P2P and Human Happiness

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Abstract:

The emergence of distributed networks, defined by capacity of agents to freely determine their actions and relations, and of the internet and the social web in particular, have created a new set of technological affordances creating a broad range of open knowledge and open design communities functioning according to a 'peer to peer' social logic. These communities have set in motion a new set of social processes for the creation of value, which we could summarize as peer production (the ability to produce in common), peer governance (the capacity to self-organize) and peer property (the capacity to make common production universally available). The social web has created the possibility to create complex social services, and 'productive systems', through the global coordination and scaling of small group processes of mass participation, moving them from the periphery of social life to its very center.

The aim of this paper is to describe the characteristics of this new social process, and to see how they are specifically related to the issue of human happiness.

The Emergence of Passionate Production

The emergence of this new mode of production has already been quite substantially described and researched with recent summaries in a series of books and monographs.

Using Ronald Coase[i]'s transaction cost theory, Yochai Benkler (in The Wealth of Networks[ii]) has examined the particular conditions under which commons-based peer production can emerge, and these conditions are strongly related to the emergence of a globally distributed network for the production and sharing of knowledge, i.e. the capability to reproduce non-rival information goods at marginal cost. The main thesis could be summarized as follows: When costs of participation are low enough, any motivation may be sufficient to lead to a contribution.

This new mode of producing social value is also a new mode of governing human collectives and in particular a mode of technological development, which has become very widespread as a method to develop software. Steve Weber proposes a detailed examination of the open source

development and governance process in his book The Success of Open Source[iii]. There is a near consensus in the pragmatic research community that is represented by Venture Capital[iv], that open source is now expected to be a default strategy for their investments, and that there is only a limited future left for pure proprietary software strategies. Another detailed description, focusing more on general knowledge production, is an upcoming book by Queensland University researcher Axel Bruns, who describes it as a process of produsage, because production and usage are merging[v], and are undertaken by communities of produsers. An earlier description, and a long argument and explanation of why open source functions better for complex projects such as software, is of course Eric Raymond's widely known The Cathedral and the Bazaar[vi]. Alexander Galloway's book Protocol is an in-depth examination of the issue of power distribution [vii]in distributed networks.

Commons-based peer production also creates a wide variety of hybrid modalities, whereby institutions and companies adapt practices that have a number of characteristics of peer production, but with the process being integrated in the value chain of the controlling companies. The landmark book here is Eric von Hippel's The Democratization of Innovation[viii] which describes the emergence of social innovation outside of the corporation, by user-led communities[ix] or by 'lead users'[x], and he shows how such social innovation is now at the heart of the industrial process. Don Tapscott's Wikinomics is a description of how companies are adopting such practices of open participation in their competitive strategies, and has many examples of co-design[xi], co-creation[xii] and crowdsourcing[xiii] as different ways to integrate wider participation in the value chains. His conclusion is that such practices become competitive necessities and a new baseline for successful business operations. The expectation is that there is now in operation a law of asymmetric competition[xiv], which hypothesizes that any for-profit company that does not integrate participation, is at a competitive disadvantage against those that do, and that any for-profit entity that is faced with competition from a for-benefit entity, will have a difficult time to survive. The paradigmatic example if of course the emergence of Linux as a strong contender for the operating system of computers, and which is already an essential part of the internet's infrastructure. Charles Leadbeater's book We Think[xv] is probably the book which takes the largest societal point of view, through a description of participation in the full social field. His contention is that a new social process of mass amateurization[xvi] has created a sociological group of Pro-Ams[xvii], 'professional amateurs', the result of the increasing level of general education, is changing expert-based practices as well as the relations between experts, pro-Ams, and the general public.

Peer production is also categorized as a new common property[xviii] format, because the common production is generally made publicly available. This emerging format of common 'peer

property' is described in an edited book of research papers by Rishab Ayer Ghosh, entitled Code. Such common property format creates new legal and institutional formats, varieties of the old format of the Commons, which is associated with a vibrant research community. Peter Barnes' book entitled Capitalism 3.0.[xix] has been instrumental in creating an awareness of new institutional formats for the governance of commons such as trusts.

