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Part II: The General Principles of Oeconomy

Chapter 6: Oeconomy's Institutional Arrangements

1. What Is an Institutional Arrangement?

The concept of institutional arrangements is at once familiar and new, self-evident yet vague. It is central to oeconomy's approach. In this chapter, I will begin by explaining the term and why it matters. Next, I will elaborate on the idea, to which I have alluded previously, that two institutional arrangements in particular will prove crucial in upcoming decades: global value chains and territories. Together, they constitute (to return to a metaphor used earlier) the woof and the warp from which oeconomy's fabric is woven.

The concept of institutional arrangements is both familiar and new. Robert Boyer's Régulation School[1] popularized the term to make the point that the real economy has little to do with the relentless competition of the market. Companies are social constructs; moreover, particular national roads to economic development (in Europe, for instance) depended on "institutional arrangements as varied as they are complex, and which guaranteed the existence and functioning of markets."[2] The Régulation School used the term not only to refer to the way in which companies are built, but particular to describe the relationships between the state, corporations, and unions— relationships that structure the space in which market economies develop. Though the idea is admittedly not new, the concept of institutional arrangement has remained a marginal one, while institutions with a more robust juridical status, such as companies, continue to attract far more attention.

In the previous chapter, in introducing the concepts of "collective living being" and "actor," I argued that we should redirect our attention from institutions to the many formal and informal configurations that structure our society, and particularly our economy. Companies, at

[1] See www.theorie-regulation.org.
[2] *La lettre de la régulation*, September 2005.

least in their traditional form, are, legally speaking, associations of co-owners or shareholders whose sole purpose is to provide dividends proportionate to the risks assumed by investors (though, fortunately, this is only how things work in theory). As such, companies fall short of oeconomy's specifications. To bring them in line, we might pursue one of two paths. The first consists of radically reforming the company's juridical status by reestablishing it on a new legal basis. This option must not be excluded. In an earlier chapter, I discussed the recent rebirth of social economy. It represents a desire on the part of employees and consumers for a more meaningful economic system. I have discussed the British CIC (Community Interest Company) initiative. This amounts to a new way of making using capitalist efficiency to achieve a goal that is somewhat worthier than higher dividends. Though I make no claim of being exhaustive, several other examples along these lines deserve mention: Germany's social partnership practices, in which multiple interested parties (which, historically, are usually employees) participate in corporate governance; American community foundations; Italian and Belgian non-profit associations, and so on. Consciousness of the inadequacy of the current juridical status of companies led the MEDEF, France's leading employers' organization, to put "non-profit capitalism" and "sustainable development" on the agenda of its 2008 summer retreat. But after consideration, I concluded that reforming the juridical status of companies was insufficient: we must invent institutional arrangements that are entirely new.

Secondly, the concept of institutional arrangement is self-evident yet vague. My definition of the term is self-evident: it refers to a set of actors and institutions and the stable relations that they establish with one another. But upon closer consideration, the concept has two different emphases, making it rich but also potentially confusing. In the first place, the idea of institutional arrangements calls attention to the underlying rationality according to which companies operate. This definition stems from governance theory. Governance's third general principle, after all, holds that a society must devise relevant and competent institutional arrangements. In my 1993 book, *Mission Possible,* I entitled one chapter: "Is Institutional Machinery Governable?"[3] This answer to this question takes the form of a slogan: "Everything that matters is in the kitchen." The question arose from my experience as a civil servant. I saw the extent to which bureaucratic departments are always inclined to pursue their own interests. I also witnessed firsthand how budgetary rules, public management, and relationships between

[3] Pierre Calame, *Mission possible,* op. cit., chapter 6. The book can be downloaded for free at www.eclm.fr.

different kinds of civil servants (from the most to the least important) structured the relationships between bureaucrats and society, time, and other bureaucrats. The notion of a "hidden curriculum," often invoked in educational affairs, is just as and perhaps even more relevant to other institutions. From these various observations, I concluded that each institution has its own metabolism, its own modus operandi, a direction in which it is spontaneously headed. This is as true of companies as of many other institutions. For instance, I have often noted how the ambivalent and reciprocally frustrating relationships between a foundation's board and its permanent staff is often a crucial factor for understanding what a foundation is capable of achieving, independently of its legal status.

Institutional rationalities are governed by a few basic rules. These depend on the size of an institution's partner and its temporal outlook. It is, for example, extremely difficult for a large organization to work with many different smaller organizations. "Like attracts like": institutional milieus tend to be based on size. As for temporal outlooks, it is apparent that the extent to which an institution weights the long-term consequences of its actions also determines what it is capable of. The obsession with the short-run is not confined to companies. Like gangrene, it has poisoned society as a whole.

The corollary of the claim that every institution has its own a deep-seated rationality, is the thesis that, as a general rule, these rationalities determine institutional behavior far more than intentions. To demand of an institution accustomed to measuring short-term success and efficiency that it initiate a long-term transformation of itself is like asking a fish to swim. This is what I mean when I say that "everything that matters is in the kitchen. Lofty speeches—i.e., the will of the leaders—are made in the living room; but everything that really keeps the system running is found in the kitchen: mechanisms that are so modest and trivial that one barely even registers them, yet which, at the end of the day, determine the direction the institution takes.

On this note, I am reminded of another story, one going back to the very beginning of my career. In 1969, the the DATAR (the French government agency in charge of territorial management and regional action) commissioned me to study its effectiveness. I interviewed a number of DATAR's senior civil servants. At the time, considerable prestige was attached to stirring, abstract speeches. But if you looked a little closer, it was apparent that real power lay "underground," specifically in a decentralization committee which authorized companies to establish themselves in the Paris region (particularly corporate headquarters) in return for

building industrial plant in the provinces. At the time, the geographer Jean-François Gravier's 1947 book on the "French desert" was something of roadmap for policy makers and largely guided the DATAR's efforts.

Similarly, World Bank policy is governed far more by the internal machinery that oversees the granting of loans than by the speeches of its leaders. When in 1999 the European Parliament asked me to evaluate cooperation between Europe and African and Pacific countries, I found further proof that the kitchen is what matters: existing procedures were the reason why it was impossible for long-term commitments to be honored, despite the good will of political leaders.[4]

The lesson is clear: governance, which is the art of regulating society and leading it in a particular direction, must invent institutions and institutional arrangements based on an underlying rationality that will guide society to its ultimate goal. Yet this is not how things usually work. Politics usually consists of backroom deals or speech-making, lending credence to General de Gaulle's famous remark: "bureaucracy will follow." The problem, though, is that bureaucracy does *not* follow. A major cause of our current political crisis is the repeated inability to reform the state. There are many reasons for this failure, but at least one is obvious: to change a bureaucracy's modus operandi and culture, one needs to show stubborn resolve for at least fifteen to twenty years. Yet this timeframe is out of sync with presidential and particularly ministerial terms. Both left-wing and right-wing ministers have told me: "We don't have time to really change things, so we just pass laws instead." A good example is the legislative "itch" that has only become more irritating during the presidency of Nicolas Sarkozy. Laws are really just declamatory speeches, intended to jumpstart change through the power of words alone. Yet it is often overlooked that in France, most laws obtain an application decree. Consequently, they are thus never applied. This is why, to make governance and democracy work, we must learn to conceptualize and implement institutional arrangements and to initiate long-term strategies for transforming those that currently exist.

