively slow growth of Jovoto and the fact that there are no real competitors in this model of crowdsourced creative work shows, that this market segment can not get as easily disrupted as the logo market. It looks like the logo platforms have established themselves as an industry in its own right, while Jovoto is more of a niche phenomenon or a laboratory for a slice of the future of work.

4.6 – SUMMARY AND CONCLUSIONS OF CHAPTER FOUR

1. I have shown that crowdsourced design work falls almost entirely into the category of contest-based crowdwork. I argue that this is partly because design tasks can't be atomised into microtasks, but partly also because creative solutions can't be evaluated automatically or quantitatively. Thus, micro payments, a piece rate or an hourly wage is not feasible; for a guaranteed piece rate, workers could just upload anything as an idea to game the system. Without trust, pre-selection of workers or other entry barriers undermining the openness and non-binding nature of what a crowd is, the contest model is, it seems, inevitable for creative tasks.
2. I argue that, as a consequence, the waste of labour caused by letting people work competitively on the same task in parallel but separately, when ultimately only one solution is needed, is the inherent unsolvable problem of organising work in the form of a contest and not collaboratively.
3. As I have shown, design contests had existed in the creative industries for a long time, but the rise of dedicated platforms for creative crowdwork is genuinely new. It is a new industry building its entire business model on the concept of so-called 'spec-work'. Exploitation that had previously happened sporadically is now done in an organised form and on an industrial scale. Platforms for creative crowdwork have become widely adopted in certain segments of design, especially (but not exclusively) in logo design.
4. This type of exploitation works particularly well for design tasks, because it is deemed prestigious to work in the creative industries; the work is intrinsically rewarding; the results immediately become visible; they can seemingly be evaluated also by laypeople; and they can be produced digitally with tools, templates and tutorials that are freely available online. In the case of logo design, the high demand for logos by small businesses is an important factor.
5. Amateurism and globalisation provide a seemingly unlimited supply of cheap labour that the platforms take advantage of. They promise newcomers at the margins to overcome the otherwise high entry barriers of the design industry by offering work experience and the opportunity to build up a portfolio. With the understanding of working for the portfolio and the hope of a career outside of the platform lets the workers invest much more time than would be economically reasonable. The work could be described as underpaid 'hope labour' (as in internships). I call it the Hunger Games of the design industry.
6. I have shown a deceptive use of the term entrepreneur in this area; it is used to describe the founders of the platforms, their clients and even the members of the crowd, who are referred to as micro-entrepreneurs. I argue that this is misleading because it obfuscates the extremely uneven distribution of risks, and chances of making a profit. I regard calling even the most precarious crowdworkers 'entrepreneurs' to be an expression of a neoliberal ideology that hides the fact that the inequality between platform providers and crowdworkers, as well as among crowdworkers, is systemic. The crowdworkers don't have any financial capital to invest: their only capital is their labour, and by working for a few dollars an hour at best, it is impossible to break out of this cycle. Classifying precarious workers as entrepreneurs serves the platform providers because labour laws don't apply to contracts between entrepreneurs.

7. I have shown that earnings in contest-based crowdwork follow a power-law distribution: it is a jackpot economy in which only the top 2-5% are getting by. Moreover, it is deceptive to render the unfair distribution of reimbursements as merely a representation of individual industriousness or talent. Focussing on the very few highly successful winners in the crowd distracts from the fact that, for the contest system to work, the vast majority of crowdworkers must be losers, no matter how good they are.
8. I have demonstrated that the pricing scheme of 99designs is opaque in regard to the fees the platform takes. The platform hides the fact that it charges (as I have calculated) between 35% to over 50% of the client's money for running the contests. Even in my direct requests, via email and in person, the managers of 99design refused to reveal these numbers. I have shown that the platform also ignores requests for clarification and transparency by its users. Thus, I argue that the lack of transparency is a deliberate deception of clients and workers. (99designs also hides the devastating win-lose-ratios of its designers, as well as the number of active users).
9. According to my calculations, the average remuneration per uploaded logo comes down to just a little more than 2 US dollars before taxes. Thus, an average designer would need to upload over half a dozen logos per hour in order to make US or German minimum wage.
10. It follows from this that designers trying to compete on such a platform have just two options: either, they think economically and spend only a few minutes on each design by uploading generic or derivative logos of low quality – or they aim for quality and fall into the trap of self-exploitation. As I have shown, the combined effects of self-exploitation and plagiarism creates a poisonous working environment, since in addition to the creative work, the crowd must also police itself and report transgressions of other members to the management and the client. 99designs describes itself as a 'community', yet, in the light of the points above, the nature of the communality of such a crowd engaged in winner-takes-it-all competition is highly questionable.
11. 99designs has not only outsourced the labour costs and 'entrepreneurial' risk of not getting paid to the designers on the platform, but also *any* legal liability. In turn, if a designer finds a client through the platform, he or she is legally obliged (since March 2015) to run all subsequent commissions and communication with that client for the next two years through the platform. 99designs thus gets cut of all future revenues of the designer while offering little to no service in return and carrying none of the risks. Designers can only get out of this 'agreement', automatically imposed on them by the 'click wrap' of the Terms of Use, by paying \$2,500 to the platform. These points clearly show that the platform is powerful enough to dictate terms at will, to the disadvantage of its workers.
12. I argue that, to an even greater extent than MTurk, 99designs is far from being a neutral marketplace for work: it is exploitative because of underpayment, unfair distribution of legal and economic risks, and because of its deceptive pricing structure.
13. I have shown that while the workers on MTurk suffer from alienation and dehumanisation, the creative crowdworkers fall for self-exploitation through over-exposure. They constantly have to invest in the build up of their portfolio and the creation of a friendly, innovative and industrious online persona, and their every contribution on the platform – designs and words

– is tracked, public and searchable. I argue that what is advocated as the future of work is actually a cheery Panopticon of a workplace that never forgets but constantly gives gamification points for favourable behaviour. It is behaviourism reloaded. Working with the portfolio in mind already causes the designers to work harder, but the gambling aspect, inherent to the contests model, significantly enhances this: they fall for the delusion that it is worth putting in just a few more unpaid hours to stand out from the crowd – against all odds.

