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The Autocatalytic Sprawl of Pseudorational Mastery

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According to Jonathan Nitzan and Shimshon Bichler (2009), *capital* is not an economic quantity, but a *mode of power*. Their fundamental thesis could be summarized as follows: capital is power quantified in monetary terms. But what do we do when we quantify? What is the nature of money in a capitalist society? Indeed, what is power? In the following, we try to develop a concept of power as the ability of persons to create particular formations against resistance. The kinds of formations persons can think of depend on the society they live in, which can be identified by what Cornelius Castoriadis called its social imaginary significations (SIS). The core SIS of capitalism is *rational mastery* operating with computational rationality. Computational rationality in turn rests on a particular understanding of how signification works: it works through operational symbolism, as theorized by Sybille Krämer in analyzing the philosophy of Leibniz. When the concept of the SIS of modern rationality was developed in the 1950s and 1960s, bureaucracy was seen as the main organizational mode of rational mastery. We argue that there are two modes of rational mastery, capitalization and bureaucratization, that interact with each other in capitalist society. The paper concludes with deliberations on the future of rational mastery and possible ways out.

1 Power, *Gestaltungsvermögen*

1.1 From Wealth to Vermögen

In English, of persons who own a variety of assets that have a certain monetary value, one says that they have a certain wealth. In English, it is not clear how wealth as such should relate to power. The situation is different in German: the direct translation of

'wealth' is *Vermögen*, sometimes even *Kapitalvermögen*. You say, Mr. Gates has a Vermögen of $100 billion. Now, the word Vermögen is also used more generally to denote the *ability* to do something, the *power to*. Indeed, etymologically Vermögen belongs to the same group as the German *Macht*, which is the direct translation of 'power', especially in political contexts. These words trace their etymology to the Indo-European root *magʰ*, which means 'ability' or 'power', and from which all kinds of related English words, like 'might', 'mechanics', 'machine' and many others, including 'magician', derive; there is also the closely related root *maǧʰ*, which means 'fight' or 'struggle' (Köbler 2014).

So in German, the identity of *capital* and *power* is already built into the language—and the etymologically English equivalent to *Kapitalvermögen* would be 'capital might'. The reader can get a feeling for the meaning of Vermögen by taking an arbitrary report about goings-on in business and replace words like 'asset', 'wealth' and 'equity' with 'might'. The use of the word Vermögen for financial wealth apparently seems to have started around 1500 (Grimm and Grimm 2019). This was the age of German protocapitalists, most notably Jacob Fugger of Augsburg (b. 1459–d. 1525), whose byname was 'the Rich' and who, at the end of his life, controlled much of European silver and copper production, silver being the foundation of the hard money of the age and copper a raw material necessary for making then new weapons of mass destruction, cannons and guns. Fugger and other rich men were able to turn their business success into political influence. For example, Fugger was responsible, i.e. paid for, Charles V to become emperor of the Holy Roman Empire in 1519 (Häberlein 2012; Steinmetz 2016). In an age that was otherwise still feudalist, this new kind of monetized power, *Geldvermögen*, was reflected in chapbooks, early popular printed story books, notably in the well-known *Dr. Faustus*, about a magician who seeks power through a pact with the devil, but also in the much less known *Fortunatus*, which plays out the possibilities its main character has with a purse that contains money each time he opens it (Suchsland 1968).

1.2 Gestaltungsvermögen

So now we have Vermögen, financial wealth or might as well as the ability to…. But to what? Very generally, we can say that the world changes. Say that at some initial time the world is in some inital state. Without action of a certain person, at some later time the world would be in some later state. *Person* here denotes an acting entity such as a human being, a group of people or an institution such as a corporation or a state. The *trajectory* of world states from the inital state to the later state may be called the *course of events*. Assume the person wants the world to be in a different or alternative later state instead. If the person can act in such a way so as to actually achieve that alternative state, we can say that the person has the ability, or Vermögen, or might, or

power to do so. We may call the action to alter the course of events *Gestaltungstätigkeit*, roughly 'action to create formations'. *Gestalt*, or *formation* denotes an identifiable state of affairs. In this context, to *form/formation*/*Gestalten* is to be understood very generally as a genuine act of creation, not just a change of something already existing—this extended meaning may be more natural for the German word 'Gestaltung' than for the English 'formation'.

At this point, I avoid the term 'creorder' coined by Nitzan and Bichler (2009), partly because I have been unable to find a good translation into German, but also to underline that Gestalten or formations need not be fully ordered; they can also be messy or chaotic—Gestaltungstätigkeit may create *dis*order as well as order.

Since the course of events left on its own tends to a different state than what the acting person wants, that person will normally act against resistance. Gestaltungsvermögen, or power, is the ability to create formations against *resistance*. This is a very general definition and, when applied to formations in the physical realm, can be translated one-to-one into the physical term *power = work per time*, work (or energy) being, so to say, the quantification of the amount of what there is to do divided by the time over which the action is necessary.

1.3 Gesellschaftliches Gestaltungsvermögen

A society consists of more than one person. Let there be two persons, one person and another person. Given the initial state of affairs, the one person wishes a particular later state of affairs, while the other person would like another later state of affairs. If the two intended later states are different, the two persons are in conflict. The two persons could negotiate or even cooperate. But if they do not and their goals contradict each other, a power struggle ensues. And of course, the two persons are not alone. Hence, a person's *social power*, *gesellschaftliches Gestaltungsvermögen*, is their ability to overcome the combined, but not necessarily coordinated, resistance of all other persons with respect to their goals. The goal may be greater or smaller in that the intended state of the world may be farther away or closer to the course of events. The farther away it is, the more other people are involved or affected; hence more resistance is to be expected, and greater power is necessary to overcome it.

We can now say that *capitalization* is the quantification of the otherwise only qualitative notions of 'greater' and 'smaller' with respect to what goals can be achieved. In an almost fully capitalized world, for example, Bill Gates, with a capital might or Vermögen of $100 billion, can realize any project for which facilities costing that order of magnitude can be bought, which are of course greater than the facilities someone with only $1 income a day can buy. The quantification is necessarily relative, since social ability is relative to the social ability of others.

If persons find that their goals cannot be reached with the means currently at their disposal, i.e. their gesellschaftliches Gestaltungsvermögen, or power, is insufficient, they may try to increase their power. That is, they may use their power to increase, or *accumulate*, power. Seeking power may thus become an end in itself. And since power is relative, we have *relative* or *differential accumulation* (Nitzan and Bichler 2009), which turns out to be a generic concept applicable to all power struggles, not just to capitalism. Thus, we can define capital (Kapitalvermögen) as the ability to create formations such that the formations created increase the ability to create formations.