The emergence of peer production, governance and property is therefore associated with the rise of three new paradigms regarding social organization. Indeed the social reproduction of passionate production requires open and free input, participatory processes and commons-oriented outputs, resulting in a process of social reproduction that Prof. Nick Dyer-Witheford calls the "Circulation of the Common[xx]". Social movements organized these three paradigms are emerging in every field of human activity.

Though peer production is becoming a social practice that is essentially active in the field of immaterial production of knowledge and immaterial services such as software, where the condition of non-rivalness of goods prevails, our networked information economy already means that this practice is nested in the very core of value creation.

However, it would be erroneous to think that the emergence of peer production is restricted to the field of immaterial production. The reasons are not difficult to understand.

First of all, the development of the universal copying machine that is the computer, coupled with a universal distribution mechanism (of course conditioned by physical and cognitive access) means that it becomes increasingly counterproductive to maintain legal and technological restrictions on the free flow of knowledge. Not only is there increasing social pressure against more restrictive intellectual property legislations, and an increasing research consensus and political effort to show how they can restrict innovation, but new legal forms allow for the creation of legitimate forms of open content, such as the General Public License[xxi] and the Creative Commons[xxii] formats. Every physical production necessitates an immaterial design fase, and there is therefore a natural emergence of open design communities in various fields[xxiii], for example around open sustainability and appropriate technology movements.

The creation of smart objects means that a new configuration between physical, legal, and digital aspects of entities facilitates the creation of a new types of commons (think of Couchsurfing.com for hospitality exchange, Bookcrossings .com for the sharing of books, the massive experiment in Paris, France for a publicly supported Commons of bicycles, etc.. . As the whereabouts of

objects cannot be monitored, it becomes easier to use open licenses for physical objects, and to monitor potential abuse through technology.

Finally, there is a combined series of trend in financial and productive capital favoring the emergence of new modes of producing physical objects.

To mention them briefly: 1) integrated desktop manufacturing environments for design[xxiv]; 2) the trend towards rapid manufacturing and rapid tooling[xxv]; 3) personal fabricators[xxvi] and 3D-printing; 4) the development of multi-purpose machinery[xxvii]; 5) social lending[xxviii] and other distributed funding formats.

While the sphere of producing and distribution of physical goods must obey the logic of rival goods, there is nevertheless an important correlation between the further miniaturization and 'distribution' of the means of physical production (with a trend towards lowering capital requirements), and the already achieved means of information production and distribution. Hypothetically, when rising costs for energy and raw materials are combined with lowering costs for capital, an economic model combining open design with more localized production can be envisaged. Erik von Hippel's Democratization of Innovation mentions already several economic sectors, where such 'built-only capitalism' is already practiced, such as in the extreme sport communities.

From this relation are emerging various hybrid forms of linkage between the non-monetary logic of peer production, and the monetary logic of the world of scarcity.

Currently, three main models may be distinguished:

1) Sharism. Individuals share their creative expression through proprietary platforms. While the sharing is non-monetary, the proprietary platform is funded by selling the attention of participants to the advertizing world. This is basically the model behind the emergence of Web 2.0 social web platforms.

2) Commonism. A commons is created by self-organized communities. This is associated with for-benefit institutions that manage the necessary physical infrastructure (Apache Foundation, Mozilla Foundation, Wikimedia Foundation). Finally, around the companies, an ecology of businesses are created that produce scarce added value for the market. These companies in return practice various forms of benefit sharing to sustain the commons from which they benefit.

3) Crowdsourcing: unlike the previous models, based on the production of use value and only derivative exchange value, in this model, there is distributed production of commodities and thus for exchange value. The platforms can be proprietary intermediaries (istock photo model), or can integrated in corporate value chains (Lego Factory).

1. The Characteristics of Peer Production and their relation to human happiness

Peer production quite radically overturns many of the key characteristics of industrial production. Here is a review of these characteristics, linked to how these new practices may be related to a 'surplus in happiness'.

We refer to the overview of motivational studies in Alexander Kjerulf book about happiness at work for a summary of why intrinsic positive motivation results in the highest productivity at work[xxix].

To gauge the following characteristics with the factors enhancing happiness, please refer to the summary of research by Francis Heylighen[xxx].