14. I have shown that global economic inequality is an important driving force behind the rise of crowdsourcing platforms. The platforms allow workers from marginalised regions to work for Western clients and because of the comparatively low costs of living in regions with a struggling economy, these workers are willing to work for even less money. As I have shown with the distribution of Meetup groups, many designers from developing countries see the platforms primarily as an opportunity. I argue that to fully understand creative crowdwork, it is crucial to acknowledge the huge opportunities it offers for people who were previously excluded, not because they are amateurs but because of much larger economic inequalities. It is wrongheaded for designers in the rich half of the world to battle crowdsourcing by dismissing their colleagues in the other half as amateurs.
15. The size of the Indonesian 99designs group from Yogyakarta and especially its creed for professionalisation documents a high level of identification with the platform. It is also the expression of a sub-crowd that has transformed itself into a local community. Almost like a guild, it guarantees quality to potential clients by applying social self-control in regard to the ethics and standards of a craft. I think that this form of self-organisation has the potential to also strengthen the position of the designers against the power of the platform. Currently, the power lies with the platform providers who design and own the infrastructure, but as with older labour struggles, an organisation of the workers could very well cause a power shift in favour of the workers.
16. In order to answer the question if creative crowdwork can be designed in a way that is fair and sustainable for all stakeholders, I analysed the platform jovoto, which aspires to achieve just that. After having observed the development of jovoto for years and after several encounters and a long interview with its founder, I have come to the conclusion that the ambitious goal is not just a marketing claim but a genuine effort. This made jovoto an ideal alternative model for my study to juxtapose with 99designs.
17. I have shown that in many respects, jovoto treats its designers more fairly. In every contest, a group of designers will win some money. The sums paid out to the crowd are much higher and spread across the crowd. It is not a winner-takes-it-all-system. The crowd is part of the evaluation process and thus, via a vote on quality, has a direct influence on which of its members will get paid. The Terms of Service are not biased against the designers; and the platform providers operate in a manner similar to that of a professional agency by getting involved in the brief and the design process, which arguably justifies the comparatively high fees that it charges clients. The fees are not deducted from the prize-money but charged for separately. I have found no evidence for any deception of the crowd.
18. However, I argue that although jovoto is comparatively fairer, it is still a business model built on unpaid hope labour and as such it is certainly not sustainable for all stakeholders. Thus it is

still exploitative. I have shown that even the most successful designers on this platform on average only earn about 110 euros for complex designs that they do for very large brands. CEO Bastian Unterberg confirmed that only the top 2-5 per cent can make a living on the platform. Even if the platform continues to grow, this percentage is likely to stay the same.

19. Furthermore, I argue that there are three additional problems that emerge on more elaborate platforms such as jovoto: i) there is a much higher amount of additional unpaid labour on top of the actual design work because the crowdworkers have to engage with more complex design briefs, and have to evaluate and comment favourably the designs of their colleagues; ii) the gamification mechanisms (such as Karma points and badges) are much more refined and, as such, more manipulative; iii) and by operating as an agency competently involved also in the design process and through a much more elaborate community management, the underpaid labour of the crowd is made accessible as a resource also for very large brands and for very complex tasks. Thus, while at first sight being the fairer system, and while still being a niche phenomenon, compared to the size of 99designs' operations, jovoto's model eats into a higher segment of the design market and potentially transforms more up-market, well paid professional design jobs into precarious labour.
20. In short, I argue: creative tasks, when done by the crowd, have to be organised in a contest; this inevitably means a huge proportion of unpaid labour (over 90%); it can and must be organised more fairly; at the same time, it can't be organised in a way that is sustainable for all stakeholders; and it can make sense for newcomers (for learning), hobbyists (for fun) and overachievers (the top 5%) to participate. But as a model for the future of work, the contest approach and the constant gamification is a devastating prospect that as soon as the platforms reach a certain size and create a new class of precarious crowdworkers they will need to be countered politically.

Conclusion: Towards an Ethics of Creative Crowdwork



Fig. 64: Three models of work and the relationship between humans and their tools. On the top, an employed *Taxi Driver*, 1976; on the left, a driver for Uber, 2014; on the right, Google's self-driving car, 2014.

We are seeing three major developments transforming how work is organised. The first is automation and the second one is outsourcing to individual contractors, the third one is globalisation. Work that can, as yet, not be automated, gets outsourced either to a crowd via various crowdsourcing platforms or to individuals via freelance labour platforms. For those tasks that can be outsourced and don't have to be done locally, globalisation, as the third major factor, plays an important role. In this thesis I have focussed on crowdwork, but this phenomenon has to be understood in the context of these three fundamental shifts. The pictures above illustrate the crossroads at which we are standing with the example of transportation: the old model is a taxi driver, employed by a company that owns the cars and pays the wage as well as the non-wage labour costs of its workers (social insurance, healthcare, labour tax etc.). Below on the left is a driver for Uber, a company that essentially owns only an algorithm and a digital platform, but no cars, and doesn't have to bother about worker protection because it renders itself not as an employer but as a technology company, and the drivers are free contractors (Uber calls them 'partners' although the platform dictates the prices). Without physical assets or social responsibility for the workers, it is easy for the platforms to undercut the price that a conventional company with conventionally employed workers must charge for a service. This, plus extreme centralisation and monopolisation, is why the platform model is so *disruptive*. The third picture stands for automation, it shows Google's self-driving car, but also Apple and Uber are aiming for that goal, which shows that these developments are closely connected. The increasing automation will put even more

pressure on the precariously self-employed to take any job they can find, to the conditions that those owning the platforms dictate. What will happen to the Uber drivers when an algorithm eventually replaces them? Owning a taxi or any other such local and physical tool doesn't empower the individual anymore. The worrisome pattern (see fig. 21) in these and many other areas of work is, that a small number of mostly Silicon Valley based companies are now affecting life and work on a global scale. They are reaping the benefit of being employers, without taking the responsibility for the workers that this role would demand. And by investing heavily in automation, too, it looks like the platform-based companies have the future of work cornered. The platforms providers pride themselves on their disruptive power and in their techno-libertarian agenda, conventional politics and government regulations are regarded as an out-dated, inefficient model that needs to be overcome by technology. Despite their deep coffers, the Silicon Valley 'overlords' don't invest in a social and inclusive vision for the future.⁵⁸⁷

The platform model is now affecting all areas of our digitally mediated life and work; from learning and research, to social networking and dating, to shopping and entertainment, to lodging and transportation, to work and play. The platforms have emerged as the most efficient and profitable way to orchestrate all things digital, and some of them reign over more 'users' and cash reserves than nation states. In most nations, however, the people have democratic control over their government. On the platforms, they can only click *agree* and submit to *the terms of use*. It's like voting in communism. I argue that we must *disagree*, and have a wide public debate about what the *terms of the users* should be. I see my work as a contribution to this question.

