

Cosmo-Localization And Leadership For The Future

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Abstract

This paper explores questions of leadership in navigating the futures of material production from the point of view of the open source and peer-to-peer movement. It puts forward the idea of cosmo-localization, which in basic terms sees a new production logic emerging from the advent of a global design commons coupled to new manufacturing technologies that democratize production. The study first uses the futures triangle to map the various factors at play. It then brings together the thinking of P.R. Sarkar and Michel Bauwens, exploring questions of leadership in the development of this new model. The study ends with three brief scenarios, drawing on the scenario logic developed by Johan Galtung, that proposes potential future states based on the resolution of critical contradictions.

Keywords: Open Source, Commons, Distributed Manufacturing, Open Design, Leadership, Peer To Peer, Political Economy

Cosmo-Localism

In very basic terms cosmo-localism describes the dynamic potentials of our emerging globally distributed knowledge and design commons in conjunction with the emerging (high and low tech) capacity for localized production of value. It exists today in many quickly maturing forms such as FarmHack¹ and L'Atelier Paysans,² communities that manufacture their own farm equipment, AbilityMate, a company that supports people with disabilities to design and manufacture their own prosthetics and assistive devices,³ Wikihouse, a foundation which supports people to design and build sustainable housing,⁴ RepRap, an open source organization that designs 3D printers designed to replicate themselves,⁵ and OSvehicle, a company that supports the open source manufacture of vehicles.⁶ Cosmo-localism takes place when easily accessible designs are paired with localized and distributed production capabilities using new breakthrough technologies that facilitate local manufacture / production.

As an emerging issue, cosmo-localism augurs an inversion. Traditional manufacturing and production located intellectual property within (usually) a single company, manufactured a product in a (relatively) centralized place (even if the raw materials were from elsewhere), and then exported this nationally or globally.

The neo-liberal turn (starting in the 1970s) saw the emergence of the Global Factory; yet even with the globally distributed corporation, intellectual property is (usually) housed in a corporation (or sometimes licensed), and even while production can straddle a number of countries, assembly centers will then export their products nationally or globally. Cosmo-localism represents an inversion of this logic of production. With cosmo-localism, the intellectual property is available globally for all to use (or can be a Peer Production license).⁷ And distributed production centers utilizing new production technologies allow enterprises to manufacture and produce such items locally for local markets and specialized purposes.

Table 1. *Comparative logics – the current production system and cosmo-localism*

	Traditional manufacturing enterprise	Distributed manufacturing enterprise (neo-liberal global factory)	Cosmo-localization
IP / knowledge sharing regime	Held by one company	Held by one company or consortium (e.g. Apple)	Creative Commons or Commons Based Reciprocity License (CBRL / Peer Production license), Open Cooperativism
Location of manufacturing	A single or local manufacturing center	Global factory, wherever the product can be most cheaply and effectively produced, elements of product can be produced	Globally distributed networks of localized manufacturing, depending on take up and use of global design commons
Transport and trade	Product sent from local manufacturing centers to other places	Parts move across many countries and once assembled are shipped for trade	Requires development of localized production ecosystems for complex manufacturing
Enterprise model	Publically Listed Corp., Family Owned Corp., Nationalized Corp.	Corporation or consortium with complex supply and distribution ecosystem	Open value networks, Maker Spaces, Platform Coops, Micro-manufacturing clusters, Pyles / Trans-national collectives

The normative impetus for cosmo-localism is based on a number of as-yet unproven assumptions:

- That cosmo-localism can help drive the development of localized circular economies / industrial ecologies that can reduce or eliminate waste;
- That the localized production of critical products can make a city or region more resilient in the face of financial and environmental shocks;
- That cosmo-localism driven import substitution can generate local jobs and expertise and provide new development pathways;
- And that the reduction of imported goods from far away places will also reduce carbon and environmental footprints.

Such assumptions, if and when they are proven to be correct, will also represent the potential benefits of cosmo-localism.

Theoretically, cosmo-localism draws strongly from Bauwen's (2006) long held argument that in today's networked world, our economies falsely treat immaterial resources (knowledge / designs) as if they were scarce through restrictive global intellectual property regimes, and treat material resources (minerals, soils, water) as if they were abundant. Instead, Bauwens argues that immaterial resources can be shared at close to zero cost, boosting global knowledge and design capabilities, while material resources need true costings in the context of global to local sustainability challenges. Cosmo-localization processes are an aspect of "commons based peer production", as such processes entail communities of producers creating shared pools of resources for common use. Bauwens et al. (2017) argue:

In commons-based peer production, contributors create shared value through open contributory systems, govern the common work through participatory practices, and create shared resources that can, in turn, be used in new iterations. This cycle of open input, participatory process and commons-oriented output is a cycle of accumulation of the commons, in contrast to a capital accumulation.

Commons are often described as objects or things, such as rivers, oceans, forests and atmosphere, however commons cannot be properly conceptualized without understanding the human activity of making something into a commons. What binds commons are their characteristic of being critical to our mutual wellbeing and survival, such that they require a collective effort to protect and extend them. They must, therefore, be collectively governed by the members of society that depend on them for their wellbeing and survival. This activity and practice is what Bollier and Helfrich point to as the deeper dimension of the commons, they argue, they are "an organic fabric of social structures and processes" (Bollier & Helfrich, 2015, p.2-3). This builds on Ostrom's (1990) foundational work articulating just how commons are managed and governed, for which she won a Nobel Prize.

Commons and commoning, in particular the production of a 'global design commons', a distributed network of shareable design resources (from medicines to machines), is a foundational aspect of cosmo-localization. Our development and use of such a global design commons can be extended through cosmopolitan theory, whereby a global justice imperative is applied to the heritage of the world's knowledge and designs. If, as Hayden proposes (Hayden, 2004, p.70) 'all human beings have equal moral standing within a single world community' the global design commons should be a human right, critical in addressing poverty, sustainability challenges, addressing social challenges and empowering grassroots enterprise and entrepreneurship. And likewise in the context of global citizenship it is our responsibility to extend, support and protect our global knowledge commons.