- Voluntary engagement to projects

Passionate production is based on the voluntary engagement and therefore structurally eliminates coercion. Individuals can therefore choose the projects for which they feel most fit, and that corresponds to their desires, life projects and search for meaning. Fully coercive methods of work, such as slavery and serfdom, result in lower productivity . They also necessitate a costly apparatus of coercion and control. Methods of relative coercion, such as dependence based wage work, generate a productivity based on mutual self-interest, but have also in-built limits. Not rewarded activities will generally not be performed, innovation is only a function of competition. Motivation studies show that the most productive form of motivation is the intrinsic positive format, surpassing intrinsic negative and intrinsic positive in its results. Peer production structurally weeds out such motivations retaining only intrinsic positive 'passionate' motivation.

- Self-selection of tasks

Peer production is not organized as a predetermined division of labor, but on a modularization of granular tasks that can be self-selected. Individuals will naturally select those tasks for which they feel an interest, a fitness and for which they think they have the requisite skills. Less appealing tasks are not concentrated but are distributed as well, and can be taken up by volunteers. Some peer projects require that the less appealing elements of a task are supplied together with the rest of the contribution, thereby insuring a fair distribution of the unappealing requirements.

- Equipotentiality and anti-credentialism

The self-selection tasks is associated with a particular vision of the human and a particular form of evaluation judgment, based on the concept of equipotentiality.

Anti-credentialism signifies that there is no longer a strong separation between the informal and formal curriculum that an individual represents. What count is demonstrated ability, not prior formal proof. It is therefore based on the goal of inclusion rather than a mechanism of exclusion.

Furthermore, individuals are no longer judged on any kind of 'unified essence' but are recognized as complex beings, and the granular self-selected tasks will those that the individual judges to correspond to a particular skillset. This is the principle of equipotentiality.

Here is a quote[xxxi] on the topic by transpersonal psychologist Jorge Ferrer,note in particular the statement in bold.

"An integrative and embodied spirituality would effectively undermine the current model of human relations based on comparison, which easily leads to competition, rivalry, envy, jealousy, conflict, and hatred. When individuals develop in harmony with their most genuine vital potentials, human relationships characterized by mutual exchange and enrichment would naturally emerge because people would not need to project their own needs and lacks onto others. More specifically, the turning off of the comparing mind would dismantle the prevalent hierarchical mode of social interaction—paradoxically so extended in spiritual circles—in which people automatically look upon others as being either superior or inferior, as a whole or in some privileged respect. This model—which ultimately leads to inauthentic and unfulfilling relationships, not to mention hubris and spiritual narcissism—would naturally pave the way for an I-Thou mode of encounter in which people would experience others as equals in the sense of their being both superior and inferior to themselves in varying skills and areas of endeavor

(intellectually, emotionally, artistically, mechanically, interpersonally, and so forth), but with none of those skills being absolutely higher or better than others. It is important to experience human equality from this perspective to avoid trivializing our encounter with others as being merely equal. It also would bring a renewed sense of significance and excitement to our interactions because we would be genuinely open to the fact that not only can everybody learn something important from us, but we can learn from them as well. In sum, an integral development of the person would lead to a “horizontalization of love." We would see others not as rivals or competitors but as unique embodiments of the Mystery, in both its immanent and transcendent dimension, who could offer us something that no one else could offer and to whom we could give something that no one else could give."

In equipotential systems of cooperation, individuals are always naturally judged for what they do best, since they have self-selected the tasks for which they have the highest competence, motivation, and inclination.

- Elimination of fixed hierarchies and permission

The process of production itself is self-organized. Production is not geared towards predetermined products, under a command and control structure, but the process of production is ‘probabilistic’. Permission asking and a priori filtering or selection is replaced by a freedom to try various approaches, which are only subsequently validated by the community. This means that both hierarchical dependence, but also time-consuming democratic negotiations, are eliminated. The individual can fully express himself and his capabilities. It is clear that such a process is very efficient to minimalize frustrations due to the unequal distribution of power. There is no dependency to obtain resources, no mechanism needed to allocate scarce resources.