After all, if designed with a social vision, that has the welfare of all people in mind, automation plus digital labour could contribute to a bright future. That is, if the profits of the platform providers, gained through the labour of their users, were to be distributed fairly. Groups of people who are currently marginalised through their physical location or through high entry barriers of many occupations, would get a chance meaningfully participate in the economy. Most burdensome and unpleasant tasks could be outsourced to the machines, from house cleaning to taxi driving. In total, people would have to work substantially less; but they would still want to work, for fun, for reputation, for social causes, for the joy of honing their skills, for the satisfaction of doing something meaningful, for a sense of belonging to a community. All the pleasurable, intrinsically rewarding and creative tasks could be done by people who freely and happily self-assign to them, who work in their own time and rhythm, from their private home, from the poolside of a tropical resort or from their favourite urban co-working space. Less attractive tasks that cannot be automated, could be paid much better, subsidised or cross-financed with the profits made through automation. If we get this wrong, however, we could find ourselves in a global exploitation system, in which *the many* are reduced to the role of tiny, redundant components in a giant cybernetic infrastructure, toiling precariously under centralised and algorithmically enhanced control of *the few*.

It was Lucius Burckhardt, who in 1980 argued that the most important part of design is invisible, because it deals with the relationship between humans and things. In 2015, his argument is more

⁵⁸⁷ Cox, Rob 'The Ruthless Overlords Of Silicon Valley', *Newsweek*, 12 March 2012 <<http://www.newsweek.com/ruthless-overlords-silicon-valley-63639>> [accessed 4 April 2015]

pertinent than ever because of the unprecedented extent through which the social is mediated through digital tools of which we only see the interface but which deeply affect the fabric of society. The future challenges for designers are in socio-design, and focussing exclusively on the shape of artefacts or the design of their interfaces is missing the point. This is why I regard the shift of perspective from the level of *tools and objects* to that of *platforms and systems* as crucial for understanding the current power shifts in our designed and digitised environment. In the 1970s, Ivan Illich argued that unabated industrialisation, geared exclusively towards efficiency, profit maximisation and unlimited growth, has unacceptable social consequences and is not sustainable. In 2015, this insight has almost become a common place, though as yet with very little consequences. In contrast to the libertarian ideology of Silicon Valley, Ivan Illich looked at the world from the perspective of those disenfranchised by globalisation, the poor and the marginalised, the losers, not the winners. In platform capitalism, however only a tiny minority of winners is rewarded, everybody else supposedly didn't try hard enough. Rewards follow a Power Law Distribution instead of a Bell Curve.

Illich wanted to preserve existing, alternative, local cultures on a small scale and didn't believe in technological determinism, or in solving every problem with more efficient tools. He didn't believe in technological innovations as a sole force for good, but argued to consider their long-term social consequences. He warned not to confuse means with ends and argued for an ethical – not a technological or economic – evaluation of tools and systems, to understand whether they were serving the majority in the end. In the words of Illich: 'A convivial society should be designed to allow all its members the most autonomous action by means of tools least controlled by others.'⁵⁸⁸ He was concerned with the increasing disempowerment of the individual and thus called for the design of *tools for conviviality*, on a small, local, human scale, decentralised and self-governed. I think that Illich provides a useful starting point for developing an ethics for designing fair digital platforms.

The platforms that we have are not the result of technological determinism. They are contingent systems, the result of the design decisions of the people who have developed them, and of what their users are willing to *accept*. They must be designed differently, in a way that is *fair and sustainable for all stakeholders*. What it needs is *participation, deliberation and democratic oversight*. The design of society must not be determined by what is technologically possible but by what is culturally desired. As soon as the platforms reach a certain size, they become political systems. As a society, we need to develop standards by which to evaluate their social, political and economical impact. As I have shown, these systems have a multi-layered history and an ingrained ideology that reaches far back into the twentieth century. It is important to revisit older visions for online platforms, not only to understand their genealogy but also to rediscover humanist and emancipatory ideals that were once connected to their development and that got lost along the way. The return of the notion of the crowd and the coinage of the term crowdsourcing are very telling in this regard: they reveal a change in perspective, from designing tools to empower individual users, to designing platforms that extract value from interchangeable users in their aggregate form.

⁵⁸⁸ Illich, *Tools for Conviviality*, p. 20

The term crowd has always been indicative of a certain power structure; it's those who think of themselves as superior that characterise everybody else as an indistinct mass, that deny the people in the crowd the individuality that they ascribe to themselves and to people they know. It takes an elevated position to be able to speak to the crowd and influence it according to one's own interests. The crowd is always *them*. Dehumanising undertones are typical, and often, the members of the crowd are likened to various animals, which are to be *fleeced*, *milked* or *harnessed*.

The notion of the crowd in the nineteenth century was the result of the Industrial Revolution, of the masses overcrowding the cities in search for work. Gustave Le Bon and others started to study the crowd in order to find out how to best control and manipulate it in the interest of those in political power, while upholding the pretence of a democratic society. The notion of the masses as the sum of all crowds in the twentieth century was the result of mass media and mass manufacturing. People, in their aggregate form, were now seen as consumers, and it was Edward Bernays who, through the techniques of propaganda and public relations, transformed the theories of crowd psychology and mass manipulation into a business model. He found ways to redirect the creative impulses of the masses to serve corporate interests. All it needed was the manufacturing of a palatable language and the pretence of a good cause to suitably influence the mind of the masses so that they would, in the word of Bernays, 'throw their newly gained strength in the desired direction.'⁵⁸⁹ The notion of the crowd in the early twenty-first century is the product of the Digital Revolution. This time, the masses have arrived online, but without physical presence, they were no longer seen as a threat. Instead they were discovered as a resource for the production of knowledge and innovation, an inexhaustible source for free or cheap labour. In the early days of the world wide web in the 1990s, Pierre Lévy wrote that true collective intelligence would be a 'real time democracy' and the antithesis of any totalitarian system as well as of mindless crowd behaviour; it would be based on slow, distributed collective deliberation by the many, without any power in the hands of the few.⁵⁹⁰ But Lévy's socially and democratically spirited notion of collective intelligence was eventually co-opted by the managerial perspective of people like Thomas Malone, who see in it primarily an opportunity to provide cheap labour to businesses.