Once such a self-reflexive use of power has started in a society, all members of that society will gradually be drawn into using power to accumulate power lest they lose their own Gestaltungsvermögen to those who engage in the power struggle. And once self-reflexive power conflicts have started, there is a tendency to turn all of a society's resources into means for those conflicts; hence the tendency, under capitalism, for the 'capitalization of everything' (Nitzan and Bichler 2009).

We note that Gestaltungstätigkeit is neutral with respect to whether the action is productive or destructive, an evaluation that may differ depending on the point of view of the persons involved. From the point of view of rulers, the destructive capabilities of an army under their command are productive with respect to their quest for power, while the productive capabilities of an enemy's factory are destructive, because they generate the means—the most obvious being weapons—to oppose their goal.

1.4 Social Imaginary Significations

In the previous section, we defined power as the ability to achieve a goal against the resistance of others with competing goals. And capital as the power to increase that ability. But what goals can a person in a given society *imagine* achieving? There are two questions here:

a) What can people imagine to be *achievable*?

b) Of what they imagine to be achievable, what do they consider *worth* achieving?

The first question denotes the limits, or extent, of their *power of imagination* (*Vorstellungsvermögen*), while the second denotes the meaning or *signification* of people's actions: not everything imaginable is worth doing. I think this is roughly what Cornelius Castoriadis (1987, 1997b, 1997a) has in mind when he theorizes that each society can be characterized by its SIS: a society's SIS is a coherent set of what that society's members can imagine and what they think is and is not worth doing.

Castoriadis distinguishes two types of SISs and hence societies: *autonomous* and *heteronomous*. An SIS is always the collective creation of the members of the society in which it exists, but in a heteronomous society, people imagine that both the natural order, or the *physis*, and the social order, or the *nomos*, have been created not by themselves, but by some external and unreachable entity, whether God, the forefathers or human nature. Indeed, the distinction between physis and nomos does not make sense in the context of a heteronomous SIS. Typically, heteronomous SISs are closed in the sense that they offer an explanation for whatever happens. This closedness in turn makes heteronomous SISs static: they are imagined to be unchangeable and eternal. Fundamentalism, the call for a return to an imagined point of origin, is thus common in heteronomous SISs.

In contrast, the members of an autonomous society not only know that they themselves are the creators of their imaginary significations, but also take advantage of this fact by making conscious changes if they deem them necessary, which breaks the closedness of the SIS. The social order is no longer given, but subject to change, and only in autonomous societies do we find politics proper. And the possibility of consciously changing the social order in turn gives rise to questions of how to go about changing things and of the limits of the Gestaltungsvermögen: autonomy is the discovery of the distinction between physis and nomos. Science and philosophy proper are only possible in an autonomous society.

Autonomous societies have a strong tendency towards equality and equal participation in the Gestaltungstätigkeit because once all aspects of the social order are subject to change, there is no longer any higher reason for inequality and non-participation. The United States, for example, started as a patriarchal slave state but eventually abandoned slavery and racial and sexual discrimination as legal institutions.

2 Modern Rationality and Rational Mastery

According to Castoriadis (2003c), Western modernity can be characterized by the double SIS of *rational mastery* and *autonomy*.

Rational mastery = rationality + mastery is a compositum. I do not think that modern rationality as such implies mastery. Mastery when combined with rationality has two aspects: the idea that humans can master nature, including their own human nature, and that this can be done 'rationally'. This turns the means into the end: rationality, or a rationally ordered society, becomes the goal rather than the most effective way of achieving something that has been decided on by, for example, the citizens of an autonomous society.

2.1 Modern Rationality: Operational Symbolism

According to Sybille Krämer (1988, 1991), modern rationality is computable rationality or reason (*berechenbare Vernunft*). Computability is the ability to turn an argument into a *Kalkül*, a formal system. The algebraic formula is the archetype of such a computable form.

In a formal system:

a) The construction of symbols is decoupled from their interpretation. The allowed operations do not depend on what the symbols are supposed to mean in the end.

b) Language becomes a technique (*Technik*); formal artificial languages, *syntactic machines*, can be constructed.

c) Symbols become manipulable objects.

Gottfried Wilhelm von Leibniz (1646–1716) developed a theory of symbols that can be used for 'rational calculation', *calculus ratiocinator*:

a) Symbols are objects that are manipulated according to rules.

b) Symbols are autonomous with respect to what they signify; they become a formal system whose inner order is independent of the interpretation of the symbols; and the symbols appear in a new kind of script, typographic script, which is independent of spoken language.

c) Formal systems (*Kalkülisierung*) and typographization turn symbols into mechanical production systems, *symbolic machines*; artificial languages are a technology.

d) Scientific thought produces knowledge (*Erkenntnis*); since knowledge production requires symbols, knowledge is the product of the operation of symbolic machines.

e) As a consequence, the objects of knowledge (*Gegenstände der Erkenntnis*) themselves are also generated by symbolic machines.

The term *symbolism* denotes the theory of what and how symbols signify, how they get their meaning. If the signification is the product of some operation according to some rules, we can call this theory of signification *operational symbolism*.

If one generalizes the concept of symbolic machines to language as a whole, we roughly get Wittgenstein's concept of language games in his *Philosophical Investigations*; that is, the meaning of words depends on how they are used according

to more or less formally defined rules (Ros 1989; Tugendhat 1982; Wittgenstein 1958).

2.2 Predecessors to Operational Symbolism: Ontological and Magical Symbolism

It is useful to contrast operational symbolism with its predecessors in the Western history of ideas, or philosophy. Only Western philosophy concerns us here: according to Castoriadis, capitalism is a product of Western civilization, and the autonomy project only emerged twice in human history, in ancient Athens and with modernity, and they did not emerge autochthonously anywhere else. But in today's globalized world, everybody can participate, of course.

The immediate predecessor of operational symbolism was *ontological symbolism*, as conceived by Plato and Aristotle: the meaning of a symbol is an ideal object. The model of this symbolism is geometry: a triangle drawn in sand is murky and imperfect, but it represents or refers to the ideal triangle that the drawer means. By way of generalization, words ('table', 'red', 'zero', etc.) denote ideas that only somewhat fit the murky reality; reality is imperfect when compared with the ideal world of pure ideas. Since the ideas are thought to be located somewhere, questions arise about their ontological status, hence the term *ontological symbolism*.