- Communal validation

Distributed production is matched with distributed control. Instead of a priori filtering by gatekeepers, various collective choice systems will evaluate and judge contributions. Generally speaking this eliminates the power and privilege located with certain individuals, and requires participation of all produsers. In highly technical environments such as in free software projects, is generally the most competent and engaged individuals that become maintainers of subprojects and responsible for quality control. However, there is no financial dependence associated with

these individuals, and the inherent possibility of exit and forking as alternatives to the volunteers, mean that the the maintainers are themselves strongly bound to community norms and community approval. The main aim of peer governance modes is to eliminate the possibility of collective individuals separating themselves from the community. The model chosen is usually that of a combination of ad hoc meritocracies which are in constant evolution and dependent on the various microprojects. The analogy of a jazz band, with different soloists taken over the lead according to the different fases of musical expression, is often used to denote the logic of peer governance.

- Holoptism and transparency instead of panoptism

While traditional corporate production is based on panoptism and the 'need to know', i.e. on widespread information retention practices, which sustain the unequal access to allocation and ecision-making, peer production projects are constituted around full transparency and the countervailing principle of holoptism. This dictates that all info is fully available, through automatic capture of participation and contribution, to all users and participants. This clearly eliminates many factors of frustration and unhappiness from the productive process.

- Not products, but artefacts –in-progress

Produser communities do not make finished products, but build knowledge artefacts that are never finished but also in continuous progress. This means an absence of deadlines and abolishes the micro-management by hierarchies. Rather, the vision leadership and participant community will set strategic goals, will discover new needs as the process unfolds, and continuously work on the improvement of the artifact. This way of work has an enormous stress-reduction potential.

- Production for use value, not exchange value

Peer communities do not produce commodities for sale, but knowledge artefacts that are needed for their social life. There is the absence of any alienation that results from making unnecessary commodities that need to be sold.

- Convergence of individual and collective interests

Peer production is not based on altruism, nor on coercive forms of collectivism, but on value-conscious design of social systems that enhance the convergence of individual and collective interests. Because of the non-rivalness of information goods, sharing increases reputation, knowledge and chosen relationships, resulting in multiple benefits for individuals, those involved in the exchange, and the wider community. A rather extraordinary congruence of individuality and relationality is obtained.

- The flow of infinite amelioration

Participants not only self select their tasks, but also when they do it, and the chosen moments will naturally corresponds to the judgment of participants as to their natural capacity to perform. This permits natural workstyles that correspond better to the personal biological cycles and the social cycles necessitated by the family and community life.

The results of the above indicate that passionate production also produces individuals which increase their autonomy, their possibilities of cooperation and support, the ability to find and exercise their competences and fitness with tasks, the possibilities to create meaning through joint projects, and the ability to work according to natural rhythms and flow. While these potentials may not always be fully realized, and are tempered by the necessities for financial survival, they are almost always structurally superior to the possibilities inherent in coercive work environments. While specific research on the relation between peer production is as yet scare, Erik von Hipple specifically links user-innovation activities to increased happiness (von Hippel, 2005, p. 242-244). An overview of the relation between knowledge-based economic activities and increased happiness, mentions several studies showing the relationship between open source participation and increased joy and flow[xxxii].

Issues, Problems and Opportunities

The possibility of peer production first of all poses the problem of access. The participatory potential is limited by the joint factor of lack of physical access, not yet assured for the majority of the world population, and cognitive access. Universal broadband and social web literacies are key factors enabling participation.

It seems also clear that while peer production does a number of things better than the previous alternatives, it will also create its own new set of problems. For example,the problems of quality control in the Wikipedia have been well covered by the media. The hybrid co-existence of sharing communities and proprietary platforms is also rich in all kinds of tensions.

The potential of peer to peer technology to create positive social affordances, can also be used in radically different ways. The centralized Domain Name System of the internet can be used both for insuring a global infrastructure of participation, or to enable censorhip by authoritarian states. The lowering capital requirements for social production, also allow for the production of negative social goods, such as distributed violent insurgencies and criminal conspiracies. For objective peer to peer infrastructures to serve as conditions for the production of positive social goods and surplus happiness, cultural-subjective adaptations are needed, in particular converting scarcity-forms of human consciousness (I loose by sharing) by abundance-predicated formats (we all win by sharing). The potential is there, but it needs to be activated, and public policies will be a crucial role in such endeavors (just as the availability of the book required universal education policies to create literacy).