Secondly, cosmopolitan theory also posits the idea that, as we belong to a global community that shares the same global future (e.g. climate change will affect different nationalities differently – but all will be affected), we need to create new transnational governance structures and regimes that will ensure our global mutual wellbeing (Held, 2005). This second strand puts forward the need for political projects to ensure the protection of global commons. In this way, we need transnational governance structures that protect and extend global knowledge and design commons, as a key pillar in addressing our shared sustainability challenges.

Finally, cosmo-localism draws from, but also critiques and extends relocalization theory. Relocalization advocates argue for the need to eliminate imported goods and relocalize trade and production for a variety of reasons (Cavanagh & Mander, 2003; Hines, 2002). First, because of transport costs and associated high carbon / environmental footprints, secondly the need to decouple from what is seen as an unstable, volatile and predatory global capitalist market system, and finally as a way to prepare for what is seen as an inevitable energy descent (the end of fossil fuels) and deal with the effects of climate change. They also argue relocalizing economies (e.g. through

sharing systems) can build community solidarity, knowledge and rebalance the effects of consumer homogeneity by cultivating local culture and connection, making communities more resilient (Norberg-Hodge, 1992).

As a counterpoint, I argue that we have emerged into a global knowledge laboratory, where millions of communities are experimenting with change initiatives and sustainability efforts, and that we need to leverage off each other's experiments and successes, often applying one community's innovations into a new context. Decoupling from a global knowledge / design commons would therefore be fundamentally detrimental to the very goals of localized sustainability efforts. A relocalization which does not draw from a global knowledge and design commons and which is relegated to only local knowledge can at best produce 'life boat' relocalization and at worst will not produce basic sufficiency. Secondly, the systems and structures that allow for a healthy subsidiarity (devolution of power to the local) are mediated at state levels, nationally and through global trade regimes, and therefore the very goals implicit in the relocalization agenda require political and social action at national and transnational scales.

Drivers of Change Enabling Cosmo-Localism

In this next section I discuss the critical drivers of change enabling the potential for Cosmo-Localism:

1. Global knowledge and design commons
2. Consumer manufacturing technology
3. Maker movement
4. Urbanization and mega-city regions
5. Economic precarity
6. Resource impacts, scarcity, and circularization of economies

Knowledge and design resources for a variety of critical support systems are now available in the distributed web under open licenses (creative commons / gnu / copy left), which include: pharmaceutical drugs, food production systems, machinery, automobiles, 3d printed products, robotics, and in many other areas. Literally millions of designs are available under open licenses that allow people to do local 3-D printing, build machinery, robotics and micro-controller systems (Arduino and Raspberry Pi), and food production and agricultural systems, medical applications and medicines, and even the building of electric cars.

A second driver of change potentiating Cosmo-Localism is the reduction in costs of certain manufacturing equipment. Technologies such as 3d printers, micro-controllers (Arduino/Raspberry Pi), laser cutters, and CNC Routers, that have traditionally been too expensive for individuals to own have more recently become affordable. 3D printing has gone from an expensive hobby that would have cost someone \$30,000 ten years ago, and \$4,000 three years ago, to about \$500 for a home kit today. The same cost shift is happening with other machinery. The underlying technologies that drive these machine applications are microcontroller systems, which are now cheap and accessible (also central to emerging Internet of things). While currently we can only do 3D printing with relatively small objects, there are already a number of large-scale 3D printing systems for printing houses and other items. In China inventors have 3D printed houses in under a day.⁸ And Wikispeed has developed new ways to produce open sourced cars.⁹ Enterprise 3D printing is well-established with the printing of space modules as well as engine aircraft parts. Finally new advances in distributed energy production and storage mean that Cosmo-Localism may locate across urban, peri-urban and rural forms.

A third factor driving the potential for Cosmo-Localism is the maker movement. The maker movement is a very broad church and includes everything from preindustrial handcrafts such as jewelry making (e.g. the Etsy marketplace), textile making to well-established industrial crafts such as metal foundry work, power-based woodwork and welding, but also straddling the high-tech end of the spectrum. The grassroots maker movement has a strong commitment to open source and knowledge justice approaches, localization, community learning and sustainable closed loop / circular economy strategies. Reuse, repair, repurpose are common words. The potential of the maker movement for Cosmo-Localism lies in this broad church beginning to learn from each other's knowledges and capabilities and to collaborate on the design and manufacturing of things that require a high level of coordination or organization. At the moment the maker movement is a fluid network, dynamic, creative and explosive, but not yet coordinated toward mainstream material production (Lang, 2016). To make things for commerce requires disciplined coordination, organization and capital, more typical of industrial models.

The fourth major factor driving the potential for Cosmo-Localism is rapid urbanization, and along with this the emergence of mega-city regions. The rise of mega-city regions potentiates Cosmo-Localism, because cities are locales of diverse production capacities, knowledge / expertise, human, natural and built resources, as well as diverse needs and markets. Mega-city regions have scales which allow for localized production capacities to cater to large populations. Because of proximity, a city can develop circular economies and close resource and waste loops easier than perhaps far flung regions (however acknowledging that regionally disparate locales can still be critical in closing resource loops). Cities would not be able to produce all the things they need, and many things would still need to be imported through trade and the global economy. Yet emerging creative industry and demands for urban sustainability and economic inclusion may drive cities and especially mega-cities as locales where cosmo-localism is developed.

Economic precarity has hit many countries, for example Argentina after their 2001-2002 financial crisis, the US after the Global Financial Crisis, the Eurozone after the Eurozone crisis, Venezuela today and in many other regions. This has had a particularly devastating effect on young people. Where people are excluded from the dominant market system, they must create alternative subsistence systems. Castells sees the emergence of 'new economic cultures' from populations which, in addition to looking for ways out of the dominant economic system, simply cannot afford to consume goods from the dominant system (Mason, 2012). In terms of cosmo-localism, both values and need drive a new type of social actor which can leverage the global design commons and community maker space-based production in ways that can produce agency, empowerment and livelihood for people in need. Cosmo-localism potentially creates enterprise opportunities for those people out of work to create livelihoods, or at least to begin to experiment with new production potentials. To the extent that cosmo-localism is seen as a way to support citizen livelihoods, we may see cosmo-localism taken up as state or city supported process.