But at a second level, the concept of institutional arrangements implies, as its name suggests, that we must look beyond institutions themselves. I recall, from my consulting days, a debate on "urban policy in the Paris region"— a discreet way of referring to policies aimed at

[4] Pierre Calame,*Mettre la Coopération européenne au service des acteurs et des processus de développement*, Éd. Charles Léopold Mayer, 1999. The report can be downloaded for free at www.eclm.fr.

underprivileged suburbs. Some said that the vitality of suburban social life could be measured by the number of civic associations. The shortsightedness of this statement is stunning: social life in such communities is mostly structured around communal, ethnic, and regional solidarities, as well as around gangs, drug-trafficking, neighborhood relationships, and so on. A similar confusion of form and substance can be found in all realms. The concept of institutional arrangements is a way of affirming that we must concern oneself with the realities of economic life, in all their rich fabric. For instance in France, the implicit hierarchy of the professions, solidarity between alumnae of the same schools, and close ties between top civil servants and corporate executives are part of the fabric of economic life. But there is more. Take the example of multinational corporations. Officially, they have an "accounting perimeter" and are only responsible for what occurs within it. Yet in practice, as we saw in our discussion of legitimacy, corporate executives cannot deny their influence over their suppliers, with whom they have to build stable relationships. Remember the sinking of the Maltese tanker Erika off the coast of Brittany in 1999. From a strictly juridical perspective, Total, whose cargo Erika was transporting, had no legal responsibility for the sinking and the immense damage it inflicted. In January 2008, after a trial with many twists and turns, Total was fined a little less than 400,000 euros and condemned to share a fine of 192 million euros in damages with the Erika's proprietor, manager, and classification company. The company appealed, on the grounds that the verdict was unjustified as far as it was concerned, since it had been deceived by false documents testifying to the tanker's seaworthiness. Yet even so, Total accepted "immediately and irrevocably" to pay the victims the damages that the court determined! Total was undoubtedly delighted to get off so easily. Its reasons for appealing were purely jurisprudential: it did not want to establish a precedent that it is responsible for its subcontractors. But if its decision to pay damages was immediate and irrevocable (to use its own words), its because public opinion clearly considered the claim that such a large company was not in some way responsible for its suppliers to be untenable. In 2007, a different story made the headlines, involving toys manufactured in China. The quarrel between the United States, Europe, and China was over toys that had been designed in the West, specifically by Mattel. These toys were considered dangerous because they contained little detachable magnets that children had been known to swallow. They were also coated in lead-based paint. Recognizing the danger, Mattel immediately recalled 20 million toys and even apologized to China's leaders, explaining that "87%of the

recalled toys were recalled because of a design flaw and 13% because of lead-based paint." A different, Canadian company tried to hedge its bets, claiming that it was not responsible for its subcontractors. This argument was a total flop. Similarly, the distinction between lasting contracts, which create strong bonds between a company's employees, and the allegedly more precarious bonds with subcontractors or public services has no basis in reality.

These examples show that the system of production and exchange is founded on configurations of relationships of varying degrees of stability and formality, which bind institutions together while being transversal to them. Such a concatenation of relationships constitutes an institutional arrangement.

We must try to imagine concrete institutional arrangements that meet oeconomy's specifications. We must answer two questions: what will be the institutional arrangements of the future? And how can we ensure that they meet oeconomy's specifications? The answer to the first question is precise, while the second answer is necessarily more vague—for a simple reason: institutional arrangements can be prefigured and mapped out, but they can only be made real through collective invention and learning. I believe that as soon as our goals are clearly visible and widely shared, our imagination will be spurred and new solutions will be invented. They are dependent on technological change, so it is impossible to predict them. The important thing is that as a society we must agree to emphasize two sets of institutional arrangements: territories, which are the horizontal thread of the oeconomic cloth, and value chains, which are the vertical thread.

In the preceding chapter, I explained why territories will be the preeminent institutional arrangements of the future and why they form oeconomy's horizontal thread. Value chains must be the model for oeconomy's vertical thread, for similar reasons. Whether one is talking about bananas, cars, medicine, or computers, value chains refer to the entire process by which matter and energy are transformed, thanks to various kinds of capital, labor, information, and knowledge, into desirable and useful objects for our contemporaries. The latter consume, use, and deplete matter or energy more or less quickly, sending them back "home," whether by recycling them into raw materials or just throwing them away, dissolved into the atmosphere, transformed into heat, or thrown back into the ocean. This is life's great cycle; and we are part of it. "Remember that you are dust, and to dust you shall return." This is why we speak of the

"lifecycle" of a product or speak of its lifespan "from cradle to grave." Oeconomy is only responsible if it is capable of lucidly managing the entire cycle.

Given their importance, I will devote a paragraph to each of these arrangements. But let us first consider the specifications they share.

2. The Specifications of Oeconomy's Institutional Arrangements

Territories, values chains, and other institutional arrangements must all meet at least one common specification: what the language of governance calls "obligation to perform." This obligation follows both from oeconomy's specifications and from governance's distinctive outlook.

A small picture is better than a long speech: consequently, these specifications are illustrated in a chart found in the annex.

I will limit myself to reiterating the key point of these specifications, offering concrete examples as needed.

First, the institutional arrangements of the future must simultaneously pursue governance's various *goals*: peace, social cohesion, and equilibrium between society and the environment. This means, among other things, that they must contribute to the fair and peaceful management of second-category goods (natural resources).

Secondly, they must obey governance's *principles.* These seemingly abstract statements do have practical implications. The articulation of different levels of governance requires, for instance, explaining how actors at each level of these institutional arrangements organize themselves. The fairness principle, for its part, stipulates that the distribution of added value and second-category goods be transparent. It also requires international rules governing how natural resources are distributed across different value chains. These rules constitute a veritable revolution in international law.

Third, these arrangements must *facilitate the management of relationships* and *have a long-term outlook.* These goals are linked: unlike transactions, relationships are built over time. This aspect of oeconomy's specifications is obviously relates to the status of companies and the organization of the financial system. At the risk of getting ahead of myself, let me offer a few concrete examples. Over the past several years, studies have shown the resilience of family-

based capitalism, which is oriented towards the long run, in the face of shareholder capitalism. This resilience was dramatically displayed in Germany in 2008, when it was announced that the auto-supply company Continental was likely to be bought out by Schaeffer, a much smaller family company, while the giant Volkswagan corporation would be acquired by the dwarf that is Porsche. In oeconomy, as in politics, the long term is built through a succession of short-term actions. At a fundamental level, future institutional arrangements depend on what the Sherpa association, whose work on corporate responsibility I have referred to, calls "sustainable contracts." This is a fortuitous expression. Contracts of different kind, ranging from employment to business contracts, must converge. Because they symbolize relationships, future institutional arrangements require new partnerships between actors. Territories and value chains provide the context for these sustainable contracts, but they also link territories and value chains to one another. The twenty-first century oeconomy will be based less on free competition between atomized and independent actors than on networks of relationships between actors of different kind: the various participants in a production chain, distributors, consumers, and so on. To take just one example: consumers are gradually abandoning their purely passive roles and becoming full-fledged participants in production processes. The ideas that consumption is a civic act and that we must jettison the schizophrenic "consumer-citizen" paradigm must be abandoned are starting to spread. In the future, we will no doubt go much further. Consumers will be full-blown actors in oeconomy's institutional arrangements, even if the modalities according to which they will be represented remain to be determined.

In keeping with the focus on the long term, institutional arrangements must conserve and develop the four kinds of capital—material, human, intangible, and natural—that oeconomy mobilizes. Value chains and territories must contribute to preserving natural capital's integrity. Logically, intangible capital is bound to grow, as it is in the very nature of institutional arrangements to foster cooperation between actors and the development of bonds, i.e., production's "upstream" and "downstream." Concerted training policies may also increase human capital. Conserving and the developing the four types of capital will entail a major shift in perspective. Finance is another factor that is crucial to the long-term perspective. In the final chapter, I shall return to changes in currency and finance. The principle of sustainable contracts between actors should allow the two great institutional arrangements, territories and value chains, to undertake long-term financing, which requires guarantees of stability. I think, for

example, that the two pivotal institutional arrangements will enable a revision of Multilateral Agreements on Investment, which are more important now than ever. Ending negotiations to reach such an agreement, which the OECD had been conducting under the radar, was one of the anti-globalization movement's early victories. It rightly denounced the dissymmetry between the two parties in negotiation. Governments were expected to commit themselves to not passing laws that compromised the anticipated profits from investments by foreign corporations. Corporations, in the name of the future; uncertainty, made no commitments. A contract creates a system of commitments. One can imagine more equitable long-term agreements between territories and value chains. Local productive systems, or clusters, which I spoke of in relation to territories, already prefigure these accords.

The fourth dimension is that institutional arrangements must support efforts at each level that foster a stronger sense of community. On a global scale, the goal should be to reinforce bonds between all the actors of value chain. This depends on increasing shared knowledge and the ability to trace work and raw materials throughout the production process. I will make several specific suggestions on this point.

Traceability brings us to the next item on oeconomy's list of specifications: allowing people to reconcile their beliefs and their actions. This cannot occur without traceability, which allows people to put their activities as producers, distributors, and consumers into perspective.