Ontological symbolism has intrinsic problems, some of which were already identified by Plato himself. Where exactly can these ideas be found, and how do we access them? What is the reality of ideas about fictitious or impossible objects (unicorns, circular squares)? What is the reality of negative or non-existent objects (what does '0' signify, and how is it possible that adding zeros, signifying nothing, at the end of a numeral increases the number signified?)? What is the idea of an idea (the idea not of a *table*, but of the *idea of a table*), and does that not lead to an infinite regress? What about all the words in a sentence that do not have clear ideas behind them (particles, words like 'here' and 'there', 'this' and 'that', articles like 'a' and 'the')? The logic of ontological symbolism, developed by Aristotle, only deals with subjects and predicates.

Ontological symbolism itself was the solution to the intrinsic problems of its predecessor, *magical symbolism*. Here the signification is thought of as a link from the symbol to what it represents within this world. For example, the name of a person is tied to its bearer, like a doll when used by a Voodoo priest. In a sense, in magical symbolism there is no difference between the symbol and the object it refers to: they are physically connected. But this direct-link hypothesis breaks down with abstract objects for which a direct link cannot be shown to exist. In ancient Greece, it was the Pythagoreans who discovered 'symbolic difference' (Krämer 1988) when they were

unable to a construct the square root of two by manipulating pebbles, their way of doing math. In a more general context, this type of symbolism operates with concrete prototypes; for example, in order to classify an object as a table, one compares it to some prototypical object that is known to be a table. The problem with a concrete prototype is that it has an infinite number of specific concrete properties, thus raising the question of why this particular object rather than some other is the prototype. The symbolic difference of ontological symbolism implies an ontological difference, ideal versus real world.

Both transformations, the one from magical to ontological symbolism and the one from ontological to operational symbolism, took place in the context of the autonomy project—the first in the context of Athenian democracy, and the second in the context of the European Enlightenment.

Magical symbolism requires experts (priests) to distinguish prototypes from other objects. In ontological symbolism, ideally everybody has equal access to ideas, although this may require training. This is why Plato required members of his Academy to study geometry, the model for ontological symbolism.

Eventually, however, it became clear that the various problems with ontological symbolism could not be solved. Also eventually, Christian ideologues reintroduced the expertism of priests. According to Augustine, proper ideas could only be found in the minds of people who benefitted from the benevolence of God; that is, only Christians could have correct ideas. This is why he considered nonsensical the belief that it was possible to have serious discussions with heathens.

2.3 Operational Symbolism and Autonomy

Operational symbolism does not suffer from an access problem: there is a symbolic difference, but no longer an ontological difference. Ideally, anybody can learn the state of the art in science and contribute to it by constructing their own symbolic machines. And there is no creative limit to what symbolic machines can be created. Older symbolisms were tied to the actual world; they were static. Operational symbolism is dynamic.

Modern science is part of the autonomy project because

a) it is ideally open for contribution by everyone who makes the required effort to learn the state of the art;

b) its results are relevant for the possibilities of the formation of social order, i.e. what it is possible to achieve physically; and

c) modern rationality, the operation of symbolic machines, as such does not limit creativity (the explosion of modern mathematics is an example: any set of axioms is effectively such a machine).

2.4 Two Modes of Rational Mastery: Capital and Bureaucracy

Modern rationality becomes the antithesis to autonomy when it becomes an end in itself and enters the hubris of unlimited mastery—that is, when the social order should be the implementation of some kind of imagined rationality, or rational order.

A good example of the antagonism between autonomy and rational mastery can be found in modern utopian literature, which starts with Thomas More. Typically, the author presents a society that is the conscious creation of its citizens, hence an autonomous society. But at the same time the order represents the author's idea of how an ideal society should be designed based on allegedly rational principles.

The self-referential application of rationality as an end in itself plus hubris is the 'mastery' aspect of rational mastery. We propose that there are two modes of rational mastery:

a) The extension of property and its monetary quantification, or *capitalization*; and

b) Procedural rationality institutionalized as *bureaucracy*: an organization's rational goals are calculated and implemented using formal procedures by a hierarchical organization that is created according to allegedly rational principles.

The two modes exist side by side—indeed, capitalizing organizations like corporations are typically internally organized as bureaucratic hierarchies—and there are feedback mechanisms between the two modes (see sec. 5).

Rational mastery is actually pseudorational pseudomastery: it is not rational and it fails because of its own operations. As we will see, it is also autocatalytic: the process of increasing rational mastery yields its own growth.

3 Property, Credit, Money

Capitalization is defined as $K = aE$, where K is capitalization in monetary units, E is expected or past earnings in monetary units and a is the product of accumulation factors, which are pure numbers (Nitzan and Bichler 2009). Currently, the Capital as Power theory distinguishes the accumulation factors hype, inverted risk, and the reciprocal average rate of return. We note that by virtue of the fact that capitalization is an algebraic formula, capitalization is a symbolic machine in Krämer's sense.

Capitalists generate knowledge through capitalization. Just as a hologram contains all the information necessary to reproduce a given object, *K* conceptually contains the observations of how a capitalist sees all of society (Nitzan and Bichler 2009). At the same time, *K* is wealth, Kapitalvermögen, financial might. Thus capitalization is both an 'engine' and a 'camera' (MacKenzie 2008). Earnings may be expected future earnings, but in times of systemic fear they become past earnings (Bichler and Nitzan 2018). Just as formulae in science are inventions of scientists that are tested by empirical observation, which are themselves another set of formulae, capitalization is an operation done by business to test whether events work out as expected or not. At the same time an investment operation is an engine, an action to create formations such that the expected outcome in the form of earnings shall happen.

Capitalization is an act of quantification in monetary units *(Geldeinheiten)*. The object of quantification are the owner's assets, their *Vermögen*, the result is their financial assets, their *Geldvermögen*. Thus, we need to understand how money, *Geld*, and property, *Eigentum*, are linked together to yield capital, *Kapitalvermögen*. In the next subsections, I sketch the property theory of money as developed by Gunnar Heinsohn, Otto Steiger, and Hans-Joachim Stadermann (Heinsohn and Steiger 2009; Stadermann 2006; Steiger and Stadermann 2001; related also Graeber 2014) in the context of Capital as Power. The property theory of money is not only the best conceptualization of money in economics, it also provides the most obvious fit to Bichler and Nitzan's conceptualization of capital as power.