The final factor that potentiates cosmo-localism relates to ecological crisis and the need to create breakthroughs in innovating closed loop and waste eliminating modes of production. As resources become more and more scarce into the future we will need to become much more adept at upcycling and repurposing things in general. Mapping, collaboration and sharing platforms are helping localities to develop exchange ecosystems which provide new foundations for localized resource exchanges, the development of 'circular' economies and more ambitiously industrial ecologies. Cosmo-localism includes the potential to map and activate local resource ecosystems and combine new production capacities with urban metabolic flows that can reduce or eliminate waste. Localized industrial-urban metabolisms may be key to generating environmental integrity outcomes.

Weight of History and Obstacles to Cosmo-Localism

In addition to drivers potentiating Cosmo-Localism, there are equally powerful ‘weights of history’, legacy systems, cultural factors and other obstacles to Cosmo-Localism. These include:

1. Platform oligopolies
2. Economic incumbents
3. Intellectual property regimes
4. Consumer culture

Platform oligopoly is the first challenge to Cosmo-Localism, the power of the big Silicon Valley enterprises to monopolize and potentially suppress the potentials for Cosmo-Localism. Big platforms, like Facebook and Google, but now sharing platforms like Air BnB and Uber derive value from our practices of relationality. There is great value in the things that they have innovated, and yet the monetary value generated by users on these platforms through their sharing and interactions are not shared for social reinvestment back to the user’s communities. Michel Bauwens calls this ‘netarchical capitalism’,¹⁰ whereby platforms get wealthy at the expense of contributors, who enter into a form of economic dependence / precarity with such platforms. Cosmo-localism relies on supporting a global knowledge / design commons while supporting investment in localized maker enterprises. Cosmo-localism based on extractive platforms would be stunted, as Cosmo-Localism requires systems for localized re-investment that are now being discussed as platform cooperativism.¹¹

Another major obstacle is political in nature. What we consume is based on the legacy of industrial production, and there are many economic incumbents that do not want to lose business. Incumbents may lobby governments vigorously to make life more difficult for Cosmo-Localism start up enterprises. In the US, policymaking has been co-opted by moneyed interests (Gilens and Page 2016). For Cosmo-Localism to work it has to go beyond the local, and the state should not be abandoned as a locale in the adjudication of power. To counter this, there will need to be alliances of commons-based enterprises that work together to form Cosmo-Local public advocacy that is able to create favorable policy conditions for it. Bauwens has argued we need to create a “partner state” model where governments actively support localized commons-based peer production and Cosmo-Localism.¹² Recently he has pioneered such a model through the FLOK project in Ecuador.¹³

The third obstacle relates to intellectual property. The global policy pushed through the WTO TRIPS and now the Transpacific Partnership all have a common aim of enfolding joining nations into the Western European intellectual property regime based on positivist law. Positivist law in the most basic terms is simply contractual law. It does not acknowledge contextual, ethical, cultural or historical dimensions in the use or possession or governance of a thing; it simply says, if you signed a contract – hand it over or else. This is why when certain companies can buy a life support resource from a government, such as when Bechtel bought Cochabamba’s water supply, and then hike the price for water for locals. Buying and selling life support systems is perfectly ‘just’ within the framework of positivist law, but it is often in contradiction to the living conditions and needs of people. Today there are people dying from diseases around the world because they cannot get access to cheaper versions of the medicines that would cure their diseases. This is because certain intellectual property regimes do not allow people to produce local versions. A global neoliberal push that envelops the world in an intellectual property regime that treats knowledge as scarce, and based purely on the logic of investment and return, will harm the possibility of Cosmo-Localism. We need to normalize knowledge and design commons through our own work, and develop knowledge / design sharing and licensing systems that frees knowledge to transform the world in positive ways. As Kostakis & Bauwens argue, “the commons [need to] be created and fought for on a transnational global scale” (2015, p. 130).

The last weight of history is the cultural pattern of consumerism. It has been deeply engrained through the last century, whereby people have been taught and have learned a number of ideas and attitudes. That our self worth is based on what we own and consume. That it does not matter where a product comes from and where it goes after use. That other people make things for us, and we just make the money to buy those things. That if something breaks it is better to just buy a new one rather than fix the old one. Cosmo-localism is antithetical to consumer culture, and requires people to be willing to learn how to make things, be willing to tinker and fix things (or know others who can!), to get lost in problem solving and be patient enough to wade through, to work with people and share and learn, and to care where something goes and something came from, ultimately to close resources and waste cycles.

A Vision For an Emerging Cosmo-Local Ecosystem

A new commons-based Cosmo-Local ecosystem will require a variety of new virtuous relationships, organizations, platforms and institutions positioned across our social systems.

Micro-scale enterprises. Community and worker owned and run enterprises or social / sustainability oriented businesses that produce for local needs (such as Platform Cooperatives¹⁴). Startups are created at small scales, experimentally, lowering risks and barriers to entry. Expensive imports targeted for substitution. Local communities help bootstrap enterprises, entering into demand led relationships (similar to community supported agriculture – CSAs).

Industrial micro-clusters. An orchestration of micro-clusters: local enterprise ecosystems created through networks, sharing and exchange platforms with human plus web supported administration for resource and needs matching, activating circular economies. Micro-clusters leverage city scales (proximity, talent and population). Requires city and state political leadership, partner state support for establishing micro-cluster ecosystems, in conjunction with enlightened industrialists who understand requirements for manufacturing.

Circular economy. Map resource flows and industrial ecologies to look for opportunities to circulate resources. Leverage micro-clusters to enact first stage systems. Partner with the state to help meet sustainability targets and with enterprises to drive down resource and waste costs.

Entrepreneurial talent networks. Deeply networked into industrial and community based talent pools, which provide expertise to effectively build enterprise creation teams. Entrepreneurial and management abilities for strategizing, building and operating new enterprise models.

