

## THE TRIARCHICAL STRUCTURE OF THE POST-WESTPHALIAN GLOBAL ORDER

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In the emerging institutional model of peer production,<sup>1</sup> most visibly in the already mature free software industry, we can distinguish an interplay between three partners, i.e.

- 1) A community of contributors that create a commons of knowledge, software or design;
- 2) An entrepreneurial coalition that creates market value on top of that commons; and
- 3) A set of “for-benefit institutions” which manage the “infrastructure of cooperation”.

There is a clear institutional division of labour between these three players: the contributors create the use value that is deposited in the shared innovation commons of knowledge, design and code; the for-benefit institution enables and defends the general infrastructure of cooperation which makes the project “collectively” sustainable (for example the Wikimedia Foundation collects the funds to support the server space without which access to the Wikipedia would become impossible); the entrepreneurial coalition makes the individual contributors “sustainable”, by providing an income, and very often they provide means for the continued existence of the for-benefit associations as well.

Can we also learn something about the politics of this new mode of value creation, something that would be useful not just for these particular communities, but to society in general? Is there perhaps a new model of power and democracy co-evolving out of these new social practices that may be an answer to the contemporary crisis of democracy? My answer will be an emphatic yes, and stronger yet, I will argue that we are witnessing a new model for the state. A “p2p” state, if you will.

Let’s look at the mechanics of power and the politics of commons-oriented peer production by looking at the three players involved in this new institutional set-up.

<sup>1</sup> [www.ctheory.net/articles.aspx?id=499](http://www.ctheory.net/articles.aspx?id=499)

## 1. The post-democratic logic of community

First of all, and quite amazingly, these communities are not democracies. Why is that so? Very simply, because both democracy, and the market, and hierarchy, are modes of allocation of scarce resources. In hierarchy, our superiors decide; in the market, prices decide; in a democracy, “we” decide. But where resources are abundant, as they are with immaterial knowledge, code, and design, which can be copied and shared at a marginal cost, they are truly unnecessary. Such communities are truly poly-archies and the type of power that is held in them is meritocratic, distributed, and ad hoc. Everyone can contribute without permission, but such a priori permissionlessness is matched with mechanisms for “a posteriori” communal validation, where those with recognized expertise and that are accepted by the community, the so-called “maintainers” and the “editors”, decide which software/design patches are acceptable. These decisions require expertise, not communal consensus. The tension between inclusiveness of participation and selection for excellence is one that every social system must face, and that peer production has solved in a rather elegant way. The genius of it is not that it avoids conflict, but that it designs away “unnecessary” conflict by allowing for maximum human freedom compatible with the object of cooperation. Indeed, peer production is always an “object-oriented” cooperation, and it is the particular object that will drive the particular form chosen for its “peer governance” mechanisms.

The main allocation mechanism in such project, which replaces the market, the hierarchy and democracy, is a “distribution of tasks”. Unlike in the industrial model, there is no longer a division of labor between “jobs”, and the mutual coordination works through what scientist call “stigmergic signalling”. Because the work environment is designed to be totally open and transparent (this is called “holoptism”), every participating individual can see what is needed, or not and decide accordingly whether to undertake his/her particular contribution. What is remarkable with this new model is that it has achieved capacities both for global coordination, and for the small group dynamics that are characteristic of human tribal forms and that it does this without “command and control”! In fact, we can say that peer production has enabled the global scaling of small-group dynamics.

Of course, there may be conflicts between contributors as they are working together, and there are, but these are not decided by authoritarian fiat, but by “negotiated coordination”. Differences are “trashed out” in the forums and mailings lists and chatforums that these communities use to coordinate their work.

The “hierarchical” decision that remains, i.e. the decision to accept or not a patch to the program, necessary to protect the quality and excellence

of its production, is balanced by the freedom to fork. This means that disagreeing participants can always take the codebase with them, and create another version, where their options would prevail. It is not a light decision to take, but it does create a counterpower. Maintainers know that unjust and unilateral decisions would lead to a bleeding out of the membership and/or to a fork.

## 2. The relation between the community and the entrepreneurial coalition

What is the relationship between this entrepreneurial coalition and the commons from which they derive their value? The coalition supports the individual commoners in their livelihood, and may contribute to the for-profit-institution as well. For example, IBM pays salaries to the developers/commoners contributing to the Linux pool, and it supports the nonprofit (Linux Foundation), with subsidies. In this way, they co-produce and sustain the commons on which their success is built.