The most important qualities of a physical crowd, whose members share the same space at the same time, are that the people within it gain strength in numbers and that they can communicate in an unmediated, spontaneous and instinct-driven way, for example through pushing together more densely, through shouting, singing, dancing, stomping, or simply through reading the body language and the facial expressions of those in one's immediate vicinity. All this is what makes a physical crowd so strong and dangerous at the same time. A critical mass of people crowded in one space can spontaneously amount enough energy to overcome oppressive forces, change politics and even bring down a government, but it can also turn the crowd into a plundering lynch mob or cause it to self-destroy in a stampede. When the physical crowd unfolds its full power, it not easy to escape its undertow. Nobody who has ever joined a conflict-laden political demonstration will forget the thrill and alertness, the

⁵⁸⁹ Bernays, *Propaganda*, p. 47, 48

⁵⁹⁰ Lévy, *Collective Intelligence*, p. 77, 81, 82

amount of individual energy that is unleashed by the opposing forces of empowerment, curiosity and fear. The classic school of crowd psychology, spearheaded by Gustave Le Bon and Edward Bernays, undertook great efforts to harness this raw source of energy first in favour of those with political power, later in favour of those with a business interest. The classic notion of the crowd is characterised by this self-interested outsider perspective, looking down at the crowd from an elevated position.

When the physical crowd became virtual, the meaning of the term underwent a paradigm shift, the crowd transformed from being dangerous and destructive to being wise and industrious. We now have two different notions of what a crowd is – the one on the streets behaves differently than that on an online platform. I argue that the online crowd has not only become smart, creative and productive, it has also lost the means to fight for its own goals. The core quality of the physical crowd, as Canetti, Le Bon and others saw it, was the empowering feeling of becoming part of something bigger, of giving up one's personality in exchange for a 'sentiment of invincible power.'⁵⁹¹ It seems like an achievement that one doesn't have to give up one's personality anymore to join a crowd, but the loss of power is a serious trade-off for crowdworkers online. *Strength in numbers transformed into weakness in numbers because the individuals in an online crowd, especially in those that have become a workforce, don't have a collective goal, they don't pool their resources in their own interests but have become competitors in a global race to the bottom.*

Although we can observe things like mob behaviour on Twitter and a pooling of resources in crowdfunding, in most cases, people don't join online crowds to become stronger as a group. In paid crowdwork especially, the opposite is the case: the members of the crowd are competitors for the same sparse resources and everybody is fighting alone. Due to the lack of physical presence, there is no feeling of empowerment anymore. In an online crowd, we neither see nor feel the presence of the others, all we see are profile pages, isolated utterances or forum conversations at best. Energy is not building up the way it would in a shared physical space, because online, only those who are active become visible for a short moment, before they fade into the background of the platform again. All these observations are important in the context of exploitative crowdwork – the crowd has lost its rebellious strength and spontaneity, and all attempts to organise and build internal structures run against the grain of what a crowd is.

There are certain core characteristics that prototypical crowds online and offline have in common. They have no entry barriers, no boundaries and no internal structure; there are no hierarchies, no rules, no relationships or roles that have grown over time, as they do in a community. The true crowd is a loose group of independent individuals who don't need or have any special qualification; who don't even need to know each other and can stay anonymous. They gather around a temporary common interest, without having to share the same values or resources. Most importantly, in a crowd, nobody is responsible. I argue that as soon an internal structure for collective decision-making and coordinated action emerges, as soon as there is a division of responsibilities and roles and as soon as the crowd creates its own entry barriers, it stops being a real crowd. This could be an opportunity.

⁵⁹¹ Le Bon, *The Crowd*, p. 22

In order to gain strength in numbers, the workers have to stop being a crowd and become an organised workforce on a large scale or form a network of communities of trust on a small scale.

Because of the complexity of the field, there is no simple conclusion for the evaluation of digital labour in general, which is why I have differentiated and mapped the various business models and methods for the distribution and aggregation of tasks and evaluate them in relation to each other. I understand this thesis partly as a contribution to the categorisation of this field. One of the reasons why it can sometimes be very hard to find a common ground in debates around digital labour is the fact that work and play form an amalgam, with mixture ratios that vary from platform to platform. In many cases, this makes it impossible to distinguish labour from leisure. Most of the new forms of value creation via crowd-based online platforms display elements of work and play at the same time. There are stakeholders at both ends of the spectrum arguing either that everything, even the most dull and exploitative clickwork is essentially play or that everything, even status updates on social networks, are essentially work and that people should demand wages for their labour on Facebook. I argue that both views are not very productive for a differentiated analysis, which is why in chapter three I have mapped how ‘work-like’ the different fields within the wider digital labour landscape are. My argument is, that if platform providers take on the role previously held by employers, they also have to be held accountable by the same standards in regard to worker protection and government regulation. Where to draw the line between work and play is not just a question of academic nit-picking, it is one of the most difficult hurdles if we think about were to apply labour laws and regulations.

Another source of confusion in the crowdsourcing discourse comes from the conflation of the non-profit, self-organised realm of *commons-based peer production*, which serves the general public, with the profit-oriented, hierarchical outsourcing methods of *crowdsourcing*, that are serving private or corporate interests. For a meaningful public debate, these two models of organising work must be discussed separately (many-to-many vs. many to few). It is important not treat projects like Wikipedia as if they were crowdsourcing platforms. Because the term crowdsourcing has been used so indistinctly over the past years, I use the term *crowdwork* instead, in order to emphasise that what the crowd is actually contributing is labour and thus the phenomenon has to be discussed in regard to fair wages and labour law. I have shown that *paid crowdwork* is among the *most work-like fields* in the digital labour landscape, because it is characterised by someone with capital setting a *specific task*, that has to be done according to a *specific brief*, and within a *specific time frame*, and which gets appropriated by the crowdsourcer after completion.

Paid crowdwork offers a lot of opportunity and freedom. In spite of all the criticism, it is important to keep that in mind. It is very inclusive. Crowdworkers don’t need work experience, academic degrees or impressive CVs to get a job. They don’t have to live in the physical vicinity of the workplace and don’t have to commute. They can work as much or as little as they like, whenever they like. They don’t have to comply with a specific dress code or put up with the pecking order of the office. They don’t have a boss and don’t have to follow orders. They can travel the world or take care of their children or elderly relatives without running into conflicts with their jobs. On the other hand, crowdworkers don’t enjoy any job security and the average pay is very low compared to Western minimum wage standards. The workers often don’t know in advance if they will eventually get paid. There is no weekend, no holiday, no sick leave or family leave, no health insurance or retirement

fund. And the workers have to supply and maintain their own means of production; a computer, a fast internet connection, and, in the case of creative crowdwork, also expensive software.