Oeconomy's fifth specification simultaneously seeks greater unity and greater diversity. Unity was supposed to be characteristic of companies, while diversity was to be found either in relationships between companies or in products that were offered to consumers. Yet this is not the case. The unification of production processes is being achieved through the overwhelming trend towards normalization. The "war over norms" is, moreover, a major front in economic wars: from terrestrial digital television to accounting or juridical norms, it is one of the major battlefields in the conflict pitting the European Union against the United States, as much as in the battle between Airbus and Boeing. On the other hand, large companies have learned how to create autonomous pockets within their fold and to diversify their products and structure to make themselves more adaptable to different contexts. We are only at the beginning, I believe, of a major turning point in our conceptions of unity and diversity. As far as unity is concerned, the transition from a consumer to a user society will accelerate the trends towards normalization, with the establishment of standards of interoperability between product parts that will apply to all

the actors in a value chain. The necessity of recycling will also play a role in this process, as the European directive on recycling old cars indicates. As for diversity, the first industrial revolution and Fordism helped make the technological process of production, the assembly line, immortalized in Charlie Chaplin's *Modern Times*, the company's unifying principle. This was the culmination of the historic trend toward the consolidation of time and daily rhythms, which began during the Middle Ages when the belfry—the time of towns and merchants—challenged the church's bell-tower—the time of God—and the parceled nature of feudal society. It continued with the introduction of the clock. "The clock is not merely a means of keeping track of the hours, but of synchronizing the actions of men. The clock, not the steam engine, is the key machine of the industrial age."[5]

The centerpiece of the new industrial revolution is not machinery, but knowledge, information, and the ability of individuals and collectivities to coordinate their work. The outsourcing of production and maintenance, nomadic offices, workdays distributed across several locations (including the home), smaller workplaces, flexible hours: these developments are all related. They belong to the same process that leads to the convergence of work contracts and commercial contracts. As I have said before, value chains and territories are destined not to become hierarchical monoliths, but rather broad confederations of actors, unified, as in all forms of governance, by an ethos of and procedures for cooperation.[6]

Oeconomy's sixth aspect is the need, on the part of institutional arrangements, to ensure that actors behave responsibly. However great the obstacles may be, global value chains and institutional arrangements must be subject to international law and tribunals. The responsibility principle demands, moreover, the protection of the rights and duties of whistleblowers. Currently, whistleblowers typically face a dilemma: if they blow the whistle, they not only risk angering their bosses, but coming across as traitors to their coworkers. If responsibility is generalized and placed at the level of institutional arrangements rather than individual actors, this dilemma (an intractable one, to be sure) can be minimized if not entirely eliminated.

The seventh aspect is that institutional arrangements must contribute to making the world intelligible. This theme has returned in chapter after chapter: our picture of the world is shaped

[5] Quoted by Jacques le Goff, in "L'Occident médiéval et le temps," in Le Goff, *Un autre Moyen Âge*, Gallimard, 1999.
[6] Governance's "tripod" is presented in my book, *La démocratie en miettes.*

by information that institutions disseminate as part of their ordinary operating procedures. If one had any doubt, one has only to listen regularly to the news of the stock market's ups and downs. When discussing territories, I spoke of the veil of ignorance hiding how our world really operates, as our economy and institutions ply us with endless information that shapes how we see the world but prevents us from understanding it. This is why the question of the information flow produced by a given institutional arrangement is far from being an abstract or irrelevant question. Oeconomy's institutional arrangements must for example generate on a daily basis knowledge of the energy, natural resources, work, and information they consume, in addition to knowledge of the various kinds of capital they deploy, of the bonds created through production and exchange systems, of the distribution of added value, of the amount of exergy employed, and of the kinds of relations existing between different actors.

Making the world intelligible is essential to protecting oeconomy from the trend whereby, because of globalization and its aspiration to being an objective science, it increasingly distances itself from democracy. If we want our citizens to be capable of grappling with oeconomic questions, we must at least ensure that these questions are intelligible.[7]

The eighth and final point on oeconomy's list of specifications is that institutional arrangements must be consistent with the governance systems that are specific to each category of goods. One might call this an oeconomy that is consistent with the nature of things.

3. Global Value Chains and Value Chain Agreements

Global value chains[8] that connect production, exchange, and consumption (all of which are equally important to the definition of a "chain") will be the major institutional arrangement of the global era. They are, at it were, oeconomy's spine.

This notion of "value chains" stems from the idea that human activities are organized around the production, exchange, and consumption of goods and services in a limited number of sectors. For the most part, these sectors can be accounted for by referring to household budgets;

[7] H. Rouillé d'Orfeuil, *Économie, le réveil des citoyens*, La Découverte, 2002.

[8] *Translator's Note:* "Chain" or "Industry Chain" are the translations that have been used for the French term "*filière." Filière* has several meanings, including "industry" (in the sense of a totality of economic activities that all relate to single product, like "the housing industry"); a series of terms evoking the idea of "string" or "strand"; and the notion of a succession of interrelated steps.

they correspond to the various needs and desires people must or would like to satisfy: food, housing, transportation, clothing, health, leisure, and tourism. These primary value chains are naturally hybrid, combining goods and functions. This is the case, for example, of health. Its material element—the production of medicine—is a sub-branch of chemistry (pharmaceuticals) but its most important dimensions are medical care, food, and living conditions. In addition to value chains satisfying the needs of individual and familial consumption, there are a number of economic activities that serve collective functions or that constitute groups of professionals, and which are so important to the production process that it is worth treating them separately: these include defense industries, public works, information technology, banks and insurance, and the industry of intermediary goods (primarily the production of machines).

One could quibble forever about the precise characteristics and breakdown of value chains; this, however, is not the purpose of this book. Rather, I suggest that we focus on the first category of value chains, aimed directly at satisfying personal and familial needs.

A value chain is a totality of actors and of the relations between them. These actors may be producers, contributing to the transformation of raw materials into useful products; distributors; consumers; and, once this cycle has been completed, anyone who recycles the ensuing waste. The basis of a value chain is thus a complete cycle of goods and services. This is the cycle that must be organized according to oeconomy's specifications.

Is this a utopian or futuristic vision? Not really. I would first like to show that these ideas are merely the extension and systematization of numerous transformations that have occurred over the past several decades: the transformation of systems of production; transformations resulting from the priority given to sustainable development; transformations resulting from the mobilization of consumers; and, finally, transformations resulting from the increasing standardization of production and of products.

The Transformation of Production Systems

The story of globalization is not about gigantic firms and their "integrated" production systems, where the firm organized itself all the stages of the process, from the acquisition of raw materials to distribution. These great integrated systems, hierarchical and centralized, which one might describe as "Soviet-style", have revealed themselves—despite the hypothetical economies of scale that they entailed and the efforts of the dominant actors to preserve every bit of added

value—poorly adapted to the complexities of value chains and to the diversity of markets. During the 1960s, there was a growing consciousness of the great rigidities of this "big firm" system, and thus of their meager prospects for keeping pace with the evolution of technology and markets. And, as there were no global monopolies in any industry, not even in the most concentrated ones, there were few opportunities to compensate inflexible organization forms with monopoly advantages, as it might have been the case on the national level.[9] On the contrary, economies of scale and specialization should be acquired through flexibility, through recourse to specialized subcontractors working for various producers.

Consider, for instance, speed boxes in cars or microchips in computers. In the eighties, the same large companies that were tempted twenty years earlier by the idea of downstream and upstream integration began to hold the opposite discourse, refocusing themselves, as they put it, on their "core business." How far could the specializing and streamlining of company structures go? What exactly does "core business" mean? Given that even "core business" came to include marketing, research, and development, at what point does the ability to organize entire value chains became elusive? At what moment, either upstream or downstream, will subcontractors or clients become so powerful that, taking this reasoning to its logical conclusion, they seize control? These were the questions that plagued companies and consultants for years. In the United States, the obsession with reducing fixed costs and profiting to the hilt from the comparative advantage of producing in low-income countries (where unions were not a risk) created the "outsourcing" model. At the same time, the concept of "hollow corporations" sparked a lively debate. The former head of Xerox, Paul Strassmann, gives us a general definition of this term, referring to companies "organized around the management of their transaction costs, as well as of their research and development expenses."[10] When brand name becomes the only argument for buying, the risks that such a strategy entails become evident.