3.1 Property

'Ownership is the right to enjoy (use) and dispose of things in the most absolute manner, provided they are not used in a way prohibited by statutes or regulations' (Code Napoléon Art. 544, Legifrance 2018). This is the legal definition of ownership. German law is even more explicit: 'Das Eigentumsrecht ist ein umfassendes Herrschaftsrecht' ('Property is a comprehensive right of domination or rule') (Friedrich-Schmidt 2019; Schlüter 2014).

Observations:

a) The definition of ownership in the Napoleonic Code is the prototype of bourgeois, and hence capitalist, property law, although the definition goes back to the Romans.

b) This definition distinguishes two distinct rights: the right to *use* ('enjoy') the things owned, and the right to *dispose* of them.

c) Owners may *dispose* of things as follows: they may *commodify* them, i.e. sell them against payment, after which they are, of course, no longer owned; they may *rent*

them for a fee, in which case someone else enjoys them; and they may *collateralize* them in a credit contract, possibly in addition to renting or using them. Collateralization is independent from who uses the things in question.

d) The right to generate earnings from things is included in the right to dispose of those things.

e) Ownership rights may be exercised 'in the most absolute manner'. In feudalism, property rights were always particular rights, restricted by tradition, religion, customs and so on. Any use beyond those restrictions could nullify the ownership right.

f) Restrictions must be explicitly stated in laws made by the state. But the bourgeois state itself is a creation of the very property owners who subjugate themselves to its law. Hence fights over restrictions, whether to impose them or not, become part and parcel of business operations, and thus of differential accumulation.

3.2 Money Creation Through Credit

Modern capitalism originated in the city states of late Medieval and Renaissance Europe in the form of business transacted by merchants who formed networks of consenting owners, often consisting of very few families, that extended across European cities and courts. Within these networks, business could be done via debt records, tallies, clearings, and negotiable instruments (the money of the merchants), which was safer than transferring actual valuables like silver coins, which could be stolen and needed to be handled and transported. In order to be eligible as a debtor, a merchant needed property as collateral. Certificates collateralized by property could circulate as money. We can distinguish debtor's money and creditor's money.

Suppose we have an owner of an 'interesting' object, say a silver mine. The owner would like to exploit the mine, to 'enjoy' digging out the silver in it, so to say. To do so, equipment and miners, which may come from faraway places, are necessary. Suppose the owner has no money or other valuable goods to pay for these things. What should they do? They could issue notes backed by the silver to be dug out. This way, the mine owner becomes a debtor who issues notes backed by their property. This is *debtor's money*.

Suppose that the mine owner is relatively unknown outside their neighborhood. In this case, they have problems getting their notes accepted outside that neighborhood. Now suppose that there is a rich, well-known merchant house in the neighborhood with many branches outside the neighborhood. The mine owner can go to the

merchant house and ask it to supply notes promising its bearer to pay a certain amount of property, a promise backed by the merchant house's property, assuming that such notes would be accepted thanks to the reputation of the merchant house. The mine owner needs to promise to pay back the value of the bills, for example in the form of the silver dug out. In return, the merchant house asks for (a) some extra payment, *interest*, and (b) some property (e.g. the mine) as *collateral* or *security*, should the mine owner fail to pay. In this case, the merchant house is the creditor of the mine owner, and the bills issued are *creditor's money*. It is this type of creditor's money that got the early banking houses in Italy started in the fourteenth century.

Let us note several points:

a) The obligation of the debtor who receives the bills from the bank and the amount on the bills are *nominal units*. If the bill promises to its holder 'one florin', any items agreed to be worth this amount may be sufficient for payment.

b) Both the debtor and the creditor are owners of property. In early banking—indeed, until almost the twentieth century—non-owners were not creditworthy. Importantly, the whole point of the operation is that *both* parties remain owners of their respective property. They dispose of their property in such a way that they both remain in possession of it and can dispose of it.

c) There is a risk of default, the danger that the debtor will not be able to pay back their debt, which is bad luck for the creditor, especially if the debtor's collateral turns out not to be worth the amount credited. Typically, the creditor may ask for different collateral or change the credit arrangement. The latter was particularly the case with credit issued to sovereigns. The Bank of England was effectively created when, after a lost war with France, the creditors to the Crown demanded other means of being repaid. Thus were born eternal state credit, taxation, and the English lottery.

d) It is also possible that the receivers of the merchant's bills immediately turn to the merchant and demand to be paid. The art of banking consists of this *not* happening: if the bank is very trustworthy, it may be much more useful for the owner of its bills to use the bills for their own business as a means of payment. Once this procedure is institutionalized, bank notes can become legal tender.

e) The possibility that note holders will ask to be paid, however, created the need for the bank to hold enough of its own property to fulfill such a demand. Hence a certain fraction of the bank's property is locked to secure the bills issued.

f) *Interest* is charged because otherwise the owner, for example the merchant or bank, would simply not be interested in giving credit. Interest is a premium for the collateralization of property, hence a 'property premium' (Heinsohn and Steiger 2009). As a consequence, there is no property-based money without interest. A risk premium may, of course, also be charged to make up for a lack of information about the debtor, their collateral or general circumstances, which are always mostly unknown—the 'fog of business', one could call it, paraphrasing Clausewitz (1943)—or for the risk of holders of the bills asking for their promise.

g) There is the story that English goldsmiths were some of the first bankers to use their customers' gold deposits as collateral for issuing bank notes. According to Heinsohn and Steiger, the true story is a bit different. Those banks were set up by wealthy *owners* who offered their *own* property as collateral for the banking operation. They were not mere customers, a version of the story that only emerged in the nineteenth century, when the capitalization process drew ordinary people into the process.

h) What happens if a holder of a note offers it to the issuing bank? Instead of fulfilling the promise of payment, which threatens the property base, the bank may offer to record the sum in an account for that person and pay interest, i.e. a premium for non-fulfillment. And since there will be a promise for a larger amount at the end of the period, the bank can only prevent payment by promising the interest on the account for the original sum plus the interest promised so far, thus leading to the phenomenon of compound interest.