I argue that crowdwork is best characterised by a sense of *reciprocal irresponsibility* in the sense that workers and crowdsourcers *don't have to answer to each other*. They enter into a very temporary and indirect relationship, by knowing very little or nothing about each other and by not being responsible for each other. This gives both sides an unprecedented degree of flexibility. The platform providers – as third parties – mediate the interaction and are typically more obliged to answer to their paying clients than to the contingent workforce. The design of the platforms, as well as their advertisement, often reveals that they are geared towards the interests of the clients: ‘hire 700 designers. Pay one.’ I argue that the platform providers do not just maintain a neutral marketplace on which the two other parties do business on their own terms. Instead, they define in great detail, who can see or do what, and how buyers and sellers of labour can communicate with each other. However, the degree to which the platform controls the interactions and transactions varied from case to case, and this complicates the question whether the platform providers or the paying clients takes on the role of the employer.

The crowdsourcer doesn't care *who* is eventually going to do a task, as long as the results are all right. It is an open call, to whom it may concern, and this is the most important difference to freelance labour platforms. The fact that workers self-assign and are watched by algorithms saves a lot of overhead which would otherwise be spent on ‘human resource management’, on finding, selecting, briefing and controlling the individual workers. Thus, the combination of crowdsourcing and automation also makes jobs in middle management redundant.⁵⁹²

The *open call* is a core characteristic of crowdwork, and it is doing away with all entry barriers. As a consequence, *a crowd of virtually unlimited size* and *completely unknown level of skill* can participate, but its members then have to compete for a very *limited* amount of money that somehow has to be distributed to the crowd as an incentive. For true crowdsourcing, this essentially only leaves two options: either everybody who does the job gets a small amount of money per task (as in cognitive *piecework*) or only a tiny percentage of the very best workers ‘win’ a comparatively large amount of money (as in *contest-based crowdwork*).

In other words, in cognitive piecework, everybody in the crowd continuously gets a small bite of the carrot to keep going. In contest-based creative work, everybody hopes to win the whole carrot in the end and is willing to work for free to sustain the hope for that win. The carrot can be subdivided by the number of people in the crowd, or only the fittest individuals who come out on top get a proper bite. Because it turns out that people are willing to work even if payment is to some degree subject of chance; the size of the carrot in relation to the size of the crowd is a representation of the odds that those working in the crowd are willing to accept of eventually getting paid properly. The hungrier the crowd, the smaller the carrot can be.

A third option would be to abandon the open call and preselect workers for the crowd, based on their qualifications, but this would reintroduces entry barriers and ‘human resources’ overhead and

⁵⁹² Reinhardt, Peter, ‘Replacing Middle Management with APIs’, 2015 <<http://rein.pk/replacing-middle-management-with-apis/>> [accessed 15 February 2015]

would stop being proper crowdsourcing. Quality control that was once done by gatekeepers at the entry to the workplace inevitably shifts to the process and or the results. The crowdsourcer can't know beforehand which of the workers will do a good job. Since crowdworkers don't have a boss, they are instead subjected either to an evaluation by other crowdworkers or to new forms of algorithmic management and surveillance. Their every mouse-click and keyboard stroke can be tracked, quantified, compared and rated. Some of the platforms for freelance labour go so far as to randomly and frequently take screenshots of the worker's computer screen or even take pictures of the workers themselves via their web-cam. The *constant real-time quantification* of their performance in comparison with other workers exerts a new level of pressure. Through gamification mechanisms, more common in creative crowdsourcing, this pressure is turned into a semi-public competition for reputation on the platform. I argue that this is the crucial trade-off inherent to crowdsourcing as seen from the perspective of the workers: *an unprecedented degree of freedom is paid for by an unprecedented lack of security and an extraordinary degree of surveillance and asymmetry of information and power to the disadvantage of the workers.*

The choice of the incentive model as well as the control method very much depends on the type of task that is being crowdsourced. Which is why I find it most insightful to compare the system of *cognitive piecework*, exemplified by Mechanical Turk, with the system of *contest-based crowdwork*, exemplified by 99designs and Jovoto. Through this juxtaposition, it becomes clear that the type of task that is outsourced to the crowd creates a very distinct structure of how to organise the work in the most profitable and efficient way. Interestingly, the structure of these new workplaces reflects very specific patterns, processes and inequalities that can also be found in their offline equivalent. To be more specific, I argue that the cognitive piecework of Mechanical Turk has distinctive blue collar or working class characteristics, while the contest-based crowdwork on 99designs and Jovoto has distinctive no-collar or creative class characteristics. I furthermore argue, that both systems tend towards being exploitative, but in very distinct ways – not at all distinct from their real world pendants, but from each other.

Cognitive Piecework is unskilled labour that occurs in huge quantities of simple and repetitive microtasks. Those who employ cognitive pieceworkers typically need a lot of them because they have to cope with large amounts of raw data that has to be refined through human labour as one step in a larger industrial production chain. Like at an assembly line, the worker must do the exact same tiny fraction of a much larger task (which often remains unknown to the worker) over and over again. Colleagues left and right do the exact same tasks and this is happening at an industrial scale. The workers neither need to communicate or collaborate with each other to get the work done. The social skills of the workers are as irrelevant for the employer as is their emotional state, as long as the quality and the speed of the piecework remains on a sufficient level. The work is alienating and typically not intrinsically rewarding. It is piecework, so speed is of the essence if the worker wants to make ends meet. Because the work is not intrinsically rewarding, people do it only for money. There is not really an amateur scene of cognitive pieceworkers. People do this work because they have fallen on hard times and have no other option to pay their bills. Nobody would do an unpaid internship on a factory floor involving unskilled and extremely repetitive labour. Because it is unskilled labour, the individual workers are exchangeable, they don't need any formal education or training to get the job, but they also don't leave the job with any meaningful formal qualifications or credentials. There is no

real interest from the employer side to invest in education or personal development. Doing microtasking for a living is socially not held in high esteem. It is not regarded as a craft, a trade or a profession. Most importantly, it doesn't really offer a career. Workers do get better, more efficient, in choosing and doing their microtasks, and thus they can raise their income with seniority, but they do not climb up a career ladder to a place that would provide them more security and less alienating work. Workers can't seriously write into their résumé, that they have been Master Turkers for the last three years. Cognitive piecework is not replacing a class of workers that has existed before the platforms – the platforms have created this very particular crowd. The workers have to get their HITs done on the virtual factory floor of Amazon's platform – e.g. they can not take a bunch of images that have to be labelled, or business cards that need to be transcribed 'home', log off from the platform and upload the result of the work when it is done – they have to work under the constant supervision of an algorithmic management. In cognitive piecework, the crowdsourcer knows beforehand what the result of the work is supposed to look like, and ideally, the results that the crowds provide are as homogenous as possible. The workers have little to no creative freedom in how they can do their work. The quality of the work can be determined automatically. If their work turns out to be below standard, the workers face sanctions in form of a decreasing approval rates, which essentially means that they will be excluded from better paying jobs. This is control through negative reinforcement. Because quality and speed of the work are quantifiable, it is at least possible to consider either higher piece rates or even a minimum wage. The single most problem of cognitive piecework is that it is dehumanising, workers are sold as algorithms and have to remind Jeff Bezos that they are actually living, breathing human beings 'who deserve respect, fair treatment and open communication.'⁵⁹³ Typically, they remain invisible, deliberately hidden in the black box of a giant machine. Cognitive piecework is Taylorism on steroids.