For sure, by doing this they also do turn Linux into what is partly a “corporate commons”, as explained by Doc Searls:

The Linux Journal editor explains that, “Linux has become an economic joint venture of a set of companies, in the same way that Visa is an economic joint venture of a set of financial institutions. As the Linux Foundation report makes clear, the companies are participating for a diverse set of commercial reasons”.<sup>2</sup>

A Linux Foundation report on the work on the Linux kernel makes this very clear: “over 70% of all kernel development is demonstrably done by developers who are being paid for their work. Over 14% is contributed by developers who are known to be unpaid and independent, and 13% by people who may or may not be paid (unknown), so the amount done by paid workers may be as high as 85%. The Linux kernel, then, is largely the product of professionals, not volunteers”.<sup>3</sup>

But this is not the whole story. Timothy Lee explains that the corporatization of Linux has not changed its underlying organisational model:

... what matters is the way open source projects are organized internally. In a traditional software project, there’s a project manager who decides what features the product will have and allocates employees to work on various features. In contrast, there’s nobody directing the overall development of the Linux kernel. Yes, Linus Torvalds and his

<sup>2</sup> [www.linuxjournal.com/content/linux-now-slave-corporate-masters](http://www.linuxjournal.com/content/linux-now-slave-corporate-masters)

<sup>3</sup> [www.linuxjournal.com/content/linux-now-slave-corporate-masters](http://www.linuxjournal.com/content/linux-now-slave-corporate-masters)

lieutenants decide which patches will ultimately make it into the kernel, but the Red Hat, IBM, and Novell employees who work on the Linux kernel don't take their orders from them. They work on whatever they (and their respective clients) think is most *important, and Torvalds's only authority is deciding whether the patches they submit are good enough to make it into the kernel.*<sup>4</sup>

Clay Shirky, author of *Here Comes Everybody: The Power of Organizing Without Organizations* stresses that companies that work with Linux, such as IBM “have given up the right to manage the projects they are paying for, and their competitors have immediate access to everything they do. It's not IBM's product”.<sup>5</sup>

This then is the point I want to make, that even with shareholder companies allied with peer production, the community's value creation is still at the core of the process, and that the entrepreneurial coalition, to a substantial degree, already follows this new logic, where the community is primary, and business secondary. In this model, business logic has to accommodate to the social logic, it is in other words, already an “ethical economy”.

### **3. The democratic logic of the for-benefit institutions**

Peer production also rests on a sometimes costly infrastructure of cooperation. There would be no Wikipedia without the funding for its servers, no free software or open hardware without similar support mechanisms.

This is why open source communities have created a new social institution: the for-benefit association. Again, an important social innovation, because, unlike classic non-profits or non-governmental institutions, they do not operate from the point of view of scarcity. Classic NGOs still operate much like other industrial institutions such as the corporation and the market state, as they believe that resources need to be marshalled and managed. By contrast, the new for-benefits only have an active role in enabling and empowering the community to cooperate, by provisioning its infrastructure, not by commanding its production processes. These associations exist for the sole purpose of “benefitting” the community of which they are the expression, and this is the good news, they are generally managed in democratic ways. And they have to be, because an undemocratic institution would also discourage contributions by the community of participants.

<sup>4</sup> [www.techdirt.com/articles/20080423/082724929.shtml](http://www.techdirt.com/articles/20080423/082724929.shtml)

<sup>5</sup> [http://blogs.cioinsight.com/knowitall/content001/decoding\\_the\\_professionalization\\_of\\_linux.html](http://blogs.cioinsight.com/knowitall/content001/decoding_the_professionalization_of_linux.html)

Now, here is the kicker, how would you call an institution that is responsible for the common good of all the participants, in this case, not the inhabitants of a territory, but of people involved in a similar project? I would argue that this type of for-benefit institution has a very similar function to what we commonly assign to the state. While the state form is always also a class institution which defends a particular arrangement of social privilege, it can never be a simple instrument of privileged rule alone, but needs to manage the common as well. To the degree that it is seen to do the latter, most people would see this as an acceptable or even “good” state form. On the other hand, to the degree that I fail to do this, it loses legitimacy, and is increasingly seen as a source of oppression by a minority. Generally speaking a state reflects the balance of forces in a particular society. The welfare state was an acceptable form because it was based on a social compromise and on the strength of a strong labour movement, while the “fear of God” was instilled in the privileged layers by the existence of an alternative state form that could have taken away the loyalty of their citizens. Once this alternative collapsed in 1989, with the social movements in the West further weakened by the social, political and economic choice to desindustrialize the North since the 1980s, the welfare state slowly made place for the contemporary corporate welfare state (sometimes called the “market state”), which only helps the privileged, guts social solidarity mechanisms and impoverishes the majority of its population, fatally weakening the middle class. Unfortunately, such a system can have no long-term legitimacy, and breaks any social contract that can guarantee social peace. It’s hard to build loyalty on the promise of ever increasing pain!