3.3 Institutionalization of Money Creation

When the monetization of society became the rule, there was an increased threat that holders of bank notes would demand payment of the promise and thus ruin the bank, as frequently occurred, for example, in the US during the free banking era and into the twentieth century. Thus, the money-issuing institution eventually needed to be shielded from direct contact with society at large. The crediting operation was separated from money creation: a reserve system was created in which a central bank took over the money supply to commercial banks, which continued to do the ordinary credit operations. But the money supply itself remained a credit operation: commercial banks received money from the central bank against assets deposited, and they passed this money on to customers. In this way, commercial banks could become modern corporations and hence part of the game of differential accumulation.

Debtors' obligations were made transferable, which turned them into commodities in the form of bonds. With the emergence of public banks, states would take credit from

them against bonds whose interest would be paid with money, issued by the same banks, raised from taxes (Van Dillen 1934). The state thereby enforced payment in the money issued by the law. If a taxpayer did not pay, the state would enforce its demand by seizing some property. This way, the entire property base of the state, and subsequently capitalist society, became the collateral for the money issued by central banks.

3.4 Credit Paper as Higher-Order Property

Owners of bonds treat them as normal assets, i.e. as part of their Vermögen. The interest payments are the Vermögen's earnings. Parts of the Vermögen may be disposed of as collateral in a credit operation. Until recently, when commercial banks demanded money from the central bank, they usually handed in sovereign bonds, or at least promised them as collateral.

Bonds and other such transferable credit papers specify a right to the receipt of interest. This is earnings from an item owned, the operational definition of property. Thus, a credit paper, while actually based on property by collateralization, itself becomes property. As such, it may itself be used as collateral for a credit operation. In particular, bonds issued by states are generally thought of as the best possible collateral, if those states

a) have an extensive property base, where the citizens are owners, the society is thoroughly capitalized, and there is a legal system that supports and defends private ownership;

b) enforce taxation against all that property; and

c) have a fiscal policy with a low risk of state default.

Money, the means of payment, emerges out of credit operations backed by a society's property base. But the transferable credit papers themselves become part of the property base, which may be used for further credit operations. Second-order property, so to say. And these further operations in turn may be used the same way, thus generating third-order property and so on.

3.5 Credit Operation and Risk Creation

The fact that money is created only if there is a property backup and an interest payment in money means that, in aggregate, the money available in a society is necessarily insufficient to pay off all debt plus interest. This means that there must be some debtors who find it difficult to raise the necessary money through the business operation underlying their credit contract. They need to be inventive. But this

changes the social and physical formation from what it was when the credit was contracted: the assumptions underlying the contract change. This change creates a particular kind of risk—a risk that is generated by the credit operation itself.

In order to manage the risk that their debtors may default, creditors may buy insurance: some other party may, against a small constant fee, offer a paper whose issuer promises to make the payment if the debtor defaults. Another way of trying to overcome the risky ever-changing world is to fix prices in the future—with futures contracts, for example—and thus to assume away the possibility that the world will change between now and when the payment is due.

Thus we enter the world of financial derivatives. What makes derivatives derivatives is that they

a) are based on some underlying contract, which may itself already be a derivative;

b) specify a right to earnings, sometimes conditional on some externality; and hence

c) are yet another form of property that can be disposed of—sold or otherwise transferred—or used as collateral in other credit operations.

3.6 The Autocatalytic Sprawl of Credit and Accumulation

So, the products of credit operations themselves are the foundation of further credit operations. Further credit operations are necessary because of the interest, without which there would be no credit operations. But interest creates the need for more money than is available. Because money is a credit-based entity, the demand for more money necessitates the extension of the credit system. Also, all credit operations create risk. And the risk is managed through further credit operations. All together, we have a process whose product is the generator of its own processing.

'A single chemical reaction is said to be autocatalytic if one of the reaction products is also a catalyst for the same or a coupled reaction.' (Wikipedia 2018). If we carry this definition over to the social symbolic machinery, we can say that credit creation is an *autocatalytic* process, a process that feeds itself.

Business is conducted to differentially accumulate capital. Credit is the symbolic machinery of business operations. Money is the means of payment of these operations. Money itself is also a product of credit operations. Underlying all credit operations is the property system, the comprehensive right of domination, or just power, over the things owned. Capital is power, that is, the ability to create social formations (gesellschaftliches Gestaltungsvermögen) to increase that ability. These

intended formations are the social order business tries to achieve, the 'creorder' as Nitzan and Bichler (2009) call it.

But the autocatalytic processing of credit operations has no predetermined direction and appears to be rather chaotic. Further operations originate from existing ones, so the process is a *sprawl*, like the urban sprawl radiating from town centers. The result of business operations, the autocatalytic sprawl of the financial system, is itself a social formation, but it is not the order business intends to achieve. Instead, the autocatalytic sprawl of finance is the unintended result of business operations. The overall social formation (gesellschaftliche Gestalt) of the capitalist society is thus not 'cre*order*', but a mixture of order and chaos that business continuously needs to deal with.

We note that the processes of credit creation and differential accumulation are operationally closed: in order to counter a problem created by these operations, other operations with the same logic are performed without ever leaving the conceptual framework of capital accumulation.

4 Bureaucracy

Blair Fix (2018) discusses how a position in a hierarchy can be translated into income: basically, income grows exponentially with position in a hierarchy. Bichler and Nitzan (2017) observe that hierarchical organization is always a power institution, and not just an organizational convenience. Fix thus shows one kind of *interaction* of bureaucratic power and capital power. In the following, I theorize that bureaucracy is *hierarchical organization plus operational symbolism* and is the other mode of rational mastery, alongside capitalization.

4.1 Bureaucratic Capitalism

Max Weber (2013) offered the now standard definition: a bureaucracy is a hierarchically ordered organization in which a higher level commands the level directly below by setting up generalized formal procedures and courses of action whose results are assessed by the same or other bureaucratic organizations. Each level is organized in departments with defined competences. Not only are almost all state organizations organized according to these principles, but so too are bigger corporations.

Theories of bureaucratic capitalism flourished in the 1950s and 1960s. Castoriadis and the *Socialisme ou Barbarie* group developed theories of this type (Amair et al. 2017). They are no longer much focused on in political theory despite the persistent complaints about bureaucratization (Graeber 2016).

4.2 The Phases of Global Capitalization

According to Nitzan and Bichler (2009), the capitalization of human societies occurred in phases . During each phase, the accumulation process would eventually hit an organizational barrier, or 'envelope'. Through radical organizational re-formation (*Umgestaltung*), capitalism was able to break these envelopes and proceed further until the process hit the next barrier:

a) the *monopoly wave* of the turn of the twentieth century occurred within individual industries;

b) the *oligopoly wave* of the 1920s occurred within sectors;

c) the *conglomerate wave* of the 1960s took place across the entire business sector at the national level; and

d) the ongoing *globalization wave* started in the 1970s and breaks the national envelope.