Contest-based Crowdwork, on the contrary, is typically creative, intrinsically rewarding, skilled work. Creative work, though often badly paid, is generally held in high esteem by society. Because of these reasons, many people want to work in the creative industries and creative crowdwork promises an entry into this line of work. Creative crowdwork allows for a display of personal skill, authorship, innovative thinking, taste and personality and the results of it can be presented to others with pride in order to gain reputation among peers and potential clients. The design of a logo is among the smallest units possible in contest-based creative work. It would not be feasible to further subdivide the design of a logo into smaller microtasks. The crowdworkers who participate in contests are free in their creative decisions. Every new task is different from the last one, thus the work is inherently much less alienating than piecework. The creative crowdworkers are meant to provide not only innovative ideas, they must also create things that are appealing, beautiful, fashionable, clever and, in comparison to piecework, relatively complex. In contrast to cognitive piecework, the creative crowdworkers have to invest a lot of their personality and empathy to produce a good result, and they have to communicate much more with each other and with the client. In other words, they have to invest a lot of *affective labour*, in addition to the actual task.

⁵⁹³ <<http://www.wearedynamo.org/dearjeffbezoz>> [accessed 3. April 2015]

Since creative crowdwork is intrinsically rewarding skilled work, the debate about amateurism and professionalism, which is almost irrelevant in cognitive piecework, plays an important role here. But amateurs and professionals are not two separate camps; there is a continuum between them. Amateurs do creative crowdwork in order to improve their skills, build a portfolio and become professionals. Others already are professionals and use the platforms to find new clients for their own business. It is the declared goal of the platform providers to disrupt existing industries – in the case of creative crowdwork, the design industry – and gain shares in that market by offering cheaper and more solutions than any individual freelancers or design agencies could. This causes conflicts. From the perspective of the design industry, the platforms devalue the quality and the economic value of creative work and of the design profession in general. One defence strategy of professional designers is thus to discredit the designers on the platforms as amateurs. This, in turn, plays in the hands of the platforms, because they can argue that amateurs can't expect to get properly paid. Paradoxically, the platforms rely on promising the amateurs that they will become professionals by honing their skills, building a portfolio and finding future clients through contest-based crowdwork.

The work is essentially promoted as an unpaid internship that will supposedly eventually transform into a career – a practice that is also very common in the creative industry outside the platforms. And even though there are statistically only a few winners, the opportunities to eventually leave the platform and kickstart a career, built on the experience gained on the platform, are substantially higher than in cognitive piecework. After all, the creative crowdworkers learn skills that can be applied in many other areas and that are demonstrable through the portfolio. However, the portfolio that every designer is building up over time is also a factor that aggravates the problem of self-exploitation. Those designers who work on the platforms to build a portfolio are always willing to put substantially more time into a design than the small chance of remuneration would allow for. The crowdsourcer can thus harvest much more labour time than he or she has to pay for. While the crowdworkers in cognitive piecework suffer from a lack of visibility, the creative crowdworkers can easily fall into the trap of over-exposure.

The solutions in creative crowdwork are expected to be innovative and thus unknown to the crowdsourcer at the beginning of the process. That one best solution that the crowdsourcer is looking for, can only be recognised after the fact and in comparison with all the other solutions that were offered. This is probably the most important reason why from the client's perspective, contest-based creative crowdwork is so attractive: the client doesn't want to get stuck with just one solution or even a small set of solutions that an individual contractor (freelancer or agency) would be able to provide. Ideally the crowd produces a great variety of possible solutions. The solutions must be *most advanced, but yet acceptable*, and to identify this sweet spot in creative tasks is something that only humans can do. The results can't be evaluated algorithmically and even humans can't evaluate them based on objective, quantifiable criteria alone. In the more primitive forms of contest-based creative crowdwork, like 99designs, it is the client alone who decides what solution is the best and which ones will be discarded. On more elaborate platforms like jovoto, the evaluation is done by several stages of ranking, rating, commenting and filtering, which adds another layer of unpaid labour for the crowd.

While the workers in cognitive piecework are treated as an exchangeable mass and the individuals can only stand out from the crowd by producing work faster and with fewer errors than their colleagues, creative crowdworkers are in a constant competition with each other to be the most crea-

tive, most skilled and most popular designer on the platform. The platform providers foster and control this behaviour through various gamification mechanisms like virtual bonus point, badges, awards, achievements and leaderboards, that reward certain behaviour through positive reinforcement in a constant feedback loop. If cognitive piecework evokes the scientific management of Frederick Taylor, contest-based creative crowdwork evokes the manipulation techniques of B.F. Skinner – it is Behaviourism reloaded.

Contest-based creative crowdwork follows the logic of what labour scholar Andrew Ross calls the jackpot economy.⁵⁹⁴ In a book on crowdsourcing, co-authored by Jovoto founder Bastian Unterberg, the TV show *American Idol* is mentioned several times as an example for how good the contest model works in bringing forth the best performers.⁵⁹⁵ The problem with stardom is of course, that it must follow a Power Law distribution. It is lonely at the top and it takes a lot of losers to make one winner stand out from the crowd. This is hardly a sustainable model to organise the future of work.

But this is not a problem of contest-based crowdwork alone; it is just more visible there. It is a pattern found across many creative professions. A lot of the criticism brought forward in this thesis applies also to academia, to unpaid internships in publishing and design and especially to the art world. In order to be successful in academia, many years of free labour are expected. Scholars constantly write articles for free, while publishing platforms such as JSTOR make a profit from that unwaged work. On top of the academic work itself, it is also necessary to travel around the world from conference to conference to give talks, get heard, build up a network and raise the number of citations and thus ones quantified impact as a scholar. On top of that come student fees, which in the Anglo-American world are so high that they demand an additional willingness or tolerance for risk-taking in form of student debt. But even if one jumps through all these hoops, including the right degree from the right college together with plenty of publications on the side, this is still no guarantee for a secure place on the tenure track that would allow repaying all loans and supporting a family.⁵⁹⁶ For artists, the situation is even more precarious and unpredictable, with the potential jackpot being much bigger, but the chance to make a living from one's work much lower and even more subject to chance and fads. In all of these fields, art, design, culture and academia, people participate not because of the economic prospects, but in spite of them. People follow these treacherous career paths out of passion and conviction. They put in the extra hours, accept self-exploitation and enduring precariousness for the love of their work and for the ever so slight hope to be among the few who actually will hit the jackpot. And even though there is an ambient low level of solidarity, in the end, the model of winning is almost always solitary. It is individuals who win the awards, who get the solo-shows and who become tenured professors. Exceptions exist, but they are rare. Even though no epic win or fail happens