This means we are witnessing not just the actual death of the social welfare state, but also the announced death and logical impossibility of the neoliberal corporate welfare state. We should also of course add that even the welfare state has become problematic. The main reason is that its social basis, the western industrial labour class and its social movements, have become demographic minorities, and that its mechanisms, even when they worked, would not do much to assist the current social majority, i.e. the often free-lancing and precarious knowledge and service workers. Furthermore, the paternalistic and bureaucratic functioning of many welfare state institutions are becoming unacceptable to the emerging demand for personal and social autonomy, that is one of the primary social desires of the new class of knowledge workers. Many of the other positive social functions of the welfare state have been weakened by neoliberal “New Labour” reforms which aimed to introduce private sector logics in the public sector.

#### 4. Towards a Partner State

Can we then imagine a new type of state? Enter the concept of a Partner State! The Partner State, first theorized by Italian political scientist Cosma Orsi,<sup>6</sup> is a state form that enables and empowers the social creation of value by its citizens. It protects the infrastructure of cooperation that is the whole of society.

The Partner State can exist at any territorial level, as a set of institutions that protect the common good, and enable the citizens to create value. It does on a territorial scale what the for-benefit institutions do on a project-scale. While the for-benefit associations work for the commoners as contributors and participants to particular projects, the Partner State works for the citizens. This is needed because just as the Invisible Hand of the market is a myth, so would an invisible hand of the commons be. Commoners tend to care about “their” commons, not about society as a whole. That specific care for the whole requires its own specific set of institutions!

The good news is, such a Partner State already exists, we have seen it in action, at least in a local embryonic form. A few years ago we visited the city of Brest in French Bretagne. Brest is not really a beautiful city, though it is embedded in a most beautiful natural region and undoubtedly has its charms. But it was bombarded in WWII and a lot of rather unattractive social housing was built, leading to a certain amount of social “anomie”. Michel Briand, assistant to the Mayor, and his team of city workers had a brilliant idea: why not use the virtual to enhance physical social life in the city? The team created local versions of Facebook, YouTube and Flickr, helped local associations develop an online presence,<sup>7</sup> invested heavily in training, and even had a physical library where citizens could borrow production material. One of their projects was the revitalisation of old “smuggling trails” in order to attract the “trekking” crowd. So they decided to “virtually enrich” the trails.

And here is where their social innovation comes in: the city council did not do by substituting themselves to the citizenry (i.e. state provisioning), nor did they ask the private sector to carry this out (privatisation or public-private partnerships), no, what they did was to enable and empower local teams of citizens, to create added value. This happened through various forms such as the creation of picture galleries of notable landmarks, in the

<sup>6</sup>The Political Economy of Reciprocity and the Partner State. By Cosma Orsi. Contribution to the Nottingham Peer Production Workshop, 2007. [http://p2pfoundation.net/Political\\_Economy\\_of\\_Reciprocity\\_and\\_the\\_Partner\\_State](http://p2pfoundation.net/Political_Economy_of_Reciprocity_and_the_Partner_State)

<sup>7</sup> Info via [www.a-brest.net/](http://www.a-brest.net/); profile of Michel Briand via [www.a-brest.net/auteur2.html](http://www.a-brest.net/auteur2.html)

form of oral history collections, etc... (even “bird taping” was on the menu!) This then is the Partner State, namely public authorities which create the right environment and support infrastructure so that citizens can peer produce value, from which the whole society then benefits. It stimulates a thriving local economy as well, as local entrepreneurs create added market value and attract more tourists. Michel Briand and his team worked tirelessly “for the benefit of the citizens”, enhancing their capacity to create civic value. Obviously, the knowledge and culture thus created constituted a vibrant commons. If we expand this on a national and even supra-national scale, we get a state form that practices “commonfare”, i.e. fosters the commons and the value-creating commoners.

There are of course other examples to mention as well. The Austrian region of Linz has declared itself a Commons Region; the city of Naples has created “An Assistant to the Mayor on the Commons” position, and San Francisco city council has created a Commission to promote the Sharing Economy.

One danger lurks here though, and this was exemplified by the Big Society program in the UK, which uses a superficially similar language of civic autonomy and action, but hides a completely different practice, i.e. is based on a strategy to further weaken the welfare states and its provisions. A partner state cannot be based on the destruction of the public infrastructure of cooperation. This may not have been the initial intention of Philipp Blond and his “civil society”-oriented “Red Tories”,<sup>8</sup> but it certainly is what David Cameron’s government put in practice. The peer production of common value requires civic wealth and strong civic institutions! In other words, the partner state concept “transcends and includes” the best of the welfare state, i.e. the social solidarity mechanisms, high educational attainments, and a vibrant and publicly supported cultural life. What the British Tories did was to use the Big Society rhetoric to attempt to further weaken the remnants of social solidarity and throw people back to their own wits without any support. There was no enabling and empowering, but rather its opposite.