P2P investment systems. New systems for capital investment that allow maker enterprises to scale, or to ‘pod’ (cooperative franchising) based on citizen, worker and community finance, as well as employing demand led strategies. State support for startups, micro-clusters as seed funding.

Mobilization of idle (non-human) resources. Existing industrial resources leveraged, (out-of-use buildings, idle machinery). Obtain necessary resources to allow experiments to happen at small and manageable scales, with support from business, state and community.

Community support. Create peer to peer networks to connect people who are time rich but money poor, or who have a desire and drive to realize entrepreneurial opportunities. Connect workers/community, to new enterprises.

Maker culture. Build on and widen the maker movement and maker culture, deepening society wide commitment to open source and knowledge justice, localization, community learning and reuse, repair, and repurpose. Create and support learning low barrier platforms to knowledge sharing. Develop cultural capabilities for collaboration.

Transnational solidarity. Work transnationally in line with Open Cooperativist principles,¹⁵ to produce knowledge and design commons for other similar enterprises and efforts anywhere.

- Open source enterprise - keep the enterprise journey open
- Open source design - allows other enterprises anywhere to use and modify designs for local production.

- Open source platforms – e.g. allow production of circular economy ecosystems to emerge.
- Commons-Based Reciprocity Licenses (CBRL), “CopyFair” or similar systems used to create a virtuous cycle of value exchange between cooperatives.¹⁶

Efforts on one side of the planet are then a beacon of hope, a design, knowledge, business model, for another Cosmo-Local effort on the other side of the planet. Instead of one group of workers getting jobs at the expense of the others, Cosmo-Localism potentiates one group of workers peer-production supporting other workers wherever they are – a form of planetary worker solidarity.

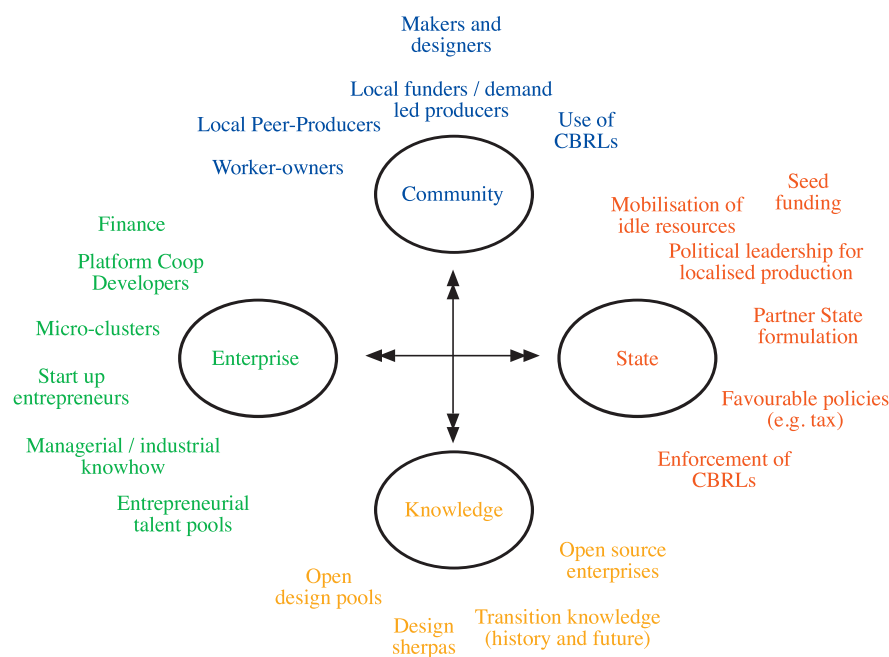


Diagram 1: a vision for an emerging cosmological ecosystem

Sarkar's Social Cycle and Conceptualizing Transformative Leadership

Given the potentials and threats we are faced with, how can we express leadership in steering and nurturing the futures that are best? With this in mind, we turn to the ideas of P.R. Sarkar to help us consider leadership.

Leadership in our historical moment.

Leadership is, in part, the capacity to see the nature of social change. Paulo Freire argued that *conscientization*, our capacity to be empowered thinkers and actors, requires a deep understanding of historical social change, indeed understanding how previous eras are different than the present and future, and how the subject / person of emancipation needs to be able to distinguish between the *era in exhaustion* and the *era that wants to emerge...* and thus how the person/subject can participate in shaping history and the future. History and the consciousness of history is a prerequisite to leadership in the 21st century (Ramos, 2005).

Sarkar, likewise discussed the larger dimensions of historical social change using the Indian idea of the *varna* (caste or class), as “for Sarkar the purpose of understanding history is to enhance agency so that an alternative future can be created” (Inayatullah, 2013, p.2). The “*sadvipran*”, is that

which embodies the healthy dimensions of the other *varnas*, who understands the larger patterns of change, and who through wisdom provides leadership in steering and nudging those people, groups and systems around him / her towards the next progressive era.

Sarkar's idea of *varnas* or "castes" represented for him the epochal periods that are dominated by a particular mode of power and rationality. Sarkar re-interpreted caste from the Indian static system of privilege and hierarchy to a logic of social and epistemological change. For Sarkar, the idea of *varnas* had a dual purpose, on the one hand drawing from classic Indian thought, a way to understand social dynamics and epistemology, on the other hand they served as a critique of exploitation by one group or caste of another; and hence in the context of India, an assault on the foundations of caste; and in the context of neo-colonialism, an assault on the foundations of capitalism.