Some consequences appeared very quickly. Microsoft grew because IBM had no desire to develop its own operating system; then, Microsoft swept past its mentor. Similarly, in producing personal computers, Dell ended up supplanting older producers. The concentration of the distribution in the hands of a few large chains of stores and supermarkets, of which Walmart

[9] The Chinese economist Chen Ping demonstrates convincingly that the difference between the evolution of the Russian and the Chinese economies after the fall of the Berlin Wall is that the Russian economy was structured into monopolies, whereas the Chinese economy was not. Chen Ping, "Complexity of Transaction Costs and Evolution of Corporate Governance", in *The Kyoto Economic Review*, December 2007.

[10] See www.strassmann.com/blog, commentary posted in February 2005.

in the United States and Carrefour in Europe are the most successful, allows them to develop their own brands and thus claim a greater share of added value. What is certain in any case is that unlike in the fifties, no single company can dominate an entire value chain—though a pivotal actor who organizes the flow of added value in a way that allows it to control the entire chain is conceivable. This transformation of production systems has necessarily led companies to shift their attention to value chains.

The New Priority: Sustainable Development

Recently, this trend has been followed by a growing preoccupation with sustainable development and climate change, and thus with the use of natural resources and energy. Since the UN Earth Summit of 1992, we have seen more and more debates around the world about the production and consumption systems. This theme was put forward at the tenth anniversary of the Earth Summit in Johannesburg in 2002. What became known as the "Marrakech Process" aims to understand the system in its totality. The European Union, notably under the influence of the British and the Germans, made this question one of the priorities of the sixth research program (2005-2008), which gave birth to the program known as Score (Sustainable Consumption Research Exchange). This program involves more than twenty universities and research centers, primarily from Holland, the Scandinavian countries, Germany, Austria, and the United Kingdom. This program reflects the increasing preoccupation of officials with responding to the imbalances that lead to excessive consumption of natural resources, particularly in developed countries. These excesses, as we have seen on several occasions, are a great danger as much for the ecological imbalances that they produce as for the rivalries between newcomers that they exacerbate. This is particularly true of the struggle between China and India to control the increasingly scarce natural resources. But it is important to note that all this research emphasizes value chains, either implicitly or explicitly. The value chain is in practice the level at which the flows of raw materials and the life-cycle of products can be analyzed. This is the second reason that value chains have become a part of our daily lives.

The Organization and Motivations of Consumers

The third reason pertains to consumers. As they became better organized and more engaged at an international level, they are able to demand sustainability labels for forests,

fishing, fair trade, and sustainable agriculture. These labels necessarily apply to value chains. Consumer pressure introduced a new factor into the international regulation of value chains: multi-party negotiations. Consumer organizations and environment protection movements invited themselves to sit down with the top players, insisted on being treated as interlocutors, and often became even more important than states from the standpoint of companies, as the impact of consumer organizations and activists on their sales and profits is often far greater and more immediate than restrictions imposed by states. These restrictions, given the power dynamic between states and multinational companies, are always potentially negotiable in terms of their character, their implementation, and the sanctions that they entail.

Standardization

The fourth transformation is a result of the growing importance of standardization. I spoke, in relation to the concept of a "functional economy", of interoperability standards as a new public good.[11] Here, too, we did not start from square one: this idea is part of an ongoing transformation. The development of ISO standards is particularly interesting. They play an essential role in the economy. They are hybrid, collective, living beings—and quite unusual ones. Everyone has heard something about ISO standards. They establish the basic characteristics of a product, fulfilling in this way an essential role in international trade, where it is important to have a few basic certainties about the products one is dealing with. The history of the ISO (or International Organization for Standardization) is told very well on its website, which I recommend to the reader.[12]

The ISO was born in 1947, during the great wave of institutional innovation that occurred immediately after the war. Its purpose was to unify industrial standards at an international level. The history of standardization is so old, and so deeply tied to the history of nations and industries, that we rarely even think of it. At its origins, it was all about bolts: specifically, about the need to agree on the geometrical characteristics of screw threads. Standardization arose thus both from a need for compatibility between industrial products and units of measurement. If you have ever traveled with an electric socket adaptor, the kind that allows you to plug in your cell phone or computer in China or the United States, then you have some sense of standardization's

[11] Part 1, chapter 4, paragraph 4.
[12] See www.iso.org.

advantages. The same is true for those who, like me, find it difficult to convert Fahrenheit into Celsius, pounds and ounces into kilos, inches and feet into meters, and so on.

As a general rule, states establish public institutes for standardization. However—and this is standardization's second original trait—these standards are not constraints. They cannot be elaborated without industrialists themselves. The ISO has, as a result, a long tradition of multiparty negotiations and consensus-seeking. Companies naturally flock to standards once they are established: first because they often participate in their creation, and second because it is risky for them to do otherwise. This is the same problem—well known in the computer business—that one faces with operating systems. There are today 17,000 different ISO standards—which demonstrates just how vast field of economic activity this approach covers. And it was only in 1970 that international standards replaced national ones.

As I see it, standards and value chains are the most painless but also the most efficient way to interfere in the affairs of a sovereign state. It is interesting, however, how much standards have changed since the late twentieth century. At first, standards related to technical specifications and specific products. Slowly, they began to apply to entire production processes, and even to corporate management. These are the famous ISO 9001 and ISO 14001 standards, which were the outcome of a long-lasting project. ISO 9001 was adopted in 2000. It applies to quality management systems. They are the result of an insight developed over the past few decades that a product's quality is best ensured not by testing it at the moment of completion, but by verifying the quality of work at each stage of production—a standard that is often called "total quality." Based on this insight, standards have become an important element of corporate life. In 2006, 900,000 companies throughout the world had already adopted ISO 9001.[13] SSO 14001, adopted in 2004, goes a step further, as it affects the entirety of a company's environmental management. By 2006, 12,900 companies throughout the world had adopted it.

It goes without saying that the development of standardization is directly related to the explosive growth of international trade: the adoption by companies of these standards is critical to gaining access to markets, particularly in developed countries that have the means to formulate requirements in terms of quality without this stipulation being perceived as an obstacle to free trade. Regulations to be put into effect at the level of value chains are, in the end, only extensions of a dynamic begun in the postwar period. Moreover, a standard is actually being

[13] Source : ISO Survey, 2006.

prepared, known as ISO 26000, on the social responsibility of companies. Its principles are similar to our own.

Four major changes are thus underway: a transformation in production systems; the rise of sustainable development; greater engagement on the part of consumers; and the increasing importance of standardization. Together, they suggest that broader reflection is needed on the institutional arrangements that tomorrow's value chains will require.

These arrangements can be considered from two angles: the way in which they can satisfy requirements described in the previous paragraph; and the way in which public action can contribute to establishing these institutional arrangements' normative framework. I will begin with the first point. My aim, in outlining these proposals, is not to close the debate but to open it, by illustrating how the general requirements of institutional arrangements can be concretely put into effect. My proposals are summarized in the chart found in the annex.

The first idea is that a value chain brings together into a lasting relation the totality of actors involved in production, distribution, and consumption. A value chain agreement is arrived through forums involving many different actors. Examples of these kinds of forums in recent years include the use of the Internet for purposes of governance and multi-actor negotiations over labels. A multi-actor forum has, for instance, been established for the production chain related to bananas, the most commercialized fruit in the world.

Consumers organize themselves primarily within certain limited territories, mostly on national or local level. Thus a value chain not only links producers to one another, it also ties companies to territories. These territories can be either geographical areas in which consumers organize themselves or components of a value chain. When an agreement relating to a brand is signed, the brand's owner is the pivotal actor and assumes primary juridical responsibility. Accountability is nonetheless shared by all actors, including distributors. A parallel could be drawn between the responsibility of distributors and the managerial responsibilities of Internet servers: at issue is whether they are simply hosts, with no responsibility for the messages that transit through them, or if they are editors, and thus have to answer for the material they publish.