While peer production will undoubtedly also emerge as a drive for resilience in bad times, a really thriving commons-based society requires a Partner State, i.e. a network of democratically-run for-benefit institutions which protect the common good on a territorial scale.

<sup>8</sup> Profile via [http://en.wikipedia.org/wiki/Phillip\\_Blond](http://en.wikipedia.org/wiki/Phillip_Blond); a similar tendency in the British Labour Party, “Blue Labour”, was stillborn, see [http://en.wikipedia.org/wiki/Blue\\_Labour](http://en.wikipedia.org/wiki/Blue_Labour)

## 5. A value crisis of the capitalist economy

While peer production exists in relation with an entrepreneurial coalition that creates market value on top of the commons, the exponential rise in the creation of user value by productive publics, or “producers”<sup>9</sup> as Axel Bruns calls them, is not without creating problems and contradictions for the current political economy. Indeed, it creates in fact a huge problem for a capitalist system, but also for workers as we have traditionally conceived them. Markets are defined as ways to allocate scarce resources, and capitalism is in fact not just a scarcity “allocation” system but in reality a scarcity engineering system, which can only accumulate capital by constantly reproducing and expanding conditions of scarcity. Where there is no tension between supply and demand, there can be no market, and no capital accumulation. What peer producers are doing, for now mostly in the sphere of “immaterial” production of knowledge, software, and design, is to create an abundance of easily reproduced information and actionable knowledge, that cannot be directly translated into market value, because it is not at all scarce, but on the contrary, over-abundant. And this activity is moreover done by knowledge workers, who are now being produced on such a massive scale, that their over-supply also renders them precarious workers. Hence, an increased exodus of productive capacities, in the form of direct use value production, outside the existing system of monetization, which only operates at its margins. In the past, whenever such an exodus occurred, of slaves in the decaying Roman empire, or of serfs in the waning Middle Ages, that is precisely when the conditions were set for huge and fundamental societal and economic phase transitions.

Indeed, without a core reliance of capital, commodities and labor, it is hard to imagine a continuation of the capitalist system.

The problem of the use value creation that Internet collaboration has enabled is that it totally bypasses this normal functioning. The normal functioning of our economic system would require that increases in productivity are somehow rewarded and that these rewards enable consumers to derive an income and buy products. But this is no longer happening. Facebook and Google users create commercial value for their platforms, but only very indirectly and they are not at all rewarded for their own value creation. Since what they are creating is not what is commodified on the market for scarce goods, there is no return of income for these value creators. This means that social media platforms are exposing an important fault line in our system.

<sup>9</sup> <http://p2pfoundation.net/Producer>

The current so-called “knowledge economy” is therefore a sham and a pipe dream, because abundant goods do not function well in a market economy. For the sake of the increased precariousness that is awaiting the world’s workers, is there a way out of this conundrum? Can we restore the broken feedback loop?

## 6. The prefiguration of a new social model

Strangely enough, the answer may be found in the recent political movement that is Occupy, because along with “peer producing their political commons”,<sup>10</sup> they also exemplified new business and value practices. These practices were in fact remarkably similar to the institutional ecology that is already practiced in the production of free software and open hardware communities. This is not a coincidence.

Let’s look back at the workings of Occupy Wall Street at Zuccotti Park, when it was still in operation last fall. At the center, there was a productive public, reaching consensus through the General Assembly and offering all kinds of templates (Mic Check, Protest Camping, Working Groups, etc.) which, in a true open source way, could be copied and practiced by similar communities the world over, but also modified to suit local needs (this is called “forking” in open source parlance). If you did not contribute, you had no say, so engagement was and is necessary.

This community had all kinds of needs, physical needs, such as food, shelter, health care. Did they simply resort to the market economy for this? No, but also yes, but in a qualified way. Let me explain.

OWS set up all kinds of working groups to find solutions to their physical needs, in other words, the economy was considered as a provisioning system, as explained in Marvin Brown’s wonderful book on *Civilizing the Economy*, and it is the “citizens”, organized in working groups, which decide which provisioning system would be appropriate given their ethical values. For example, the Vermont organic farmers provided free food to the campers, cooked by volunteer chefs, but this had a negative side effect. Indeed, the local street vendors, generally poor immigrants, did not fare too well with everyone getting free food; they could no longer easily sell their wares. The answer to this drama was that the occupiers cared about the vendors, and set up an Occupy Wall Street Vendor Project, so that funds could be raised to buy food from the vendors. Bingo, in one swoop, OWS created a well-functioning ethical economy, that was both a market dynamic, but

<sup>10</sup> Bian Holmes, [www.constantvzw.com/transmedia\\_archive/000101.html](http://www.constantvzw.com/transmedia_archive/000101.html)

that also functioned in harmony with the value system of the occupiers. What is crucial here is that it was the citizens who decided on the most appropriate provisioning system, and not exclusively the property and money owners in an economy that is divorced from ethical values.