*"Each class can be perceived not merely as a power configuration, but as a way of knowing the world, as a paradigm, episteme or deep structure, if you will. In Sarkar's language this is collective psychology or varna (here, dramatically reinterpreting caste)."*¹⁷

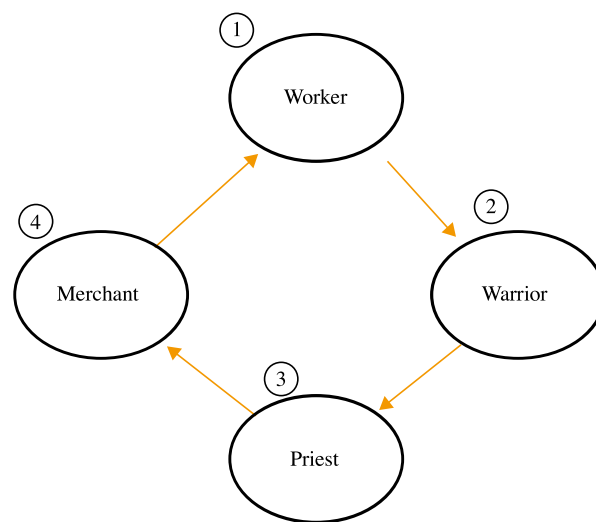


Diagram 2: Sarkar's varna and social cycle

Four classical *varnas* operate in Sarkar's system, each with its unique power and rationality. Here they are explained in their archetypal forms:

1. **Workers** represent raw and chaotic power, present oriented and focused on satisfying basic needs. Workers can be a benign expression; or can be disruptive and lead toward regressive paths, a malign expression. In each stage workers will continue to give service so long as their basic needs are met. As a stage becomes perverse, workers may revolt and disrupt, bring on crisis that leads to either regression or progression.
2. **Warriors** represent the imposition of "polity or civic order." The warrior is present oriented, but also includes historical legacy ("glory and victories"). In their *progressive* form Warriors protect the rights of Workers, provide protection against exploitation and support the civic foundations for satisfying material needs. In their *regressive* form warriors use civic order to exploit workers, do not protect them from predation, and provide no transcendent basis (honour) for satisfaction (higher purpose for work).

3. **Priests** represent the dominance of ideas and normativity (establishing right and wrong / ethics). They require a collaboration with warriors to establish their own power in / over society. In their *progressive* manifestation Priests create ideas and ideology that reflect needed truths and which provide meaning and purpose for their society, including an openness to newness that allows knowledge and truth to evolve. A *regressive* manifestation is the monopolization of knowledge and truth “where knowledge is only available to the select few,” and where ideology is used to exploit and marginalize people (e.g. justifications for exploitation, slavery, colonialism, patriarchy).
4. **Merchant’s** power comes from the mastery of the market and the entrepreneurial spirit. In their progressive manifestation Merchants use entrepreneurship to create value for the whole system, and improve the “material condition of the Workers through the civil processes established by the Warriors.” People benefit from material wealth through their participation in the marketplace. In their regressive manifestation, “material wealth is accumulated by the Merchants rather than distributed,” and “Workers become the slaves of the Merchants and exploited through ‘*seducing the poor and weak into believing that they all benefit from the system*’ (Hayward & Voros, 2006, p.123). In the regressive stage, the work of Priests is also exploited and commoditized by the merchant class, and the political (law giving) process (the warriors) is corrupted through the moneyed influence on governance, politics and policy-making.

How can these classical archetypes help us think about leadership for Cosmo-localization? Sarkar’s social cycle, because of the way in which *varna* are positioned in various ways across a social system, help us think about the deeper dynamics within political economy, and commons based Cosmo-localization.

The Cosmo-Localization Ecosystem

In their analysis of P2P communities, Bauwens et al., (2017) provide a framework for understanding the ecosystem for the peer production of the commons, which helps to conceptualize a Cosmo-local political economy. In their formulation there are three core elements at work:

1. The Productive Community
2. The Entrepreneurial Coalition
3. The For-Benefit Association

The Productive Community is that group of people who work together to produce common value and common good. This is about people producing resources, designs, methods, software, etc. that are commonly sharable. For example, Wikipedia is literally produced by thousands of volunteers around the world, editors and writers.

The Entrepreneurial Coalition is the bridge between the common resources produced by the productive community and their application to a marketplace. In their own words, the Entrepreneurial Coalition “secure[s] either profits or livelihoods by creating added value for the market, based on the common resources” (Bauwens et al., 2017, p.13). This group allows many of those that underpin the Productive Community to sustain their own commoning efforts by providing value within a broader market. Bauwens et al. believe that the crucial question for this group is “whether their relation is generative or extractive” in relation to the Productive Community and the wider society (Bauwens et al., 2017, p.13). An example of an extractive logic is Uber, where the Productive Community builds the common resources, but the enterprise extracts a tax between community transactions and is antagonistic toward social democratic norms (city taxes and licenses).

The For-benefit Association can be a not-for profit organization, trust, foundation and or other form which provides an institutional anchor and mechanism to support the peer production of the Productive Community, which are “independent governance institutions to support the infrastructure of cooperation and empower the capacity for commons-based peer production” (Bauwens et al., 2017, p.15).

These three forms are then complimented by digital commons which are a by-product of the commoning work of the productive community.

When considering Sarkar’s *varna* within the social cycle, we can see linkages between the structural logic of the *varna*, four classic types, and the components of a peer production system. To express this the terminology of Sarkar is here adjusted to make more sense within a peer production framework. Simply put, this adjustment can be summarized as:

- Worker → Productive Community
- Warrior → For-Benefit Association
- Priest → Transition Leadership
- Merchant → Entrepreneurial Coalition

Rather than seeing the four *varna* as individual roles, we can see them from a structural perspective. The Productive Community holds the position from where things are produced and used. The For-Benefit Association holds the position from where institutional policies are established for the common good of the community – its governance as a commons (Ostrom, 1990). The Entrepreneurial Coalition holds the position of innovation and value creation for the broader world. The Transition Leadership holds the position of developing and holding a vision for the overall community-organization-enterprise that is attractive and effective in the world.