Value chain agreements stipulate, in keeping with the principle of accountability, that these commitments apply not only to the officers of signatory institutions, but to all of its personnel. In this way, value chain agreements apply in a generalized way companies' codes of

conduct to the entire value chain, but adding a new and essential point: they are accompanied by the requirement that each actor to sound the alarm if an employer fails to respect the value chain contract. In effect, as the International Initiative for the Social Responsibility of Upper Management[14] has noted, the exercise of responsibility depends on a hierarchy of loyalties. Under these circumstances, loyalty to value chain agreements must override the obligations of loyalty and professional secrecy owed to an employer.

Next, value chains contribute to building global consciousness in three ways. The first and most important involves the traceability of production. It might be difficult to give detailed information about the various actors of the value chain on a product's package, but it is relatively easy, with the help of computer systems, to make information relating to each production batch available to distributors, who can then display it. This is, in short, the complete opposite of those vague labels that say "Made in the European Union" or "Made in France" (when in fact, the shirt buttons alone were sown in France) which only reinforce the sense that ours is an age suspicion.[15]

The second idea is to publish every value chain agreement on a website, where exchanges between producers, distributors, consumers, and territories can occur. The very rapid development of social networks creates new cultural practices that can be made to serve traceability, by making the presence of the value chain's partners felt at a very low cost. These websites can also be the means through which each full-fledged member of the value chain may exercise its right and duty to alert. This system of exchange could be completed by annual assemblies, convened in part at a distance by the means of online open forums. A new generation ISO standard lays out the modes of production, distribution, and usage of a branch's product. Respecting this standard is incumbent not only on producers, but also on distributors and consumers living in specific territories. It lays out in particular the future of products that are approaching the end of their lives; how they are recycled is decided collectively by the actors of the value chain and by territories concerned.

The implementation of value chain agreements should be recorded in every company's annual report. Naturally, these reports include consist of bookkeeping as well as social and

[14] See www.responsabilitesocialedescadres.net.

[15] Nathalie Sarraute, *The Era of Suspicion*, Gallimard, 1959. The expression is often used these days to denounce the surveillance of citizens by the state, but it is also valid for describing the relations between producers and consumers.

environmental data, the reporting of which have become obligatory in countries like France. But rather than being a unilateral statement, the report is a commitment on the part of all the actors of the value chain. It notably includes an analysis of the product's entire life-cycle, including its consumption. Furthermore, it describes the flow of materials, labor, and money within the value chain and evaluates the energy use. On this basis, it analyzes the stages of reuse of various products and sub-products, all the way to the final waste. The use of the annual report is determinant. It is a space of collective learning. The collected data raises questions that flow in both directions: from consumer to producer, but also from producer to consumer. The report records what has been learned over the year, analyzes a series of experiences, and draws lessons. Each participant is entitled to request the immediate verification of assertions made in the annual report.

Every three years, a multi-actor, multi-territory, and multi-chain meeting would take stock of the process. In particular, it would address the issues that concern all territories and value chains: the methods for analyzing flows and concrete applications of the principle of accountability. A value chain's actors may also agree on private procedures of arbitration. This is an extension to a multi-actor approach of the arbitration methods provided in numerous commercial contracts.

Value chains, in keeping with the principles of governance, must ensure the highest degree of both unity and diversity. To this end, the ISO standard of a specific value chain, in keeping with the principles of a "functional" economy, of modularized production (i.e., the possibility of breaking down a product into independent components, allowing it to be replaced or repaired piece by piece), and of the interoperability of products of different brands. Territorial actors should be entitled to request, directly or through distributors, that the principle of interoperability be honored, at least for products delivered to that territory. The implications of creating networks of territories are apparent. Similarly, negotiations can pertain to the creation, at the level of a territory or of a group of territories, of production intermediaries shared by different brands, or intermediaries for the reconditioning or reuse of certain products.

The reciprocity clauses in major export contracts are well known. Let's take the case of import substitution policies, commonly practiced and frequently debated in Latin American in the 1950s. Besides the fact that they were contrary to liberal dogma and were disliked by the United States, they were accused, sometimes rightly so, of being inefficient, either because they led to

subsidized monopolies or because domestic markets were too limited for these production units to develop. In comparison, agreements between producers and territories would be more appropriate, as the territories would not be in a position to impose on their residents a purchasing monopoly.

Moreover, technical change favors smaller but more sophisticated production units. As economists used to say, we have entered a post-Fordist era. Twenty years ago, Volvo attracted the world's attention with its flexible workshops, which contradicted the principle of the division of labor popularized by Taylor and Ford. It is not hard to imagine what the results could be if a genuinely imaginative technical and organizational effort was channeled through value chain agreements. Such a movement would also be facilitated by the gradual technological unification of major world regions. My hypothesis is that thirty years from now, the division of labor between "noble" functions, requiring a high level of knowledge and qualifications, and simple production functions, which twenty years ago were known as "screwdriver factories," will have blurred considerably.

Following this observation, should we say that we are heading towards a contraction of international trade? Today, trade for the most part occurs between developed countries, allowing a great variety of goods and services to be exchanged. If there is a contraction of international trade, it will result rather from the rise of energy and transport costs, but only when the latter represent an appreciable part of total energy costs. At this level, it is important to be suspicious of the "obvious." Those who want to prove that our current model of production and exchange is unsustainable often multiply the quantity of transported goods by the number of kilometers traveled. But they tend to forget the extreme variability of the energy cost per kilometer-ton. If one measures the energy efficiency of transporting a ton of merchandise with a kilo of petrol, the actual efficiency rate ranges from 6.7 kilometers travelled for light urban vehicles to 60 km for vehicles of 30 tons and 230 km for entire trains. We jump from nearly one to ten between a light urban vehicle and a thirty-ton truck, and then by four between the thirty-ton truck and an entire train. Energy efficiency is lower still when customers use their own cars.

In what will perhaps be the last period to have known abundant petrol, customers do not hesitate to travel forty kilometers or more to shop at giant hypermarkets. In 2008, the large French retail chain Carrefour saw sales at its domestic hypermarkets plummet. It knows that it must reinvest in nearby stores. Moreover, the bundling of Internet orders has only just begun. By

engaging in production and consumption at the same time, a value chain makes it possible to prepare the kind of comprehensive vision that today is lacking. A study of the Wuppertal Institute from the late nineties demonstrated that in Germany, the ingredients of a simple pot of yoghurt—a banal product if ever there was one, and one that is easy to make at a local or familial level—traveled thousands of kilometers in total. The research that the Institute has since conducted on the food industry chain has shown that the energy costs of the production of intensive agriculture and of the transformation of products was, in reality, considerably greater than transportation costs.

Value chains—this is the third idea—must strive for long-term efficiency and facilitate the management of relationships. Value chain agreements imply lasting contracts between their various participants. On the production side, this may not be a radical innovation: a company that is concerned about the reputation of its products is always led to control the quality of its suppliers and subcontractors, and this is not possible unless it builds relationships of trust, which take time to develop. The relationship between a value chain and territory is, however, of a more recent kind. It requires imagination, particularly between producers and distributors on one hand, and territories and users on the other. At the territorial level, I raised the question of whether and how collective preferences—generalizations of contracts that have been grouped together—might be expressed. It is probably not possible, either in the short or medium term, to restrict consumer choice by requiring them to commit to particular products over an extended period. But territories can take advantage of the "law of large numbers" and of the publicity generated by a value chain agreement, with all that this implies, for instance, in the way of price discounts on or after-sales service. The importance of after-sales service in domains as varied as automobiles, computers, plumbing installations, or home appliances is well-known. There is thus substantial room for negotiation as far as medium-term commitments go.

In terms of value chain agreements, one can also imagine long-term commitments consisting of multilateral agreements on investments, which balance out the commitments of territories and other concerned parties in the value chain.

Finally, my fourth idea is that a value chain contract should explicitly seek to preserve and develop different types of capital, particularly natural and intangible capital. The very nature of the relationships formed between the actors in a value chain increases intangible capital by

strengthening multi-actor cooperation. The contract also must require respect for the governance rules of the various categories of goods (as they have been presented above).

I turn now to the second question: how can public authorities facilitate, encourage, and hasten the implementation of value chain agreements and this new kind of institutional arrangement? I have again drawn up a chart (see the annex) that lays out the possible paths, simply by replacing the "conditions that make institutional arrangements relevant" with "means of governance".