⁵⁹⁴ Ross, Andrew, *Nice Work If You Can Get It: Life and Labor in Precarious Times* (New York: New York University Press, 2009)

⁵⁹⁵ Abrahamson, Shaun, Peter Ryder, and Bastian Unterberg, *Crowdstorm: The Future of Innovation, Ideas, and Problem Solving* (Hoboken, New Jersey: John Wiley & Sons, Inc, 2013)

⁵⁹⁶ This is a point that was also mentioned by several researchers at the Digital Labor Conference in 2014 in New York, for example by Dr. Thorsten Bush, a scholar for digital business ethics. He pointed out that academics who, for example, research the problem of exploitation in the context of fan art and user-generated content in video games tend to sit on a high horse when criticising these new types of labour and how easily people let themselves get exploited. What they fail to recognise is that their own circumstances are often not so different.

in empty space, our society is geared towards individualism and stardom and whoever fails has to blame him or herself alone.

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At the media festival *transmediale* in Berlin in 2015, Peter Sunde, co-founder of the Pirate Bay, recently released from jail, gave a remarkable but also very depressing speech.⁵⁹⁷ In it, he heavily criticised the centralisation of power on the internet in the hands of a small number of US-based technology start-ups. Sunde wailed that we have lost the battle for the freedom of the internet, that we have all become drones, that actually there is not even a ‘we’ or ‘us’ anymore:

We all praised the internet, for the liberty it brings, but it has become the essence of what is wrong [...] We talk about robots and technology taking our jobs, as if jobs had a higher goal in themselves besides what needs to be done. But when building these computerised and automated systems, we created new jobs, and all the new jobs are based in technology, and they feel so free in the Western world, it is almost like you are never at work. We even have our offices at home, we are always connected, we are happy to get to work with our friends. We don’t see that we are becoming robots that work all the time [...]. We don’t need robots, we are them. We are no longer in-between jobs; we are in between start-ups. We talk about start-ups and entrepreneurship as the future [...] but we outmanoeuvred ourselves into believing that alone means strong.⁵⁹⁸

Sunde argued, that in spite of being aware of the rampant inequalities in society, we are too complacent to actually do anything meaningful against it; that by playing the game, we have already lost it. It’s actually one of the old 1960s counterculture slogans: don’t play their game, walk away from it. The way I understand Sunde (or would like to understand him), even though he emphasised that the war is already lost, is that we actually need more engagement and willingness to take responsibility and counter inequality, on a more fundamental level than hitherto. On the same conference there was also a keynote by media scholar McKenzie Wark, who touched on a number of similar points, but ended on a much lighter note. ‘The whole planet has become a badly designed computer game; it is not working anymore. Let’s redesign it – could be fun!’⁵⁹⁹ In that spirit, I want to conclude with a look at the options for a redesigning of crowdwork.

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The crowdwork industry markets itself as the future of work, and if we, as a society, take these claims seriously, we have to think about setting measures in place which alleviate the exploitative and manipulative effects, that are, as I argue, inherent to crowdwork. At the same time, I also believe that crowdwork can offer a opportunity for people now excluded from or at the margins of the global economy and we have to keep them in mind. The advise to simply stay out of crowdwork may very well be the best option for every individual with other sources of income but it doesn’t solve the sys-

⁵⁹⁷ Peter Sunde at *Transmediale 2015 Opening Ceremony*, 2015 < https://youtu.be/_DSGRYMbqjE > [accessed 6 March 2015]

⁵⁹⁸ *Ibid.*

⁵⁹⁹ McKenzie Wark at *transmediale 2015*; I paraphrased the quote from memory, the speech was not available online at the time of writing.

temic problem. If crowdwork continues to scale up and becomes a widespread model for how work and play are organised for millions of people across the globe, it will become a political problem that has to be solved politically. Obviously, others will have different views. From the neoliberal free-market position, one could argue that nothing should be done at all; that we should sit back and watch the invisible hand rearrange the playing field; that regulation will only slow down economic growth and hinder entrepreneurial ingenuity; that the Power Law distribution of very few winners in the digital jackpot economy is a fair outcome, just reflecting how talented and hard-working some people are; that the losers have simply not tried hard enough; and, ultimately, that there is no alternative.

Well, I don't believe that this line of argument will lead to a better future. Instead I believe that we should take our cues from the moral and political philosopher John Rawls, who has argued that a social system can be fair if it is designed from behind what he called a 'veil of ignorance'; meaning that those who design the system should not know beforehand what role in the system they will eventually play, whether they will be winners or losers, platform capitalists or crowdworkers. It is partly a question of finding the right balance in the distribution of risk, opportunity and social security. The situation that we find ourselves in at the moment is a winner-takes-almost-all game in an unregulated space, and unsurprisingly, it is the winners who are designing the playing field and argue against all forms of regulation. I believe that in the neoliberal political climate of the tech-world we do need a strong counterbalance that puts the concern for long-term social consequences before the short-term maximisation of profits. I think that there is an alternative and that not even trying to design a better future would amount to social, cultural and ethical bankruptcy.

I argue that there are essentially four different ways to address the problem of exploitation in the crowdsourcing industry that I have derived from my research. I will sketch out the first three briefly and describe the fourth one in a little more detail, not because I think it is necessarily the most important or promising one, but because it is the most designerly approach.

1) EDUCATION, NAMING & SHAMING, FAIRTRADE LABELS

As I have shown, a lack of transparency creates an asymmetry of information to the disadvantage of crowdworkers. I regard it as the first crucial step to ensure that all stakeholders, not just the platform providers, can easily access data that allows them to evaluate the respective platforms objectively and make an educated decision whether they should get involved (based on economic, legal and ethical considerations). This first step should include the following:

- a. (Self-)education of crowdworkers through a commons-based database or Wiki to exchange experience reports and information about the risks and opportunities of particular platforms and problems with particular employers; offering legal guidance in understanding particular Terms of Use agreements.
- b. Education of young creatives that contest-based spec-work can be unethical and is not a recommended career path. (Statistical data on win-lose-ratios would bring this across.)
- c. Education of crowdsourcing clients that they potentially contribute to or take advantage of exploitative working conditions, and that this could reflect negatively on the reputation

of their own businesses. (As I have shown, clients on 99designs often don't even know how little of their money is paid to designers.)