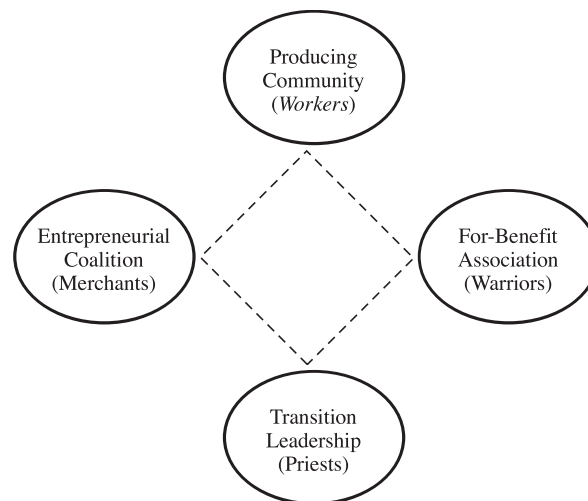


Diagram 3: Comparison of Sarkar’s *varna* and Bauwens’ peer production system

It is interesting to note that, in this model, workers shift dramatically from agency-less objects in the industrial system to the prime actors in the new system. In the 20th century, whether via socialism or capitalism, the industrial model never gave workers status as creative actors – jobs were to be created for them in either system. The model also connects strongly with Sarkar’s distinction between a healthy or malign merchant class – reflected in Bauwens et al., (2017) distinction between extractive versus generative logics. The model also requires institutional anchors backed by authority. Finally, knowledge is held as a common good and resource.

Because of the scale of the industrial system, conceptualizing a transition to a cosmo-local political economy requires further engagement with structure. While peer production can happen from within a capitalist economy, cosmo-localization in its rich and deep manifestation asks us to consider social structures. For this, Sarkar's *varna* are use again.

Moving toward system level transition

Sarkar saw progress through the logic of the spiral. He believed that *varnas* come and go. New *varnas* displace older *varnas* which no longer satisfy the needs of people. When a *varna* becomes decadent and regressive, the original value which it represented is perverted, and calls forth a shift to a new *varna*. But he did not see this as merely cyclical change. Cyclical change would represent a complete return and re-iteration of a past state. He hoped that the shift to a new *varna* would incorporate learning and development from previous *varnas*. If a new *varna* disowns the positive developments of previous states, this is regression. If a new *varna* can incorporate the social learning and development of previous *varnas*, this is spiral progress.

In this context Sarkar critiqued of the current system of global capitalism. He believed that the exploitation of workers based on the logic of the market could be seen widely in today's world. In their healthy manifestation the entrepreneurial (merchant) *varna* could liberate people to exchange value in powerful ways. However, he argued that today global capitalism had become an oppressive force. Sarkar believed that contemporary capitalism was reaching its nadir. His macro-historical vision saw a revolutionary shift toward a worker era, ideally incorporating the best technologies of economic governance, but leaving behind the more regressive elements reminiscent of late capitalism.

According to this logic, if we want to bring about a progressive, spiral like shift, from the exploitation of workers to the empowerment of workers, it is not enough to conceptualize a "worker revolution", indeed this is a used future from the 20th century. We need to conceptualize a new structural synergy between progressive aspects in all four *varna*, even as the "Productive Community" in peer production logic has become a new and (arguably) prime historical agent of change. To consider this we can make one more correlation between Sarkar's *varna* and the analysis of Bauwens et al., (2017).

- Worker → Civil Society
- Warrior → (Partner) State
- Priest → Transition Coalitions
- Merchant → Market entities

Here we can ask, what is needed across the *varna*, to build a cosmo-localization for the common good? Here we can consider these four aspects in turn.

Civil Society

First of all we need an empowered citizenship that can keep law and policy-makers honest, and which can form political will to enact law and policy which supports a sustainable and equitable economic model. This includes citizen advocates for localization and sustainability. There is a role to play for popular education to help people understand their options and also how changes to state policy are needed - some kind of translation of state policy, so that people can support the policies that are in their best interest, and actively cultivate understanding of state policy that allows them to make wise decisions. There also need to be ways to get people involved in the production process, perhaps through the recreation of supply chains based on 21st century cottage industry principles, localized production ecosystems. Importantly there needs to be community supported and demand

led strategies that support cosmo-local enterprises. People need access to equitable economic alternatives, such as cooperatives. People can also underpin the creation of cosmo-local production communities through P2P finance, contribution networks, and labor.

State

The state's fundamental role is to govern for the common good of present and future generations. This requires political leadership, which includes both champions at the highest level, policymakers and the strength within the political system to execute progressive legislation. What is required are political champions who can put forward a vision for a different type of industry production and agriculture. Underneath this, there needs to be policy vision. Policy papers and policy documents need to be able to engage with the near to long-term future in a way that is palatable to critical stakeholders. Ultimately city or state-based support needs to be developed, both in the form of legislation, but importantly in the form of financial resources to support the development of fledgling businesses and enterprises, as well as the overall restructuring of the economic sector. The idea of the Partner State (Bauwens, 2012; Orsi, 2009) is extremely important here, "the evolution of the state in a commons- centric society [...] in which public authorities would empower and enable the direct creation of value by civil society at the scale of a territory, by creating and sustaining infrastructures for commons-based contributory systems." (Bauwens, et al. 2017).

Transition Coalitions

Transition Leadership is an ability to articulate the logic, ethics and strategic pathway for a commons based cosmo-localization. There are two critical pillars under ethics that need to be articulated. First the ethics around post-growth, which concerns sustainability and local to planetary ecological well-being - this is the imperative to transform our economic systems in relation to its impact on our life support systems. Secondly, the ethics concerning the "right to produce", and the importance of open source and copyfair approaches in enabling grassroots enterprise and creativity. Alongside this we might consider the role of "knowledge or design sherpas", that support people's ability to engage with the global commons of design, as well as all the embodied knowledges within society, the maker movement and industry, that must come to the fore to make cosmo-localization possible. Overall leadership here means helping different *varna* to understand historical social change and to find their ethical place and ethical agency within this, to provide translation between sectors and systems to foster meta-networking and meta-emergence, articulating a new sustainability and well being paradigm, attracting people and mobilizing hearts and minds, and clarifying the ethics of the historical moment. With this in mind this meta-level systemic inter-relating, meaning making and solidarity forming is the basis for transition leadership coalitions.