In a summary fashion, I have identified seven courses of action available to public authorities. Besides the implementation of institutional frameworks, public authorities can act directly on public investment, notably by participating in the establishment of production units, by orienting public procurement (for example in the realms of public catering service or computing), and by the development of public services (for instance, public transportation or recycling systems). Public authorities can also act through taxation. They can act through law and regulations, by organizing democratic debate and by establishing collective choices, and, finally, by coordinating the actors.

Public investments and the development of public services concern, as a matter of choice, territories or nations. It is at this level, as things now stand, that most taxes are collected and used, offering public authorities a means of acting. Public procurement is organized at the territorial and national level; regulations might limit the right to compete to companies that have signed value chain agreements. This is already the practice in many domains, thanks to ISO standards. In Europe, existing procedures for cooperation can play an extremely efficient role in organizing cooperation between member states. Given the European Union's commercial importance, it is not hard to imagine the impact that recommendations on specifications for public procurement in EU would have. Imagine for a moment the impact of computer orders stipulating that all material purchased must use freeware, or car purchases requiring firms to be signatories of value chain agreements with clauses concerning the replacement and interoperability of parts!

Taxation must, for its part, play a decisive role. Is this compatible in the short and medium term with global governance's weakness, with the fact that there is no world community with its own fiscal powers (even though the need for a fossil fuel tax is obvious to all)?

I am rather optimistic regarding the long run—provided that one proceeds in two stages. At the first stage, one must recognize that an equilibrium between humanity and the biosphere, in particular regarding the management of first- and second-category goods, constitutes an imperative norm of international law, a *jus cogens.*[16] A *jus cogens* is a kind of super-norm with universal application, introduced in 1969 by the Vienna Convention on the law of treaties. It is, in a way, a return to an idea that was dear to the Age of Enlightenment, that of "natural law," a law arising from the "nature of things" and imposing itself on this basis on all societies. Is this not the very kind of norms that must impose themselves if we are to protect humanity's heritage and future generations' access to it (i.e., first-category goods) and to ensure that all human beings have a minimum access to natural resources (i.e., second-category goods)?

If the idea of *jus cogens*, as applied to first- and second-category goods, imposes itself at an international level, in a more or less distant future states and regions will have to adopt juridical and fiscal mechanisms guaranteeing that these legal provisions are implemented. I have specifically three mechanisms in mind. The first extends from the local to the global, and assigns to each individual, and, on this basis, to each territory, nation state, and region of the world, negotiable quotas that correspond to the minimum rights of access to second-category goods. I also have in mind two forms of taxation at the national and territorial level. The first, already mentioned in relation to territories, is a gradual shift from a value-added tax (TVA) to a consumed-resource tax (CRT), which would stop fiscally penalizing work and encourage the optimal utilization of materials and, in particular, natural resources. The second would be the creation of a tax on unused energy, which would create incentives for optimizing a value chain's input locations. As I have been emphasizing, the additional appeal of fiscal mechanisms is that they imply measurement devices that can generate knowledge of flows that today are poorly known at the value chain level.

Public authorities can also act by establishing rights and regulations. I have in mind the controversial question of intellectual property, and especially of patents. Public authorities already have, according to current law, the possibility of imposing compulsory licensing on patent-holders: it takes the patent-holder's place in allowing another producer the right to use a patented technology. This mechanism is aimed first of all at fighting uncompetitive practices, as

[16] I am borrowing this definition from the Wikipedia article "*Jus Cogens*," as well as from the commentaries by Dominique Carreau in *Droit international économique* (Dalloz, 2007).

when a producer who holds a patent refuses to cede the usage rights or attaches to the cession unreasonable financial conditions.[17] This example shows that, once the value chain is recognized as an important means for building a sustainable society, legislators will not lack the juridical means to achieve value chain agreements. This is all the more true insofar as, presuming my reasoning regarding fourth-category goods is correct, intellectual property law will have to change profoundly in upcoming decades.

The final means of action that public authorities have at their disposal concerns the coordination of actors. This domain is undoubtedly one for which international institutions are uniquely suited. Let me mention four instances of such action. First, we can consider yet again the International Organization for Standardization (ISO). It is the first in line. The evolution of standardization, over the last fifty years, has broadened its horizons. The elaboration of standards that are characteristic of sustainable chains, taking account of the traceability of flows and of work throughout the production process, belongs to this trend, even if it involves a qualitative leap. The historical experience of the ISO in consensus-building between actors is irreplaceable.

The second potentially relevant international institution is the World Trade Organization (WTO). Let us not forget that its preamble refers to sustainable development as a goal. The WTO, contrary to the GATT, which it replaced, does not have as its statutory goal the elimination—always, everywhere, whatever it takes—of barriers to international trade. I have already suggested in preceding chapters that the WTO might be summoned in future decades to play a much more progressive role than it currently does. As it is, the WTO is the only international organization that has the means to deal with disputes and that has developed a recognized practice in this domain. It is true that, until now, the WTO has only dealt with disputes between states. The qualitative leap involved in treating disputes relating to the implementation of value chain agreements is not, however, that great.

Finally, two organizations could play a complementary role. First, the United Nations Conference on Trade and Development (UNCTAD), created as a consolation prize after the failure of the International Conference on Trade and Employment in Havana in 1947. It continues to seek a role, and it could find one as a forum in which experiences in implementing value chain agreements could be compared. Finally, Global Compact, started by Kofi Annan,

[17] See Juris International, "Organisation mondiale du commerce", "Centre du commerce international," on the theme "*licence obligatoire"* (compulsory licensing): www.jurisint.org.

could, if its members could be convinced, constitute a powerful lobby for gradually establishing industry branch agreements.

4. Territories and Territorial Oeconomic Agencies

In the preceding chapter, I tried to lay the philosophical and technical basis for territorial oeconomy by demonstrating its preeminent role in the globalized system and by analyzing in detail the way in which territory-actors could organize the mobilization of capital and resources, provide optimal management of exergy, and establish systems of governance for the different categories of goods. I also showed why the organization of territorial oeconomy, far from lying outside the realm of local democracy, should become one of its primary concerns. Finally, I considered several means, which at this point are quite familiar, of implementing territorial oeconomy, such as building data, redirecting tax policy, establishing a local currency, and so on. But I left unaddressed the question of the kinds of arrangements that must be invented at the territorial level, simply noting that it was necessary to distinguish local government's areas of competence from the arrangements that are in a position to impact the oeconomy. This is what I will now attempt to do.

An arrangement requires an architect, a pivot. In the case of territories, this does not mean creating a single oeconomic actor—i.e., a sort of armed branch of the state. This would contravene the principle of unity and diversity, particularly since territories are the locus *par excellence* of a pluralistic oeconomy—that is, of the cooperation and cohabitation characteristic of the traditional oeconomy with the social or solidarity oeconomy and the volunteer oeconomy. I propose that we call this architect the Territorial Oeconomy Agency, or TOA. I do so with the same reservations that hold for value chains: while it is possible to indicate a course of action and the specifications that must be respected, actual institutional arrangements arise from creativity and collective learning processes. This reservation is all the more important in that territorial institutional arrangements, as one sees in the case of public services, vary considerably from one country to another. Even so, I believe that conceptualizing a Territorial Oeconomy Agency or TOA makes it possible to consider these issues concretely.

From a juridical perspective, the British Community Interest Company or CIC corresponds perfectly to what I have in mind. I have praised its pragmatism[18]: a commercial or production-based company like any other, but working on a not-for-profit basis. Its capital is blocked at least for a certain period of time and the dividends it offers its shareholders may not exceed 5% of total capital.

The creation of CICs would be a juridical extension of the political process whereby various institutions and networks decide that they will constitute themselves as territory-actors. Each actor's contribution of capital commits it to a cooperation pact, which I have described as "undertaking a project," a critical moment in the actor's self-definition. To analyze in greater the institutional arrangements that might ensue, and of which the Territorial Oeconomic Agency is only the pivot, I created, as I did for value chains, two diagrams: the first lays out the conditions under which institutional arrangements are relevant, and the second describes the initiatives that governmental organizations must undertake, at a European, national, and local level, to make these arrangements possible. These diagrams can be found in the annex.

As many of these ideas were already presented in the chapter on territories, I will limit myself to flagging them down as they are mentioned.