The first three waves took place within the legal and political framework of the nation-state, the first two including colonies. These nation-states saw an ever increasing bureaucratization of their organization. In the late 1960s, when theories of bureaucratic capitalism flourished, the situation in Western states looked roughly like this: many big corporations were either, on the one hand, directly socialized (e.g. the automotive industry in France) or operated like state institutions (Pan Am, a private business, acted as the US's national carrier). Either way, there were tight arrangements between the state, business and trade unions. Many services, such as electricity, postal services and telecommunications, had been made public in the mid-nineteenth century and were therefore not the direct target of the accumulation process. The *planification*, the French five-year plans of such public corporations, was similar to the five-year plans of the Soviet bloc. And then there was the Eastern Bloc of party-bureaucratic regimes like the Soviet Empire and China. So we can say that the organizational mode of pretty much the entire world, whether capitalist or communist, was bureaucratic, and thus theories of bureaucratic capitalism seemed right.

It turned out, however, that the differential-accumulation process did not cease with global bureaucratization. On the contrary, transnational capitalism, which broke the national envelope beginning from the 1970s on, created new institutional formations, and it became apparent that the differential-accumulation process never went away.

The collapse of the Soviet Bloc and the transformation of China may be understood as a (re)capitalization of their party-bureaucratic regimes, either by transforming them

directly into Western-style capitalist regimes, as in the case of Eastern Europe, or through the capitalization of the state bureaucracy by the bureaucrats themselves, as in Russia and especially China, where top party bureaucrats are simultaneously the top businesspeople.

Corporations and nation-states are internally organized in a hierarchical fashion based on systems of rules; that is, they are internally/organizationally bureaucratic regimes. The environment of these bureaucratic regimes, however, is differentially accumulating capitalism. The survival of bureaucratic organizations, whether states or corporations, depends on their successful differential accumulation.

4.3 The Autocatalytic Sprawl of Bureaucratic Organization

In the idealized Weberian world, bureaucratic rules are rational, set up by disinterested persons or organizations and executed as written. In reality, everybody involved is interested in making a career and not working too much. Bureaucratic institutions are pervaded with power struggles: managers of lower levels in the hierarchy try to rise to higher levels, and hence make informal arrangements, engage in mobbing and withhold information. Subordinates try to do the same or resist, or they try to stay out of the game altogether. In any case, all these activities are motivated by goals that are irrational from a higher perspective and are not a conceptual part of bureaucratic schemes.

For a bureaucracy to function, those who set up the rules require information about the processes involved. But those affected will hold back information if it is in their interest to do so—because, for example, information is power or too much information at higher levels of the organization threatens them with a heavier workload or unwanted regulations. Bureaucratic rules are thus made without the necessary information and are thus inadequate for their purpose. This feeds the irrationalities of the system back into the system itself and increases them further.

Management sets goals for subordinates. Management also sets the rules under which subordinates are required to work. But the inadequacy of the rules forces those who have to execute them to continuously work against them to achieve the intended goals. But working against the rules shows disloyalty to the management. So there is a double bind: either the rules must be broken or the goals will not be met. This inner contradiction further undermines the alleged rationality of the bureaucratic regime.

Occasionally, management discovers the irrationalities of the bureaucratic order. The solution is the creation of new bodies for inquiries and surveillance. Since these bodies are necessarily also bureaucratic organizations, in that they have goals and rationally conceived rules, these attempts do no more than further increase the

dysfunctionality of the system. In the US, after 9/11 it was discovered that the 13 Secret Service agencies did not cooperate properly, so another 14th agency was created to coordinate them all. In the German Democratic Republic, the ruling party had to create an entire bureaucratic 'state security', the Stasi, whose mission was to investigate what people really thought to make up for the planning bureaucrats' lack of information about the goings-on in society. The Stasi's task was not made easier by its additional and contradictory goal to supress any resistance against the regime—with criticism being one sign for such resistance.

We have observed that capitalization is operationally closed: if problems occur as a result of its own logic, the solution is more capitalization. Similarly, if a problem occurs in a bureaucratic regime, the bureaucracy creates new bureaucratic rules or organizations to manage it. Thus, the bureaucratic logic is also operationally closed: bureaucracies create new bureaucracies. Furthermore, the irrationalities of bureaucracy create the need for new bureaucracies. Like finance, bureaucratic regimes sprawl autocatalytically: they grow indefinitely by way of their own processing in a seemingly chaotic way.

5 The Interaction Between Bureaucracy and Capitalization

5.1 Rationality, Hierarchy, Regulation

The intrinsic irrationalities of bureaucratic institutions are confined to some extent by the need for survival in differentially accumulating capitalism. So the internal rationality of a bureaucratic organization is a function of the external rationality of differential capital accumulation.

But we have already seen that the autocatalytic sprawl of finance is a result of its inner contradictions, which already turns its rationality into pseudorationality. Furthermore, capitalization is the implementation of power struggles via the syntactic machine of capitalization. In order to defend financial capitalism as rational, power struggles also have to be defended as rational. The usual way to do this seems to be to say that power struggles are an inherent part of human nature. So the capitalist world is, as Marx noted, a kind of second nature, a social formation modeled on the jungle as an adequate habitat for human beings. Unfortunately, such an argument ignores the fact that in addition to fighting each other all the time, people cooperate all the time too. Indeed, if, within a business corporation, everybody acted towards each other as capitalists—with the secretary only giving out paper against payment, for example—the corporation would immediately break down.

At any level in a hierarchy, information is power, and is thus, if possible, not made available to higher or lower levels, which undermines the rationality of the bureaucratic process. Contracts are signed with the limited information the contracting sides have about the situation they are in. Thus, intelligence, the collection of information relevant to the power struggle, is a primary concern in both bureaucracy and capitalization. Research is needed to confirm this point, but this might explain the enormous growth of the information sector in general and computing technologies in particular, considering that this growth has occurred specifically in the context of modern rationality.

Fix (2018) demonstrates that greater bureaucratic hierarchy is related to increasing incomes. This is already a capitalization of bureaucratic power. By way of extension, we could say that the ultimate transformation of bureaucratic power into capital power takes place when those at the top of the bureaucratic hierarchy of a corporation, the managers, use the wealth or might (*Vermögen*) they have earned through salaries and stock options to perform a management buyout to become the owners of the business.