Peer production also creates a challenge for the overall organization of our societies.

At present, a relative minor part of this massive value creation is being transformed into monetizable exchange value, which is not only a problem for for-profit entities, but for peer producers themselves. Proprietary web platform owners can make money selling the attention of the communities to advertisers. Commons-oriented companies (say IBM with Linux), create scarcities around the commons. And crowdsourcers lower their cost of production while increasing the pool for their own innovation processes. But one can immediately see that the ratio from use value to its capture through monetizable exchange value capture is minor. To simplify, one could say that while use value is growing exponentially, monetization is only increasing linearly.

Referring to the earlier concept on asymmetric competition, this presents a difficulty for companies. They have to adopt open/free, participatory, and commons oriented strategies to compete, BUT at the same time, without any 'closed', 'scarce' aspects, there can be no value capture! Both revenue-sharing and benefit sharing practices are subject to possible exploitation and lack of equity.

Let us consider the following additional issues:

Innovation is becoming more and more social, i.e. becoming an emerging property of the entire social field of networks, rather than an internal characteristic of for-profit institutions. Entrepreneurship is becoming divorced from capitalism, and edge competencies replace core competencies as key competitive quality.

Society and the market players are increasingly benefiting from the positive externalities of social cooperation, but we lack an efficient return mechanism.

Peer production projects might be collectively sustainable (as long as they can replace individuals who leave with at least as many entrants), but the individuals involved in passionate and creative production still need to sustain themselves.

Hence a crisis of precarity, of which creative professionals are not just the victim, but it is also often times a matter of choice, with paid employment becoming a means for the more meaningful passionate value creation. But what is fun at 25 becomes problematic when one wants to sustain families.

What can be done?

Despite the issues above, the achievements and further potential of peer production are already such, that they would justify supportive policies. In addition, if the law of asymmetric completion were to be confirmed, and there are in fact already many instances of open strategies trumping closed ones, which are being monitored in the wiki of the P2P Foundation, then it follows that both institutions, companies, and nations have reason to adapt and sustain such practices.

For-profit entities can start supporting, either the commons or communities from which they are benefiting, or social innovation more generally, since it is the pool from which value is created.

Companies need to more activily support social innovation by expanding their practices of "benefit-sharing".

Public authorities can also evolve towards a Partner State model, whereby they can enable and empower direct social production and social innovation. The evolving Transitional Labour Market policies which are evolving in Europe to take into account the mobility of contemporary workers, need to be enriched with an understanding that the periods of non-work, are potentially such as creative, necessary, and socially useful than the episodes of paid employment. Ultimately, we need forms of income, which are divorced from the need for production for the market.

The peer producers themselves can also directly organize their interface with the market, and they can do this be following principles of equity and transparency, which are directly in tune with the underlying values of peer production. The OS Alliance of open source software developers in Austria, is a pioneering model for such efforts.

In conclusion, we have seen how peer production as a mode of production, and the peer to peer dynamic as a mode of being, have the potential to surpass under certain conditions the other modes of production, concerning productivity, political participation, and distributive potential. Subjectively, it means more happiness as it allows intrinsic positive motivation to bloom. Intersubjectively, it represents more relational wealth, through its higher modes of synergestic cooperation and collective intelligence.

Therefore, we have to learn first to recognize and accept that peer production is indeed emerging as a new logic for our economy and civilization; and second, if we indeed accept the argument that it is a 'better' mode, then we have to find out, how we can extend and protect it. What is at stake is nothing less than human happiness.

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General information is available through the wiki of the Foundation of Peer to Peer Alternatives, via http://p2pfoundation.net

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[i] Yochai Benkler. Coase's Penguin, or Linux and the nature of the firm. From http://www.benkler.org/CoasesPenguin.html

[ii] Available at http://www.benkler.org/wealth_of_networks/index.php?title=Main_Page

[iii] Extensive summary available at http://en.wiki.oekonux.org/Oekonux/Research/SuccessOfOpenSource

[iv] "We anticipate it's going to be very hard going forward to invest in closed source, because we don't think it's a good development mode.". From: VC's Expect Open Source to be Default Option, CBR, 4 July 2006, http://www.cbronline.com/article_news.asp?guid=288BD3F2-E55F-49CC-A284-43926C5F66A5.