Market Entities

Market actors are critical for a commons based cosmo-localization. Business leadership is crucial, including those with a high degree of entrepreneurial capability and capital in establishing new industries and enterprises. Entrepreneurial coalitions need to be built around commons based cosmo-localization. There need to be well developed financial systems, both systems able to build in the community into driving the change (P2P / citizen finance), as well as those willing to invest and build the businesses of the future. There need to be business model experts that can help people design new enterprises that can be both profitable and equitable (e.g. platform coop designers). Managerial expertise will need to be brought in as well. Pools of talent and technology need to be formed around the industrial restructuring. In line with Bauwens et al. (2017) idea, "Entrepreneurial Coalitions" will be crucial in translating the value created in "Productive Communities" to wider society, and establishing models that circulate that value back to the productive communities and civil society.

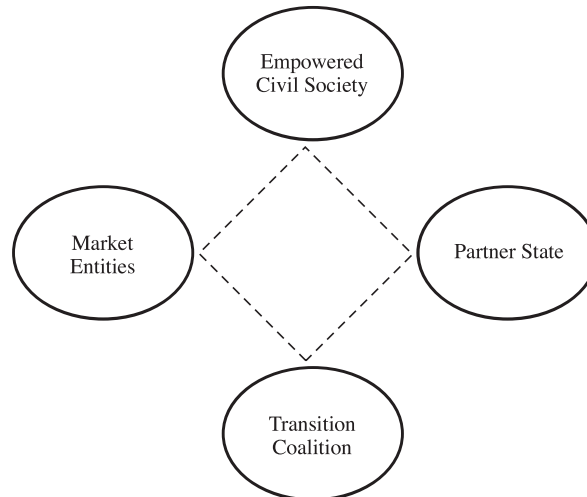


Diagram 4: Four Systemic Dimensions of Cosmo-Localization

For Sarkar the purpose of the social cycle is to move people to the position of the *sadvipra* – the leader who exists not for a particular group but for the good of all. This requires seeking win-win solutions and using the core attributes of each *varna* wisely – for workers the ability to serve others; for warriors the ability to protect others; for intellectuals the ability to use ideas to create innovation and solve problems; and, for merchants the ability to ensure that money keeps on circulating, so that the entire system can benefit. “By having a sense of the whole, the integrated, *sadvipras* can judge which skills are required for the good of all.” (Inayatullah, 2013, p.3).

*“Sarkar believes that while the social cycle must always move through these four classes, it is possible to accelerate the stages of history and remove the periods of exploitation. Thus Sarkar would place the *sadvipra*, the compassionate servant leader, at the center of the cycle, at the center of society (not necessarily at the center of government). In his life, Sarkar’s efforts were to create this type of leadership instead of building large bureaucratic organizations. He sought to create a new type of leadership that was humble and could serve, that was courageous and could protect, that was insightful and could learn and teach, and that was innovative and could use wealth--in a word, the *sadvipra*.”¹⁸*

According to Sarkar, leadership is the ability to work across these different energies and potentialities to create wise social change. For cosmo-localization to fulfill its promise as a new system that protects and nurtures people and planet, future leaders will need to emerge to bring the capabilities of the community, the political sphere, the intellectual sphere and business into intelligent and wise synergies of change.

Contradictions and Emerging Strategic Opportunities for Leaders

This final section seeks to provide some outline of critical social changes that will provide openings for leaders to use as leverage points. Here I use Johan Galtung’s approach to scenario development, based on an analysis of the contradictions within the current political economy (2009). The central premise of this approach is that the more contradictions that exist within a system, the closer it is to collapse, re-organization and / or transformation. The outcomes of such crises cannot be predicted, however scenarios can be developed which provide possible pathways of change. Understanding these contradiction and possibilities provide strategic opportunities for leaders.

Economic contradictions

1. The corporatization of the economy versus the cooperativization of the economy. The corporate form underpins capitalist led externalization of impacts, to deliver value for shareholders, limited liability and legal personhood. Against this are emerging and alternative models.
2. The financialization of the economy versus the real economy. Neoliberalism has grown a global financial economy that is increasingly decoupled from real productivity and livelihoods.
3. Economic growth versus a lack of distribution. The benefits of economic growth have continued to be harvested by a wealthy minority, as worker wages have stagnated.
4. Increasing growth of the global knowledge and design commons versus the existing neo-liberal IP regimes. The increasing abundance of a digital commons, and its necessity as a resource for radical sustainability, is increasingly at odds with the privatization of knowledge.

Political contradictions

5. Populism versus wisdom politics that can drive progressive change. Right wing reactions and populism (Brexit / Trump) against globalization are strengthening even while pro-commons alter-globalization movements have strengthened (World Social Forum / Occupy).
6. Oligarchy and the perpetuation of elite rule versus citizen p2p movements creating change. Oligarchic governance has solidified with greater concentrations of wealth and the breakdown of social democratic monitory systems (Keane, 2009), even as citizen movements have led transformation shifts in forging new political contracts (Podemos / Sunflower Movement, Iceland, etc.).

Cultural contradictions

7. The modern industrial productivist culture versus a new generation of hackers, makers and social and “system” entrepreneurs. A culture of consumerism continues to be driven by advertising even while a new generation life-hackers design low impact, reuse and no-use solutions.
8. The social imagination for change versus the reality of incumbent political-economic power. New visions for the future have emerged (for example for Universal Basic Income) even while the reality of power appears intractable.

Ecological contradictions

9. Resource limits (and limits to growth) versus increasing demand for resources and higher expectations for material betterment. Galtung calls this “between production-distribution-consumption and nature” (2009, p.55). This includes the predominance of global trade in goods and its associated costs versus peak oil projections. The nexus between population growth and the production paradigm is running up against the materialist fantasies created by advertising and the economic growth system.
10. The need to re-price nature to reflect true costs versus free market, classical economic approaches where no costs on externalities are imposed. This reflects the drive to move nature from an externality i.e. free for the user to price based, if I pollute via meat or car or airplane, I should pay, price nature appropriately instead of downstream impacts that no one pays, but all pay in the end.