What can we learn from the incipient Occupy model, if we generalize it on the level of society as a whole?

Today, we assume that value is created in the private sphere, by for-profit companies, and let's recognize that civil society is just a "remainder" category, it's what we do when we come home, exhausted after our paid work. This is recognized in our derivative language for civil society, where we call them nonprofits or non-governmental. The system as a whole is managed by a state, where the social democratic welfare state has increasingly become a neoliberal corporate welfare state, where the gains are privatized and the losses socialized. In other words, the state itself has become an extension of the corporation, and is increasingly less and less a servant of the citizenry. We can see the progress of this model in how the Troika is now imposing slash-and-burn politics in the heart of Europe, i.e. Greece, and no longer on weaker developing countries alone.

Occupy and open source models show us a new possible reality, a model where the democratic civic sphere, productive commons, and a vibrant market can co-exist for mutual benefit:

- At the core of value creation are various commons, where the innovations are deposited for all humanity to share and to build on;
- These commons are enabled and protected through nonprofit civic associations, with as national equivalent the Partner State, which empowers and enables that social production;
- Around the commons emerges a vibrant commons-oriented economy undertaken by different kinds of ethical companies, whose legal structures ties them to the values and goals of the commons communities, and not absentee and private shareholders intent of maximising profit at any cost.

Where the three circles intersect, there are the citizens deciding on the optimal shape of their provisioning systems.

This model can exist as a submodel within capitalism, and partially already does so in the present system, as the open source software business ecology. It could also become, with some necessary hacks, the core logic of a new civilization. The Occupy movement has not just shown us prefigurative politics, but in fact, prefigurative economics.

A separate question is of course, "how do we get there". Part of the answer is that this will require not just powerful social movements that advo-

cate for social reform and transformation, but a further transformation and maturation of the peer production model itself.

Today, it is a proto-mode of production which is entirely inter-dependent with the system of capital. There would be no social reproduction of the workers involved, if not for the general public infrastructure provided by the state, but more specifically, through the income produced by working for capitalist enterprise.

Is there any possibility to create a really autonomous model of peer production that could create its own cycle of reproduction? For this, we propose two “hacks”.

The first is the use of a new type of license, the peer production license, which has been proposed by Dmytri Kleiner. This sharing license proposes that all who contribute to the commons, can also use the commons. The second hack consists of creating independent entrepreneurial vehicles that are not for-profit companies, but ethical companies, whose members are the commoners, and whose mission is the support of the commons and its contributors. Following the lead of Neal Stephenson in his fictional account in *The Diamond Age*, and the pioneering practice of the cooperative network *lasindias.net*, we propose to call them phyles. Phyles are mission-oriented, purpose-driven, community-supportive entities that operate in the market, on a global scale, but work for the commons. In this way, the social reproduction of commoners would no longer depend on the accumulation cycle of capital, but on its own cycle of value creation and realization. Combined with social movements and political representation, we believe this three components would be the basis of a new social and political “hegemony”, which would be the basic social force pushing for social transformation in the sense of a deepening and broadening of peer production models, from the micro-economy, to the macro-economy.

## **7. Towards a civilization based on economies of scope, not scale**

Following the international division of labour imposed by globalization, the aim of the competition is to be able to produce more of a unit, so as to drive the unit price down, and outcompete the competition. Multinational corporations and global brands now have very complex value chains, where various parts of a product are mass-produced in different parts of the world.

Nevertheless, the system has obvious weaknesses. One weakness is that it drives towards monocultures, both of the agricultural type, but also industrial monocultures such as the dependence of the Chinese coastal economy to exports. And the latter example highlights a related second problem. Competition drives prices relentlessly down, so, in the 1980s, the dominant

western players changed their strategy. They abandoned the costly western workers to precarity, moved the low-profit industrial production to low wage countries, and expanded the IP regime to extract rent and superprofits via patents, copyrights and trademarks. As Thijs Markus writes so eloquently about Nike in the Rick Falkvinge blog,<sup>11</sup> if you want to sell \$5 shoes for \$150 in the West, you better have one heck of a repressive IP regime in place. Hence the need for SOPA/PIPA, ACTA and other attempts to criminalize the right to share.