The commercialization of open source software is monitored here at http://del.icio.us/mbauwens/Open-Source-Commercialization ; the specific role of venture capital in that process is followed here at http://del.icio.us/mbauwens/Venture-Capital

[v] "Produsage can be roughly defined as modes of production which are led by users or at least crucially involve users as producers - in other words, the user acts as a hybrid user/producer, or produser, virtually throughout the production process. Produsage demonstrates the changed content production value chain model in collaborative online environments: in these environments, a strict producer/consumer dichotomy no longer applies - instead, users are almost always also able to be producers of content, and often necessarily so in the very act of using it." (http://snurb.info/produsage)

[vi] Available at http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/; critical review at http://www.firstmonday.org/issues/issue4_12/bezroukov/index.html

[vii] Galloway's key concept of protocally power is explained here at http://p2pfoundation.net/Protocollary_Power

[viii] First chapter available here at http://web.mit.edu/evhippel/www/books/DI/Chapter1.pdf

[ix] Explanation of user-centered innovation at http://p2pfoundation.net/User-centered_Innovation

[x] Explanation of Lead Users at http://p2pfoundation.net/Lead_Users

[xi] Concept and examples at http://p2pfoundation.net/Co-Design

[xii] Concept and examples here at http://p2pfoundation.net/Co-Creation

[xiii] Concept and examples at http://p2pfoundation.net/Crowdsourcing

[xiv] Asymmetric Competition refers to any competition between entities that do not follow the same logic, for example between a for-profit company using paid staff and proprietary code, and a for-benefit institution drawing on a voluntary community. Frank Hecker uses the concept in an examination of the competition between Microsoft

Explorer and the Mozilla Foundation's Firefox browsers. See Frank Hecker, at http://www.hecker.org/mozilla/asymmetric-competition

[xv] Home page at http://www.wethinkthebook.net/home.aspx, draft version at http://www.wethinkthebook.net/cms/site/docs/charles%20full%20draft.pdf

[xvi] Concept explained at http://p2pfoundation.net/Mass_Amateurization

[xvii] Concept explained at http://p2pfoundation.net/Pro-Am_Revolution

[xviii] Concept of common property, as distinct from private and public property, explained at http://p2pfoundation.net/Common_Property

[xix] Available via http://capitalism3.com/

[xx] Original paper at http://www.geocities.com/immateriallabour/withefordpaper2006.html, excerpts at http://p2pfoundation.net/Circulation_of_the_Common

[xxi] The GNU General Public License is explained by the Free Software Foundation at http://www.gnu.org/copyleft/gpl.html

[xxii] The CC License formats are explained at http://creativecommons.org/

[xxiii] This whole area is monitored here at http://p2pfoundation.net/Category:Design; the article on Product Hacking contains an extensive list of such initiatives, at http://p2pfoundation.net/Product_Hacking

[xxiv] Explanation at http://p2pfoundation.net/Desktop_Manufacturing;

[xxv] Explanation at http://p2pfoundation.net/Rapid_Manufacturing

[xxvixxvi] Explanation at http://p2pfoundation.net/Personal_Fabricators

[xxvii] Explanation at http://p2pfoundation.net/Multiple-Purpose_Production_Technology

[xxviii] Overview at http://p2pfoundation.net/Social_Lending

[xxix] Summary here at http://positivesharing.com/2006/12/why-motivation-by-pizza-doesnt-work/

[xxx] Overview of happiness, definition, factors, at http://pespmc1.vub.ac.be/HAPPINES.html

[xxxi] Jorge Ferrer, essay on the Embodied Participation in the Mystery, http://www.estel.es/EmbodiedParticipationInTheMystery,%201espace.doc

[xxxii] **Hans-Jürgen Engelbrecht** writes that such studies "have included the role of having fun or joy derived from voluntary contributions to code of software products as at least one of the motivating factors for such activities (Hertel et al., 2003; Lakhani and Wolf, 2005; Lerner and Tirole, 2006). Whatever the specific activity, fun or joy can lead to 'flow'"

From http://www.cfses.com/documents/events/Engelbrecht_2007_Unhappiness_of_Knowledge_Paper.pdf