- d. Public naming and shaming of platforms that mistreat their workers, don't pay taxes, hide information etc. (There must be an awareness that on top of the precariousness inherent to crowdwork, some platforms misuse their power, while others try to ameliorate the inequalities.)
- e. Certificates, equivalent to Fairtrade-labels, that honour and reward crowdwork platforms with good working conditions and give orientation to crowdworkers as well as to clients concerned with ethical work standards.

This educational activity will need to overcome the challenge that economic considerations often prevail over ethical principles.

2) INTERNATIONAL SOLIDARITY, ORGANISATION AND CROWDWORKER UNIONISATION

This point is derived from my argument that the individual in the working crowd is disadvantaged by the size of the crowd and the competition within it. Instead of working with a shared goal, the crowdworkers are pitted against each other in a race to the bottom. To reverse this and gain strength in numbers, I argue that the workers have to overcome the non-binding nature of a crowd and get organised to formulate and fight for shared goals.

- a. Crowdworkers could self-organise into nested groups, based on their platform, their country of origin, their language, the type of work they participate in, the industries that they work for, etc., and enter into collective bargaining for fair crowdwork standards.
- b. Because the crowd-workforce is atomised across the globe (to an historically unprecedented degree), an international umbrella organisation it probably needed, or at least a name, a recognisable banner, a list of members and a crowdsourced manifesto or code of ethics. An international form of organisation and solidarity would also be necessary to prevent that the interests of crowdworkers from different regions of the world being set against each other.
- c. Existing labour unions will need to change their current policies regarding membership to take precarious crowdworkers into their fold.

The greatest challenge here is that any such organisation would either add an extra layer of work or costs for the underpaid crowdworkers that would only pay out in the long run. It also is in conflict with the individualism of many crowdworkers.

3) REGULATION, TAXATION AND SOCIALISATION

This point derives from the argument that digital dualism is a fallacy. There is no reason why hard-fought labour laws should not apply anymore as soon as work migrates from a physical place to the

internet. I furthermore argue, that if a business model is feasible only because it systemically underpays its workforce, which then has to fall back on social security measures provided by society, the state must ensure that profits generated through underpaid crowdwork flow back to support these social security systems.

- a. Application of national labour laws and minimum wage standards to crowdwork platforms.
- b. Introduction of a special tax on profits generated through underpaid crowdwork; tax could be levied on platform providers as well as on crowdsourcing clients. The money could be used to finance an unconditional basic income, which in turn would allow more people to work on intrinsically rewarding, meaningful tasks.
- c. Platforms above a certain size that are based on the free or underpaid labour of their users should at least be obliged to have democratic user council with influence on the rules and regulations by which the users or workers are governed. If the platform providers don't give them the rights of employees, they must have the rights of democratic citizens.
- d. A more radical step would be the socialisation of crowdsourcing platforms that exceed a certain size and are based on the free or underpaid labour of its users. The members of the crowd could become the collective owners or shareholders of their platform and employ the platform providers.

The greatest challenge for government regulation is that national laws have to be applied to internationally operating platforms that can easily move their headquarters to what they regard as a more favourable jurisdiction.

4) CONVIVIAL, COMMUNITY-BASED TOOLS & PLATFORMS

This point derives from the conclusion that communities are stronger than crowds. It is based on the Communitarian approach to collectively drop out of exploitative top-down systems, find better tools and use them in decentralised communities. It is also based on the Hacker/FLOSS approach to develop such convivial tools that serve its users and not some centralised power, such as a monopolistic software cooperation or other commercial platform. In its most advanced application, this takes the form of recursive publics:

- a. Instead of forming a large, unionised super-crowd, crowdworkers can establish small resilient units of trust. These could be 'tiny crowds' or crews, like in online gaming, or local communities, as in the example of the 99designs group in Yogyakarta.
- b. This would mean the reintroduction of entry barriers, but on a small, personal scale. The size of a crew or community would depend on what its members would deem manageable. One entry barrier could be personal recommendation. Such a group would only take on members who are regarded as trustworthy and fit for the type of tasks in which the crew specialises. The reputation of the individuals would add up to the reputation of the crew. Risks, earnings and information could be shared within the group and strengthen it

in negotiations with potential clients. Such crews could ensure variety and quality without having to rely on academic degrees or self-policing by the larger crowd as measures for quality control. Like a guild, the group would enforce agreed standards within its own ranks and educate new members.

- c. Crews or communities of crowdworkers could form within existing crowdsourcing platforms and could gain in strength to an extent that the platform providers have to take their views about the terms of use and working conditions in general into account. These crews could also form networks of many small groups to gain more bargaining power.
- d. One can also imagine such a network of crowdsourcing crews could build its own crowdsourcing platform, based on open source software like Wordpress. Each crew could have its own, self-controlled, self-hosted website, but a standard protocol would unite them to form a large but decentralised crowdsourcing platform. They could become a recursive public, with full control over the infrastructure and the rules that would define their online work. The platform providers in their current form could be taken out of the equation and be replaced by elected representatives of the crews. Or they could be reduced to the role of the neutral infrastructure provider that they often already claim to be anyway. The crews could choose their platform provider just as they would choose an internet service provider or web hosting service – a company that supplies an infrastructure for a fee (based on data processing volume rather than financial transaction volume) without interfering in the activities of its customers.
- e. In contest-based creative *crew*-work, groups could offer clients a variety of creative design solutions without having to do work entirely for free. The client would get, for example, to choose from a dozen logos, instead of a hundred. But the crew would ensure the quality. The client could choose the number of desired solutions by different members of the crew, but would have to pay a reasonably small fee for every single design. Paying, say, 600 euros for a dozen logos (50 for each) would be a similar cost to those who currently employ the services of 99design, but nobody in the crew would work for free and the smaller number of results presented to the client would be compensated by a higher quality, ensured by the standards of the crew. More successful or famous crews could charge more. This way, the crucial linkage between the total amount of work asked for/done and the money paid for would be re-established. I argue that an unregulated commercial contest-based crowdwork model can't be sustainable, but that this hybrid would offer the client most advantages from crowdwork without fostering exploitation.

Such a system of networked communities or crews would inevitably demand an extra effort from the workers as well as the client. It would break with the crowdsourcing principle of non-binding reciprocal irresponsibility. The workers would be responsible for their crew and would have to answer to the client. The client would have to make the effort of finding a trustworthy and competent crew. But both clients as well as workers would eventually benefit from cutting out the platform as the middleman.

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