But there is of course a more fundamental problem: the whole system of globalizing the advantages of scale fundamentally rests on cheap global transportation and thus, the continuous availability of superabundant fossil fuels. After the passage of Peak Oil, and thus the end of the era of cheap oil and with still exploding demand from the exploding BRICS countries, it is more than likely that the whole regime will come tumbling down, not in one day of course, but gradually, though non-linear downward jumps are to be expected as well. Punctuated equilibrium is indeed not just a feature of biological systems, but of social systems as well! This means that competing on the basis of scale, even if it is still effective today, is also ultimately a game that loses relevance and ultimately can only be played by those who do not care about the destruction of our planet... What game can the others play? Consistently increasing prices for fossil fuels means that innovation and competition have to find another outlet. Actually, it's about inventing another game altogether.

But first, a short historical intermezzo, as this drama of transition has been played out before...

While the late fifth-century Romans were still fighting for the crown of Cesar Augustus, the Germanic "barbarians" were already at the gate, and the Christian communities already prefigured the values of a coming era of relocalization based not on an economy of scale, but on an economy of scope. And what are economies of scope? As a teaser, for now, this short definition: "An economy of scope exists between the production of two goods when two goods which share a CommonCost are produced together such that the CommonCost is reduced".<sup>12</sup> In other words, something that brings down the common cost of a factor of production, not by producing more of a unit but through shared infrastructure costs. But let's resume our short historical excursion.

<sup>11</sup> Falkvinge is the founder and former President of the Swedish Pirate Party, see <http://falkvinge.net/2012/01/31/why-acta-is-so-mercilessly-pursued/>

<sup>12</sup> <http://appropriatesoftware.net/wiki?EconomyOfScope>

As the Roman Empire could no longer bear the costs of its own scale and complexity and supplies of gold and slaves became gradually more problematic, the smarter landowners started to free their slaves, but binding them contractually to the land as “coloni” (serfs) while on the other hand, the increasingly taxed and bankrupted freeholders sought protection from the very same domain holders. Thus, one side of the equation was pure and simple localization, since the system could no longer bear the global scale of the Empire. But the new post-Roman system also invented a new system of innovation, based on the advantages of scope, not scale. Indeed, as the cities were emptying out, and with it their knowledge system of urban libraries, elite home schooling and academies, the Christians invented monasteries, as the new agrarian knowledge centers. But the important thing is that while the physical system localized, the Christian Church actually functioned as a global open design community. Monks and manuscripts travelled, and with them the many innovations of the worker-monks. While Europe initially decayed as the remnants of the Empire crumbled, eventually, after the first European social revolution of 975,<sup>13</sup> this new system created the seeds for the first medieval industrial revolution. Between the 10<sup>th</sup> and the 13<sup>th</sup> century, based on a unified culture of knowledge, Europe started once again blossoming, re-introduced negative interest money which kept accumulation by elites in check,<sup>14</sup> doubled its population, regrew its beautiful cities many of which were run democratically by the guild councils,<sup>15</sup> and invented peer-to-peer universities in Bologna in the 11<sup>th</sup> century.<sup>16</sup> This first Renaissance was all based on the economics of scope, the unified body of knowledge that European intellectuals and artisans could build on. The guilds may have had their secrets, but they took them with them wherever Cathedrals were built.

The same experience was reiterated in 1989, on a national scale, in the most dire circumstances, when isolated Cuba could no longer rely on the advantages of scale of the Soviet system. The Cuban crisis of 1989 prefigured the current world situation because they experienced their very own Peak Oil situation when the Soviets abruptly stopped delivering oil at below world market prices. While initially the Cubans went back to using donkeys

<sup>13</sup> R.I. Moore. *The First European Revolution, 970-1250*. Blackwell, 2000.

<sup>14</sup> Bernard Lietaer and Stephen Belgin. *New Money for a New World*. 2012.

<sup>15</sup> Bibliography of European Medieval Democracies, by Elliot Bulmer, [http://p2pfoundation.net/European\\_Medieval\\_Democracy](http://p2pfoundation.net/European_Medieval_Democracy)

<sup>16</sup> <http://chronicle.com/article/Rereading-the-University/124271/>

and the bodyweight of the population went in decline, the rulers took a number of interesting initiatives. First, they liberated local entrepreneurship by granting more autonomy to the local agricultural cooperatives; and second, they mobilized the grassroots knowledge of the population, including of urban dwellers. But thirdly and perhaps most crucially, they created a number of agricultural institutes with the overriding goal of emulating and spreading local innovations. Whatever the other faults of the totalitarian system in Cuba, this open design experiment worked beyond all expectation. As documented by Bill McKibben<sup>17</sup> and a number of documentaries,<sup>18</sup> Cuba now produces more nutritious and organic food, with a fraction of fossil fuels, and this for the same reason as the earlier example regarding the Christian Church in the European Middle Ages: sharing knowledge created economies of scope. Agricultural innovations could quickly spread across the country and be adopted by everyone.