When introducing the idea of a Territorial Oeconomic Agency, I spoke of the role of "architects." The role of such an agency is not to do things itself, but indeed, to create synergy between a series of initiatives. I will begin with the idea that it must facilitate the management of relationships. The TOA's primary purpose is to develop a territory's intangible capital and thus the relationships between various kinds of actors. This presupposes that it must first describe and map out intangible capital, i.e., cooperation-based relationships that already exist between a territory's actors and those which are in need of further development. But the task of developing relationships is not only internal. It is also directed at the outside, in two ways. First, it must target other, similar agencies. Oeconomy must be consistent with the principle of active subsidiarity. Within a particular territory, the TOA may divide itself into smaller agencies that agree to common goals and share experiences. A territorial AOT, in turn, will belong to a network of similar agencies at the national and international level, sharing its own experience with them, pushing up the initiatives it is not able to carry out on its own to a higher level. The other relationship that is directed to the outside is the connection to value chains. I have spoken,

[18] See Part, Chapter 3, section entitled "Legitimacy Implies the Principle of 'Least Possible Constraint.'"

in relation to value chains, of lasting contracts, notably with territories. We have already seen, on several occasions, that the transition to a "use society" requires the establishment at a national level of sites for assembling and reconditioning products. In itself, this is not a revolutionary idea, but rather the reinforcement and systematization of a business trend to create territorial agencies that are closer and more in tune with markets and their needs. Territorial oeconomic agencies could facilitate the emergence of joint ventures between a value chain's companies and territories, or even, when the opportunity presents itself, between value chains. Community Interest Companies should be able to have strictly commercial subsidiaries, or, in the case under consideration, to have minority stakes in companies that value chains and territories share, so that they can keep an eye on them and serve as a model for linking value chains with territories.

Should territorial oeconomic agencies have a distinct status? Probably not. I have already mentioned my enthusiasm for the pragmatism of the British, whose criteria for the recognition of a CIC is that it has "goals that a reasonable person would consider to be in the general interest." But it is important that a Territorial Oeconomic Agency embody the need for oeconomy to serve society's general goals. This is why governance's permanent goals are statutorily those of the TOA: general well-being, social cohesion, harmonious relations with the external worlds, and balance between humanity and the biosphere. Remember the Dalai Lama's saying: "make an epic of peace." As long as happy people have no history, as long as war alone is epic and peace appeals only to the dull virtues of domesticity, peaceful endeavors will never harness energy and creativity. The same holds true for oeconomy. Magazines sing the praises of technological exploits, conquered markets, and daring innovations leading to fabulous wealth. But aren't the kind of exploits that our time needs those that offer greater well-being at a lesser material and energetic cost—more human fulfillment with fewer resources? TOAs can play an important symbolic role in this respect, by working concretely (the advantage of territories is that they make noble ideas concrete) on reconciling society's various goals through production, exchange, and consumption.

TOAs must be the repository of everything that is learned from managing the various categories of goods. Needless to say, it is not the TOA's role to preserve historical heritage—a local fragment of humanity's heritage—or biodiversity. Its task is, however, to examine every good and every service from the standpoint of the governance systems that apply to the various categories of goods and services. It is the TOA that must, for instance, ensure that territories take

their share of responsibility for the management of natural and domestic biodiversity and, to achieve this goal, propose new forms of cooperation between public and private actors. Similarly, it is not up to the TOA to manage water, energy, or soil. Yet as soon as the need to reconcile social justice and efficiency is recognized, it is the TOA's role to establish (for example) labor exchanges and markets for negotiable individual energy quotas (to which I shall return) and to propose changes to water pricing that takes these two criteria into account. From this point of view, the TOA network will play an essential role in gathering collective experiences, spreading good practices, and emphasizing the importance of outcomes.

Can TOAs contribute to democracy? How so? It is up to the government and political parties to organize public debate, and not TOAs. But if there is one democratic choice that precedes all others, it is whether the citizens want their territory to become an actor. This implies a redefinition of citizenship as a compromise between rights and responsibilities. On this front, TOAs can play two roles. First, they can raise consciousness. The data gathered on a territory's metabolism allows everyone to become aware of the impact of their actions, consistent with the three dimensions of responsibility that define oeconomy's legitimacy. Secondly, they can register and coordinate citizens who desire to get involved. Mobilizing creativity and valorizing passion require, as we saw when considering reciprocal exchange networks (RENs) or local exchange trading systems (LETs), locations where supply can meet demand, but differently than they do in classical economics. We need, at a territorial level, spaces that allow a wide array of mutual relationships to occur. Because TOAs will have to equip themselves with high-powered information technology, notably to analyze the flows that crisscross a territory, it is only natural that they become multipurpose spaces for matching up supply and demand and that they satisfy in this way the desire for involvement and active citizenship in the service of the community, which remain latent and invisible so long as they lack the means to express themselves.

I turn now to the role TOAs can play in improving understanding of territorial metabolisms, i.e. in keeping track of flows entering and leaving the territory as well as of internal flows. I have described at length the need for territories to optimize exergy and to establish electronic currencies enabling them to track and to analyze these flows.

To enable territories to know themselves, TOAs should optimize, even before institutional arrangements do so systematically, the use of external data and organize inquiries and research involving all citizens in order to work collectively towards a "legible" world: that

is, towards a deeper and more just understanding of the dependency of territories on natural resources and external energy sources, of good and bad ways of using them, of the role of internal exchange within a territory, and of how to develop them. Heloisa Primavera, a Brazilian economist who made a name for herself during the Argentine economic crisis at the end of the twentieth century by organizing a bartering system on a hitherto unprecedented scale, emphasizes the importance of speaking of an "economy of abundance" rather than an "economy of scarcity" to changing our perspective on society.[19] I think she's right. If natural resources are scarce—indeed, far more than we realize—underused creativity and know-how is abundant. The oeconomy of fourth-category goods is fundamentally an oeconomy of abundance. But how can we determine the abundance of a good that we do not even realize exists? How can we learn to share when our economic system preaches day after day the virtues of competition, relegating cooperation to the backburner? One can be addicted to competition just as one can be addicted to drugs. Only the lengthy process of rehab, in which we learn the pleasure of doing things differently, can break us of the habit. And on this count, TOAs, by providing us with the information we need to make the contemporary world more intelligible, can play a decisive role. This intelligibility results, as I mentioned a propos of citizenship, in greater collective awareness of our responsibility. The latter begins with the kind of collaborative research I have just mentioned. By involving each individual in the creation of information bases on territorial metabolism and by making each person aware of the material and labor flows that pass through them, we all become actors, capable of identifying our realm of freedom. This is the necessary precondition for responsibility. Along the same lines, TOAs can play a part in evaluating the ways in which all of a territory's actors exercise their responsibility. This need not mean a moral authority that hands out brownie points. Responsibility is the freedom's counterpart. It should not be born like a guilty burden, but proudly worn as a mark of prestige. Even so, a neutral and shared space for reflecting on this idea is need, first to play down the anxieties it creates—we all begin by denying our responsibility, lest it be thrown back in our faces—next to provide communities with an authority to implement this fundamental ethical principle.