Scenarios

Scenario 1 – The Global Coop – Resolving contradictions 1, 2, 3 and 4

It is 2035 and the world economy has been transformed through open cooperativism (Troncoso and Utratel 2017), a resurgent transnational sector called ‘The Global Coop’. The world went through traumatic shock after the second Global Financial Crisis of 2020, erasing trillions from people’s bank accounts. Rising from the ashes of this were new cooperative systems of economic organization. Platform cooperativism had built up steam from its inception as a movement in 2015. And open cooperativism, the interlinking of cooperative enterprises from around the world, had also begun to develop. Alternative currencies had developed, drawing on the tradition of LETS, but increasingly high tech, leveraging block chain and other technologies. The global knowledge and design commons had matured even more. For decades wages had stagnated under neoliberal policies. After the first GFC this accelerated, but after the second it became a crisis.

As the cooperative and platform cooperative movements matured, they became more profitable for member-workers, and a strong competitor to the corporate-capitalist incumbents. With the crisis, people flock to the cooperative form. Meanwhile the open cooperative movement helps to transnationalize value exchange. Coop currencies trade across the globe, creating a planetary sub-economy that flourishes amid the economic mess left over by neo-liberalism. Institutions that support Commons Based Reciprocity Licenses (CopyFair) provide ways to maintain the strength of design and knowledge commons that underpin The Global Coop. The Global Coop builds and maintains a global design commons that increasingly potentiates distributed localized production.

Scenario 2 – P2P politics – Resolving contradictions 5,6 and 8

It is 2045, and world political systems have undergone fundamental transformations. From 2020 automation and robotics decimated whole industries and sectors, leaving large swaths of the population unemployed. Political oligarchy continued to drive policies that failed to redistribute wealth and create the social commons. In a world vacillating between regressive populism and the hope for a new future, the dramatic political movements that began in the 21st century, the World Social Forum, Occupy, the Arab Spring, Podemos, the Sunflower Movement, evolved into powerful forces for change – wisdom politics. A new generation of citizens forge a new political culture, visionary and forward thinking, highly connected, relational, experimental and active. Using new P2P practices and technologies, citizen movements are able to create new political contracts. The foundational outline for the political contracts include: a new system of taxation that draws from a commons analysis, the development of a partner state model where the state supports citizen initiated cosmo-localization (and other) projects and cooperative enterprises, and different types of universal basic income that provide basic levels of security.

Scenario 3 – Maker World – Resolving Contradictions 7, 9 and 10

It is 2055, and a new type of culture flourishes which values local knowledge, ecologies, resources and where most of what we produce is designed for either reuse or upcycling. From 2020 major resource shocks began, with the price of oil affecting transport, and other minerals. The resource crisis deepened year by year as the world population soared and demands for resources steadily rose. As the population rose so did human impacts on ecosystems, in a steady march of degradation. Facing ecological crisis, even the most trenchant conservatives began to question the assumptions underlying their societies. Drawing from the maker movement which had been building for years, societies began to forge a new culture of ecological care. Products would only be made if they could be reused, or if they could be upcycled. This new culture drives policies for “true costing”, where any product which externalizes ecological (or social) costs must be re-priced

to reflect its impact on the world. High resource costs are dealt with through circular and localized systems of production, supported by the open design commons. The new human story is about restoration and restorative practices, how we build the health of our societies and the Earth through a deep understanding of our ecological world and self.

Conclusion

These three scenarios are images of how the contradictions within the current political economy might be resolved through a cosmological and p2p perspective. The contradictions within the current system are complex and multifaceted, and another perspective would give alternative scenarios on how these contradictions are resolved. The time scales for such transformations are neither arbitrary nor well defined. In the use of Causal Layered Analysis as well as Panarchy and similar frameworks (Ramos 2006), the economic realm changes fastest, the political slower, and the cultural slowest. While these scenarios reflect this, the timeframes used were more conjectural and speculative rather than based on rigorous data analysis.

At very least the scenarios allow us to consider what leadership means in the context of cosmologicalization. First we need to forge a new economic dynamic that is both enfranchising at the community level and transnational in its solidarities – platform and open cooperativism. Secondly we need to pioneer wisdom polities that can enact new political contracts for the commons – a partner state. Thirdly we need to develop a new story where care and restoration for our world is infused in our material production.

Building new leadership and the construction of agency needs to also understand the negative scenario. Oligarchy may continue to seek ways to hold on to the privilege of determining social policy. Incumbents may cynically redefine progressive distribution as bread and circuses debasement. Modernists may fight to maintain an elite corporate economy, even as the system of musical chairs continued to exclude more and more. And populism feeding off fear and the nostalgia of the past may be used to sway those with muddled sentiments and clouded imaginations. In short, fascism is another way of resolving these contradictions, in a way that de-humanizes rather than neo-humanizes. Thus, we have great challenges ahead of us, but with service, courage, intelligence and creativity we can navigate and steer these contradictions toward better futures.

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Notes

1. <http://farmhack.org/tools>
2. <http://www.latelierpaysan.org>
3. <http://www.abilitymate.com>
4. <https://wikihouse.cc>
5. <http://retrap.org>
6. <https://www.osvehicle.com>
7. See: http://p2pfoundation.net/Peer_Production_License

8. <https://www.washingtonpost.com/news/innovations/wp/2015/02/05/yes-that-3d-printed-mansion-is-safe-to-live-in/>
9. <http://wikispeed.org/>
10. http://p2pfoundation.net/Netarchical_Capitalism
11. See: <https://ioo.coop>
12. http://wiki.p2pfoundation.net/Partner_State
13. http://en.wiki.floksociety.org/w/Main_Page
14. <http://internetofownership.net>
15. http://p2pfoundation.net/Open_Cooperatives
16. http://wiki.p2pfoundation.net/Commons-Based_Reciprocity_Licenses
17. <http://www.metafuture.org/Articles/IntroductoryChapterfromthebookSituatingSarkar.htm>
18. <http://www.metafuture.org/Articles/IntroductoryChapterfromthebookSituatingSarkar.htm>

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