It would be interesting to investigate the relationship between firm size in terms of number of employees, firm size in terms of capitalization and the number of hierarchical levels. Also, how has the size distribution of firms developed over time? Is there a trend towards bigger and bigger firms or not? One would think that bureaucratic hierarchies might grow too big, and that their inner contradictions would eventually work against their success in differential accumulation, so there should be a movement back and forth from mergers and acquisitions to outsourcing. It would also be interesting to know if internal breadth (mergers and acquisitions) (Nitzan and Bichler 2009) is the preferred mode of differential accumulation not only because it is the path of least resistance, but also because it allows direct bureaucratic control of the acquired organization.

Occasionally, the idea comes up that the irrationalities of financial capitalism should be regulated, through either new laws and prescriptions or socialization. But this of course would just create new bureaucratic institutions. Proposals in the opposite direction—that the irrationalities of state bureaucracy may be lessened by privatization, for example by splitting up a larger state institutions and selling them on the market as new business enterprises—also exist, and they were especially popular between the 1980s and 2000s. Apart from the fact that the inner regime of these new businesses remains bureaucratic, they are now directly subject to the irrationalities of differential accumulation. In addition, privatization frequently creates the need for regulation of the new business field. The picture we get is of a

kind of ping-pong game between the two forms of ever-growing pseudorational pseudomastery over social organization.

The capital and bureaucratic modes of pseudorational mastery are believed to be able to overcome their operational closedness by jumping over to the other mode, only to run into that mode's irrationalities. Rational mastery, with its two modes of capitalization and bureaucracy, is an endless agony that generates more of itself. Hence the *autocatalytic sprawl of pseudorational pseudomastery*.

5.2 Systemic Crisis…

Bichler and Nitzan (2018) advance a theory of systemic crisis, which may be summarized thus. Capitalization is the discounting of expected future income. There are times when income trails its expectations by years. There are other times when actual income matches expectations at nearly the same time. Let us call the lag *temporal expectation horizon* or just *expectation horizon* (my terms). A shrinking of the expectation horizon to near zero destroys the machinery of capitalization because there is no longer a foreseeable future. This indicates a systemic crisis. Bichler and Nitzan perform an *aggregate* analysis to make their claims—while normally arguing against aggregate analysis.

Before we investigate the notion of *systemic* in light of Castoriadis' SIS, which Bichler and Nitzan do not use, let us see if a shrinking time horizon is necessarily a sign of a systemic crisis. As a thought experiment, assume that at a given time a particular capitalist regime consists of two core capitals, A and B. Assume A is old and very big, while B is new and small. The aggregate capitalization of A and B will be dominated by A. Now suppose investors lose faith in the future of A-type businesses, perhaps because their profit margins are shrinking rapidly, while B-type businesses are hyped as the new big thing and have high profit rates. In such a case, the expectation horizon of A will shrink to zero, while that of B may still be several years. In the aggregate, because of the still-dominant A, it will look like all of capitalism is in a crisis, i.e. that there is a systemic crisis, whereas a disaggregate analysis would show that a change in dominant capital is underway. Thus, an aggregate expectation horizon is not a sufficient criterion for systemic crisis.

The Capital as Power theory is intended to understand the course of events *within* a capitalist society. Can such a theory capture a state *beyond* capitalism—or, in other words, a truly systemic crisis?

5.3 … Or Autocatalytic Agony?

If we, in accord with Castoriadis, theorize capitalism with the conceptual framework of the double SIS of modernity, the autonomy project versus rational mastery, the

autonomy project has been in decline since the 1950s, as evidenced by a 'rising tide of insignificancy' and a 'world in fragments'. The movements of the late 1960s were only the last reappearance of the autonomy project (Castoriadis 1997c, 2003c). The world is increasingly governed by the SIS of rational mastery, the autocatalytic sprawl of bureaucracy. To the latter we can add the equally autocatalytic growth of capitalization. But there is a problem for the process of ever-increasing rational mastery. Throughout its history, rational mastery has always been challenged by the autonomy project, and the dynamics of the Western 'socio-historic', as Castoriadis calls it, have always been driven by the antinomy between autonomy and rational mastery. But with the autonomy SIS withering away, the control project loses its direction, so to say.

There may be another fundamental problem for the continuation of capitalist accumulation. The transnationalization of the capital-accumulation process means that its institutional foundation within the nation-state may no longer be adequate for the process to continue. A new transnational state may be necessary. Furthermore, the nation-state obtained its legitimacy from the imaginary of the nation, or nationalism. Nations are 'imagined communities', to take up Benedict Anderson's (2006) notion: a member of a nation, a citizen, can lead a meaningful life if they support their nation: 'My country, right or wrong'. Nationalism, as an SIS, emerged in the seventeenth century and in the twentieth century proved stronger than other imaginaries, in particular the working-class movement, which can be understood as one branch of the autonomy project (Castoriadis 1993). As Pohrt (2012) observes, during the First World War workers went to what for many of them became their 'last struggle', not against capitalism, but against their coworkers in the opposite trenches, each in the name of their respective nation and for their respective capitalist elites.

For *trans*national capitalism, an equally strong collective SIS that can act as a legitimacy generator does not exist. There have been attempts to create transnational imagined communities. Perhaps the most ambitious project of this type is, or was, the European Union. The European identity was supposed to eventually result in the creation of the United States of Europe. But the attempt to create a European constitution was voted down by the citizens of France, the Netherlands and Ireland, countries that were supposedly strong supporters of the European movement. And now we have Brexit and a zombieesque resurgence of nationalist parties and ideologies. Other attempts to build a system of transnational institutions are continuously marred by resistance and protests, including calls to national authorities to take back what has already been contracted out. There were protests against attempts to create transnational institutions, such as CETA and the TTIP; in

the 2010s we saw Occupy; before that, there was a series of G8 summit protests; in the 1990s, there was action against MAI.

The transnationalization process necessarily undermines the organizational power of nation-states, i.e. state bureaucracies. The result is an increasing number of failed states as they are commonly called, a phenomenon that has started to reach the capitalist center (Greece, Mexico). We can define a *failed state* as a formerly bureaucratic entity that has become unable to survive the transnational-accumulation process, and in which neither pseudorational bureaucracy nor finance rule, but anarchy and/or barbarism. There are even cases such as the new state of South Sudan, which got its independence in 2011 but went straight from there to an ongoing civil war. It went from national liberation to failed state without the intermediate formation of a functioning state bureaucracy. Without a *legitimate* bureaucratic organizational foundation, the transnationalization process may well undermine itself in the long run.