How—and this is my next point—can a Territorial Oeconomic Agency contribute to establishing in a particular territory a maximum degree of diversity and unity? Many current transformations make it necessary to put diversity and unity back into their proper respective

[19] Heloisa Primavera : www.heloisaprimavera.com

places, placing diversity where there had previously been unity and vice versa. A good example concerns the management of a territory's human resources. Often, available knowledge about them is poor. Typically, it consists of little more than statistics about levels of education or socio-professional status, a one-dimensional perspective on a reality that is far more rich and complex. Territory-actors, like successful companies, must know and have a forward-looking vision of their human resources—a decisive strategy for enhancing them. Across Europe we are witnessing a generalization of the concept of "flexi-security"—a contraction of "flexibility" and "security" that closely resemble my idea of "open-closed" territories. The reluctance of labor unions is understandable when the concept is promoted unilaterally by employers: they fear that it is just an excuse for more flexibility, which is so important to corporations, while "security" is either forgotten or sloughed off onto the government (which lacks the means to provide it). And yet the idea in itself is undeniably a good one. Its goal is to guarantee people a standard of living and professional status, while avoiding the traditional approach of providing job security (or even a specific job) in a particular company). As I see it, the territory, which encompasses the job pool, is the idea level for implementing the principle of flex-security, as flexibility should not imply a rootless individual, lacking any social mooring, who receives job security in exchange for unrestrained geographical mobility. TOAs should play the role of a problem-solver in the management of human resources and in utilizing, permanently or temporarily, human resources that for whatever reason do not find a buyer on the job market. I do not believe in an oeconomy of social redistribution in which a minority of what Americans called "workaholics" labor intensively while the rest, rather than deploying their creative energies, are allowed to enjoy a life of consumption. It is a both an individual and a collective duty to offer each person an opportunity to be useful. In this respect, I am more outraged by an oeconomy that allows idle hands and unsatisfied needs to coexist than I am by the risks associated with requiring the long-term unemployed to return to work. The territory's space and the pluralist economy that characterizes it is the ideal site for exploring the range of opportunities for returning to active employment and the obligation of social utility (let us not be afraid to use the term, even if it is controversial), by offering temporarily or permanently multiple placement options, from socially useful work to self-employment and from salaried employment in non-commercial activity to local exchange systems for bartering, knowledge, and work. In this respect, I see Territorial Oeconomic Agencies as a territorial human resources department. In keeping with what has been

said about joint territory-value chain initiatives, it must be the task of TOAs to promote, including through minority stakes, the development of new economic activities. Oeconomy's specifications make it clear that the goal is not accumulating material resources but increasing well-being. When discussing oeconomy's legitimacy, we analyzed well-being's four main components: dignity, social capital, the opportunity to create, and consistency between one's actions and one's beliefs. These four terms should be written in golden letters in each TOA's mission statement. Overall, this effort will make a twofold contribution to raising our awareness of the fact that we belong to a community. We belong to a territorial community, because we can see it living all around us and because it offers opportunities to participate in it; but we also belong to a world community, since, thanks to the traceability of links and detailed labels indicating the series of resources and labor that went into a product (which I discussed in the context of value chains), territories belong not only to local and national communities, but also, more broadly, to a world community in which interdependence and solidarity are increasingly entwined.

Finally, Territorial Oeconomic Agencies must link the short and the long term, the present and the future. This implies that even TOAs activities be oriented to the long term, not fluctuating with the political shifts occurring in the various units that constitute a territory. Demagogy, in this case, is uncalled for. Long debates were needed at the European level before the idea of an independent European central bank was accepted, and many in France still see it as a political surrender. In 2008, French president Nicolas Sarkozy provided grist to the mill of this argument when, in the midst of the subprime crisis, he accused the central bank of being responsible, due to its independence and doctrinal rigidity, responsible for Europe's weak growth—even though, three months later, he praised the ECB's president, Jean-Claude Trichet, for the rigor with which he managed the financial crisis. Sarkozy did this in part to excuse France of its inability to honor its European commitments. This is not the place to get into debates about European monetary policy, the relative merit of a Keynesian stimulus, or the pros and cons of monetary rigor. What I wish to emphasize is the importance of having, at every level, of authorities that have been established by the state, but capable, once they are created, of maintaining their course, even when political forces pressure them to do otherwise. This presupposes that TOAs' capital is adequately distributed between local government, oeconomic actors, citizens, and perhaps even the kind of community foundations of the kind that have

sprouted up in the United States over the past twenty years. It also presupposes that that TOAs' governing offices have renewable mandates of a fixed duration that do not overlap with those of elected officials. It is always possible that TOAs' leadership will become crusty and entitled, but this risk strikes me as a lesser one compared to the danger of constantly changing course at the very moment when we must undertake the "great transition" from a predatory to a sustainable oeconomy, with all the will, continuity, and perseverance that it requires.

TOAs' activity will address the long term by focusing on inter-generational solidarity. Consider two concrete examples. The first concerns the status of TOAs. It should benefit from flexible rules relation to gifts and bequests and be exonerated from inheritance tax, as are foundations in countries like Switzerland and Holland. This will allow affluent elderly people to express their faith in the future of their communities by contributing to their long-term development. The example of American community foundations is worth following. This requires abandoning the French suspicion which equates the recognition of a foundation's public utility to placing it under the state tutelage. Oeconomy can only be built on trust. Giving TOAs the benefit of the doubts is far preferable to placing them from the outset under state control.

Another concrete way of expressing inter-generational solidarity is care for the elderly. Every country in the world, with the possible exception of a few Muslim countries, is currently undergoing a demographic transition at a much faster rate than was anticipated twenty years ago, when we were blinded by fears of a demographic explosion that our statistics predicted. But most large countries, notably China, are about to witness their populations aging far more rapidly than is occurring at present in Europe. The question of caring and paying for the elderly will be an international concern. Since the dawn of time, the answer has always been intergenerational solidarity: I will take care of my parents and my children; my children and my community will then take care of me when, in turn, I am no longer able to take care of myself. TOAs could, to address this problem, create a time exchange. By giving a share of my time to care for the elderly, while I remain healthy myself, I would receive a time credit, a right to an equivalent amount of time when I in turn am elderly. The function of an exchange—where demand and supply encounter one another—which I have already described in relation to TOAs, would, in this case, play out over time, rather than in "real time."

Another idea related to the long term is worth mentioning. Those who put aside money for their old age hope, without being speculators in the least, that when the time comes their

savings do not consist of Monopoly money. This is why mutual funds offering a minimum guaranteed return exist, even if some are, in my view, borderline dishonest. The idea, which is as old as the world, is that one should invest one's savings in something of solid value, like gold, which will not have rotted away by the time one needs it. This is the principle of a "reserve currency." In this instance, the ideal solution is one in which, contrarily to what occurs with stock options, each saver has an interest in a community's future prosperity: my savings are, in a sense, indexed on the changing value of a community's four kinds of capital: material, intangible, human, and natural. I am convinced that this is a path worth pursuing.

I now turn to the role of public authorities in the implementation of territorial institutional arrangements (see the corresponding map in the index).

As it is plain for all to see, some of the hypotheses I introduced in my presentation of the functions of TOAs are not compatible with existing European and French legislation. It is thus important to identify the changes that are need to make TOAs a reality, or, at the very least, a possibility. I will concentrate on three realms of public action: rights and regulation; taxation; and public investment.

The transformation of rights and rules is at necessary at the European as at the national level. At the European level, the applicability of the principle of active subsidiarity to oeconomy must be recognized. Recognizing that oeconomy is a branch of governance will facilitate this transformation, which is in any case already underway. I have already explained how European reflection about Services of General Interest (SGIs), and specifically social services, contributed to a changed outlook. But the European Commission still needs to realize that by introducing the principle of active subsidiarity into the organization of production and exchange, particularly by recognizing its importance at the territorial level, it will not undermine European construction by derogating from the principle of free trade, but rather strengthen it by increasing its legitimacy and relevance to twenty-first century needs. This shift could occur in two stages: first, by recognizing the principle of active subsidiarity as one of the cornerstones of European governance; next, by recognizing oeconomy as a branch of governance, obeying the same foundational principles as other branches.

At the national level, a new kind of economic institution, the general interest company (or GIC) is needed. An initiative of this kind was undertaken in France with the creation of "collective-interest cooperative companies" (or SCICs). This institution, promoted by Guy

Hascoët when he was state secretary for solidarity economics, starts from the same assumptions as the British CIC. But it was implemented the French way: far less pragmatically, with far more constraints (such as the obligation to respective cooperative regulations, i.e., distribution of power according to the principle of "one person, one vote," the involvement of all partners in decision-making, and no dividends on capital), and with a stipulation that companies must receive administrative authorization. The results? While the British established 1700 CICs in two years, the French created a little more than a hundred over six years, half of which consist of preexisting companies that simply changed their juridical status. In other words, fifty completely new SCICs and about 500 new jobs: the SCIC is like using a canon to swat a fly. In short: liberating creative energies requires trust.

The most important future reforms pertain to taxation: the organization of a market of tradable quotas; the establishment of taxation on new principles, i.e., the shift from value added taxes to consumed resources taxes; the right to create local currencies; and the right to pay a share of one's local taxes in local currencies. Options exist. What we need is the will to implement them.

Signes (avec blancs): 62,593

NB: La version anglaise que je donne de la citation de Mumford est bien l'orginale.