Indeed, economies of scale work well in periods of energy “ascent”, when more and more energy is coming online, but they work less and less in periods of energy “descent” when the overall supply of energy and resources are diminishing. What you need then are economies of scope, when you can “scale up from one”, as with today’s emerging “making on demand” infrastructure. Economies of scope is exactly what peer production (in its different iterations of open knowledge, free culture, free software, open and shared designs, open hardware and distributed manufacturing...) is all about.

Let’s recap what is wrong with the current global system, which is entirely predicated on economies of scale, and actually in many instances makes economies of scope illegal.

- 1) Our current system is based on the belief of infinite growth and the endless availability of resources, despite the fact that we live on a finite planet; let’s call this feature, runaway “pseudo-abundance”;
- 2) The current system believes that innovations should be privatized and only available by permission or for a hefty price (the IP regime), making sharing of knowledge and culture a crime; let’s call this feature, enforced “artificial scarcity”.

Peer production methodologies are based on the exact opposite economic and social DNA. Peer production communities believe that knowledge is

<sup>17</sup> [www.harpers.org/archive/2005/04/0080501](http://www.harpers.org/archive/2005/04/0080501)

<sup>18</sup> Megan Quinn on the Cuban experience, [www.youtube.com/watch?v=f7i6ro-VB5MI](http://www.youtube.com/watch?v=f7i6ro-VB5MI)

a commons, for all to share, and hence, no innovation can be withheld from the human population as a whole. In fact, withholding a life-saving or world-saving innovation is seen as distinctly unethical, and this represents a true “value inversion”. And peer production designs for “distribution” and inclusion, i.e. small scale, even “personal” fabrication. Planned obsolescence which is a feature and not a bug of the current system, is totally alien to peer production logics.<sup>19</sup> In other words, sustainability is a “feature” of open design communities, not a bug.

Again, there are historical precedents to such value inversions. The Christian communities in the Roman Empire were not competing with the Empire, they were building their own institutions, based on a different and alien logic. While Roman elites hated work, which was for the lowly slaves, Christian monks extolled work and tried to prefigure Eden in their earthly Cities of God. Similarly, the French Sans-Culottes of 1789 were not competing for feudal privileges, they abolished all of them in one single day. It would therefore be wrong to see peer production simply as a set of “competing” techniques... In fact, these evolutions are happening on a different plane altogether. They live and co-exist in the same world, but they do not really belong to the same world-logic.

So what are the economies of scope of the new p2p age? They come in two flavours:

- 1) The mutualizing of knowledge and immaterial resources;
- 2) The mutualizing of material productive resources.

The first principle is easy to understand. If we lack knowledge as individuals – and nobody can know everything – as a community, local or virtual, it is much more likely that someone knows. Hence, the mutualizing of knowledge and “crowd-accelerated innovation”,<sup>20</sup> now already a well-known feature of the collaborative economy. But the advantage of scope is created when that knowledge is shared, and thus, can be used by others. With this social innovation, the common cost of the joint production factor that is knowledge, is dramatically reduced. Take the example of the paradigmatic Nutrient Dense Project.

This global community of agrarian workers and citizen scientists is interested in experimenting with better nutrients to obtain better quality food.

<sup>19</sup>Value inversions in peer production, an overview, <http://keimform.de/2012/characteristics-of-peer-production/>

<sup>20</sup> [www.wired.com/magazine/2010/12/ff\\_tedvideos/3/](http://www.wired.com/magazine/2010/12/ff_tedvideos/3/)

Hence joint research can be carried out to test various nutrients in various soils and climate zones, and it will instantly benefit not just the whole participating community, but potentially, the whole of humankind. Strategies that are based on privatizing intellectual property, cannot obtain such advantages of scope, or at least, not at that level. Or take the example of the urban homestead of the Dervaes family in Los Angeles,<sup>21</sup> who succeed in producing 6,000 pounds of food annually on a tiny city plot. Because they are sharing their productivity innovation, hundreds of thousands have already learned to improve their own lots, but imagine the speed of innovation that would occur if they were supported by Partner State institutions,<sup>22</sup> who would support and spread such social innovations even further!

The second principle, of mutualizing physical productive resources, is exemplified by the trend towards collaborative consumption. The general idea is the same. Alone, I may lack a certain tool, skill, or service, but seen from the point of view of a community, it is likely someone else has it, and that other person could share, rent or barter it. No need to all possess the same tool if we can access it when we need it. Hence the proliferation of “p2p marketplaces”.