The situation should perhaps be described as neither systemic nor a crisis. According to Castoriadis (2003b), *crisis*, in the Hippocratic sense, means that a situation develops towards a point of decision when the patient either dies or recovers. The present, however, looks more like a steady decay: with the SIS of autonomy long in decline, that of rational control may also be in decline due to its own success, but without a point of decision in sight.

If neither autonomy nor rational mastery remain significant to people, some of them resort to nationalism or religion. But these SISs do not seem to be sustainable institution generators anymore either. Where religion and/or nationalism rule, we find corruption, gangsterism or outright barbarism—the Syrian Civil War being the obvious current example where all conflict parties engage in these kind of activities.

All in all, we might well be in a situation in which all imaginary significations that once generated social formations are in decline, not just the SIS of autonomy, but also that of rational mastery. But such a decline would be outside the conceptual reach of a theory that is designed to analyze the generative processes of a particular SIS, such as Capital as Power is for the financial part of rational mastery.

6 Way Out? Autonomy and Operational Symbolism

Is there a way out of the mess of the autocatalytic sprawl of pseudorational pseudomastery?

I have argued that operational symbolism is unavoidable in that previous symbolisms failed. In addition, modern science, properly understood, is part of the SIS of

autonomy: it is the rejection of authority, God, holy books and tradition when it comes to the question of what is actually the case. Instead, it advances human knowledge through empirical investigation and critique. According to Krämer modern sciences advances by the construction of symbolic machines within the context of operational symbolism. We have seen that the only limit to the construction such machines is human creativity, as the vast expansion of modern math shows. In this sense, operational symbolism provides unparalleled liberty in terms of what can be imagined. Modern science not only offers liberation, it is also necessary. There will soon be 10 billion people on Earth who need food and housing, which cannot possibly be provided without the application of science-based technology.

Since modern rationality when combined with mastery yields autocatalytic agony, the solution may lie in a new attempt at autonomy that does not reject the power of modern science: rational autonomy. In sec. 1.4, we saw that *all* societies create their order (their nomos) themselves, and that the difference between heteronomy and autonomy is that in a heteronomous society, its members think that the nomos comes from somewhere else and is essentially unchangeable, whereas in an autonomous society its members consciously create their nomos. For a modern autonomous society to be truly democratic, all of its members must have the same right to participate in that creation.

By these standards, no fully autonomous society has ever existed. Yet, according to Castoriadis, there have been two instances in human history when the imaginary of autonomy existed, the Athenian polis of antiquity, roughly from the eighth to the fourth centuries BC, and in modernity since the twelfth century AD. In Athens, it was limited by the fact that it excluded most of the population, in particular women, slaves and foreigners, and that it did not include all social spheres. Notably, the *oikos*, or private business, was not regulated by the polis. In modernity, these limitations no longer exist in principle, but instead it is the other imaginary of modernity, rational mastery, that limits and continuously cuts back the imaginary of autonomy to the point of making it almost vanish, the 'rising tide of insignificancy' (Castoriadis 2003c).

6.1 Inspirations from the Athenian Polis

According to Castoriadis (1991, 1997b, 2003a), the Athenians raised questions and found institutional solutions that may still be relevant for a revival of the autonomy project. Athens is not a model, but a source or germ. Here are some of those solutions:

a) The selection of office holders by lot rather than through elections. Elections, the election of the 'best' (*aristos*) is an aristocratic institution. Selection by lot assumes total equality.

b) An extensive court system. Even decisions by the ecclesia, the assembly of the citizens, could be brought before the courts and ruled illegal.

c) Institutions to warn against hubris, for example the Athenian theater.

d) Measures to prevent private interests from influencing decisions about common matters. For example, in decisions about peace or war, citizens with property close to the city's walls were excluded from participating.

6.2 Inspirations from CERN

Can we find organizations that can give us some inspiration in how to combine modern rationality (without mastery) and autonomy? I think a research machine like the particle accelerator CERN with its experiments (detectors) ATLAS, CMS and others may offer something here because it combines a relatively flat hierarchy and a democratic decision-making process with modern science, i.e. modern rationality (Grolle 2008; Knorr Cetina 1999).

a) There are few hierarchical levels, and higher levels cannot give many orders to lower ones: the machine is so complex that only a few persons will understand any particular aspect of it, and thus no one else can command them. It is commonly assumed that a democracy proper must be simple enough that anybody can replace anybody. At CERN the opposite is true: they are equal because no one can replace anyone else, because no one understands in detail what anyone else does.

b) There is no assignment of authorship. Any publication of any collaboration bears the names of all members, whether Nobel Prize winners or apprentices; the announcement of the ATLAS collaboration of the discovery of the Higgs boson lists all 2,932 members by name in alphabetical order (ATLAS Collaboration 2012). The understanding is that the machine would not work without the contribution of each member, and that there is no way to tell which contribution is more important than any other.

c) Experiments like the ATLAS detector are the most complex machines ever created. It should be possible, therefore, to find inspiration there to organize the creation and maintenance of any other technical system (railway system, aircraft, etc.) in a relatively power-free way, since these will likely be technologically simpler. The picture here would be a world in which all the technological infrastructure was socially organized into autonomous collaborations.

The idea is not to idealize CERN or any other organization we may find for inspiration. Bichler and Nitzan (2017) cite the US Tennessee Valley Authority. One could also mention the free software movement, in particular its more radical branches, which try to make the appropriation of their creations impossible via suitable license arrangements such as Copyleft (Free Software Foundation 2007) and are consequently less popular among businesses than more liberal projects and licenses. All of these examples operate in the context of the autocatalytic sprawl of pseudorational pseudomastery—capitalism and bureaucracy—and those involved in them were socialized in this context. So a more thorough investigation of this issue will have to deal with the problems such organizations face, and with whether these problems are intrinsic or the result of these projects being embedded in capitalism.

In a *collaboration* people work together but otherwise live their private lives. Perhaps we will need to renew the utopias of a cooperative republic that flourished in France around 1900 (Draperi 2012), but now on a global scale. A global *convivium* or, to use a great but seemingly outdated term, a *cosmopolis* proper?

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