Let’s take an illustrative example: car-sharing. Car-sharing projects can be mutualized through the intermediary of a private company which owns the cars (fleetsharing, like ZipCar), through p2p marketplaces which link car users to each other (RelayRides), or through nonprofits (San Francisco) or public entities (Autolib in Paris). But they all achieve economies of scope. According to a study cited by ZipCar, for every rented car, there are 15 fewer owned cars on the road, but not just that: carsharing members changed their behaviour and drove 31% less than when they owned a vehicle. So, in 2009 alone, carsharing diminished global carbon dioxide emissions by nearly half a million tons.<sup>23</sup>

Imagine similar developments in every sector of production...

So, what will the new system look like, if economies of scope become the norm and replace economies of scale as the primary driver of the economy and social system?

We already mentioned the global open design communities, and we suggest that it will be accompanied by a global network of microfactories, who are producing locally, such as the ones that the open source car companies

<sup>21</sup> [vimeo.com/2231318](http://vimeo.com/2231318)

<sup>22</sup> [www.aljazeera.com/indepth/opinion/2012/03/20123111423139193.html](http://www.aljazeera.com/indepth/opinion/2012/03/20123111423139193.html)

<sup>23</sup> <http://futureofcarsharing.com>

like Local Motors and Wikispeed are proposing and which are already pre-figured by the networks of hackerspaces, Fablabs and co-working spaces. This means we also need global material organisations, not to produce on a global scale, but to organize our material activities so as to minimize the “common costs” of the various networks, and not just in terms of sharing knowledge. In other words, who will play the role that the Catholic Church and its roaming monks played in the Middle Ages? Let’s not forget, it was not just an open design community but an effective material organisation giving leadership to a whole continent-wide cultural sphere. Do we have a potential p2p version of this that can operate globally? The answer is of course the generalization of the “phyle” as proposed previously.

The only thing left to do is to have an answer to the crucial question: what does global governance look like in p2p civilization? How can we transform the global material Empire which at present dominates world affairs for the benefit of a few, and replace the ineffectual global institutions that are present inadequate to deal with global challenges?

## 8. Imagining a post-Westphalian global order

Can we imagine a replacement for the current Empire, dominated by global financial powers who at least for now seem to have the upper hand vis-à-vis the declining power of nation-states, including even huge networked state forms such as the European Union?

The alternatives are still in very embryonic stage, however the speed of global mobilization of the Occupy movement gives an idea that non-linear events are possible and could jumpstart possible solutions.

First of all, there are of course global Civil Society Organisations. However, a peer-to-peer perspective suggests these traditional organisations are no longer truly representative of civil society, which now also consists of networked productive publics, whose input must be taken into account. It goes without saying that the neo-liberal model of public-private partnerships, which are based on a dialogue of public authorities with private corporate players, is even more unacceptable. What is necessary we believe is that the for-benefit institutions assert a more powerful role on a global scale, as a new important segment of global civil society.

Global digital commons are undoubtedly being formed, and playing an increasing informal role. Global physical commons are on the agenda amongst advanced policy advocates, though the field of solutions considered by dominant players are still exclusively neoliberal market solutions, and sometimes, public solutions. The commons is as yet absent from mainstream policy debates. They could take the form of global trusts that protect vital global re-

sources. A lot of advocacy and political and social organizing on a global scale will be needed before commons-oriented solutions will be envisaged (such as cap and share managed by a SkyTrust, instead of private cap and trade or public carbon taxes as exclusive solutions to climate change).

The phyles which we discussed before could be an embryonic form of post-corporate market entities that play a global role and could eventually project global power as a challenge to the current non-ethical corporate monopolies. A merger of the cooperative/ethical/social/solidarity economy players, with open source commons would eventually create powerful global players that could count of both civic, commons, and ethical-private players, in a powerful but as yet untried combination. We also favour the use of post-Westphalian, global reserve, socially-sovereign currencies, such as Bitcoin, already used by the p2p Foundation.

We believe that the key will be the creation of a global coalition for the commons, which can operate on a global scale, so that the balance of forces can be altered and commons oriented governance and policy solutions can enter the global arena. Such coalition will be based on 1) all the forces that recognize that our planet needs to be preserved through some type of steady-state economy, which no longer depletes its capacities for regeneration; 2) the social forces, such as the free culture movement, open access and data movements, and others, who advocate for a global shared innovation commons for all socially vital knowledge, and refuse its privatisation and the criminalization of sharing; 3) all the forces that aim for social justice on a global scale. We believe such a combination of social forces would be very powerful and that the new global structures will be born from its prefigurative experiences.