

“MILIEUS” AND “KNOWLEDGE-CREATING SERVICES”: TWO INTERPRETATIVE  
TOOLS FOR THE KNOWLEDGE ECONOMY

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**ABSTRACT**

The assumption that we are now witnessing a change of techno-economic paradigm is gaining ground within the scientific debate. What initially has appeared to be the outcome of a phase of transition – post-fordism – is now taking original shape and is increasingly referred to as the “knowledge economy”. In actual fact, post-fordism accounts for just one component of the above-mentioned change, namely the industry’s adjustment to the growing need for flexibility on the part both of consumption and production. The other and decisive component has been the advent of ICTs. Apart from the spectacular effects this advent has had at the functional level, it has led to a repositioning of firm’s core activities and of the boundaries between the firm and the society. Instead of a *lieu* where innovation *is produced* through the refinement of consolidated knowledge – i.e., science –, the firm of the knowledge age is viewed as a *milieu* (among others), inside which innovation *emerges* through the ceaseless reshaping of cognitive codes. In this light, the passage to the knowledge economy is interpreted in terms of an unprecedented internalization on the part of firms and the industry in general of the conditions and processes for the reshaping of cognitive codes, as a core strategic activity. Against this background, the paper sets out to (a) retrace the route from fordism to post-fordism and to the knowledge economy, with the intention of shedding light on the new condition (and notion) of the firm as a *knowledge-creating milieu*; (b) investigate the possibility of extending this hypothesis to other potential knowledge-creating milieus on different scales, and (c) draw attention to the implications inherent in these changes of scale, with main regard to the constituent elements, their relationships and specific outcomes.

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## 1 Introduction

It is quite widely recognised that in the last two-three decades the economy has left the industrial paradigm, and entered a new one, which is increasingly labelled as the “knowledge paradigm”<sup>2</sup>. To explain this shift and the constituent features of the new paradigm, interpretations usually point to the dominant role ICTs and the symbolic analysis have achieved within the economic activity. While agreeing on these evidences, this paper argues that the distinguishing and constituent element of the knowledge economy lies at a deeper level than the widespread recourse to ICTs and the symbolic analysis by firms, and precisely in the recourse they make to a different although not utterly new notion of knowledge to improve creativeness and innovativeness: a conception which had formed within the philosophical and aesthetical domains about a century before, and which seemed however to be destined to remain confined in those realms, and anyhow far away from the firms’ realm.

The aim of this paper is to provide this hypothesis with (sufficiently) consistent arguments, by showing that (a) the “different notion of knowledge”, which shall be defined in details in the next section, has entered the firms’ domain through the ICTs revolution, so that this revolution can be seen as the triggering event of the paradigm shift (although a cause-effect chain cannot be established); (b) firms have adopted that notion of knowledge as a core activity thanks to the higher potentialities it proves to have in enhancing creativeness and innovativeness respect to the standard notion (and practice) of knowledge; (c) factors and conditions for improving that generative power belong to the socio-spatial domains. Thus, issues arise about (a) the configuration and the functioning of those socio-spatial devices; (b) differences that can occur in those devices themselves on different scales and, on the normative side, (c) possibilities of designing and governing (in the sense of “governance”) them.

The paper is organised as follows. The next section defines the content of the “new” notion of knowledge which could be entered the firm, by seeking to identify its distinguishing characters with respect to the conventional notion. Section 3 examines how this notion, which had seemed to be doomed to stay confined within the philosophical and aesthetical domains, has, somewhat paradoxically, entered the firm’s domain. Section 4, finally, is devoted to pointing out some crucial theoretical consequences that follow from recognition of the establishment of the new knowledge paradigm inside the praxis of firms. More specifically, the notions of “Knowledge-creating Services” and “Knowledge-creating Milieu” are introduced, as categories which prove to be particularly fruitful in dealing with the knowledge economy, on both the analytical and the normative side.

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<sup>2</sup> The first reference to the rising of the “knowledge economy” was made by Drucker (1968), although on a different epistemological prospect than the one which is proposed here.

## 2 About knowledge

Knowledge is a notion that is hard to define. Being intimately related to the subject's mind, any concept he can formulate about it is actually fused with his<sup>3</sup> mental and cultural models, so that it becomes easy for him to fall into epistemological traps, such as fallacies, naiveties and other pre-analytical views (Coe, Wilden, 1978; Watzlawick, 1980). With this caveat, knowledge can be broadly defined as the system of plausible beliefs the subject has about reality while being aware that, precisely because it is a matter of belief, there is inevitably a certain degree of approximation between the mental images of reality he forms and the reality itself.

The key epistemological issue therefore is (and has always been) how to assess the degree of approximation which is inherent to knowledge. In contemporary western thought, two main epistemologies compete with regard to this point, the ontological (or modern) and the hermeneutical (or post-modern). The former is based on both the Cartesian belief that truth exists *per se* and the positivist belief that the subject can reasonably assess the convergence of his mental representations to it through empirical testing.

Post-modern criticism has originated precisely from the confutation of the positivist belief in the possibility of having a reliable criterion for assessing the approximation to truth, that is empirical testing under controlled conditions. This criticism ultimately maintains that the device positivists have conceived for excreting any residual metaphysical element from the scientific domain is actually grounded on a pre-analytical and indefensible assumption. As von Glasersfeld (1980) states, certain aspects that would be determinant in rejecting false assertions can indeed be systematically ignored in making empirical tests because of a fallacy – a sort of scotoma – in the observer's perceptive aptitudes.

From this point onward, truth does indeed become a conventional entity (once it is admitted that such a term maintains some relevant meaning), and the cognitive focus shifts from searching for it by collecting information about *the* supposed real reality and the consequent getting of *the* genuine cognitive code – *the* truth –, to observing the mental processes by which subjects form their perceptual aptitudes (and mainly fallacies). This does not mean however that investigation of the real world would be abandoned because it shows to be without any sound epistemological foundation: since a certain – although intrinsically “weak” – representation of reality is needed for action, the only alternative to nihilism is to make a continuous shuttle between the image of the reality the subject has built at a certain moment through his mental repertoire, and he knows to be inevitably contingent, and the representation of the processes which leads to the formation and reshaping of mental repertoires (and cognitive codes).

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<sup>3</sup> Purely to facilitate reading, the male is used to cover both genders.

As is well-known, this shift in focus from information “coming” from or “collected” in the external world to the process of formation of perceptive aptitudes and cognitive codes signals the entry into post-modern thought, and entails the passage from one kind of knowledge to another. Once admitted that any cognitive experience implies reflexivity, it is indeed one thing to reflect on the external world without questioning the inherent properties and caveats of one’s own interpretative code, and quite another thing to make a (certainly demanding) mental effort in investigating one’s own way of observing that world itself. These two kinds of knowledge – which are respectively focused on the cognitive relationships the subject establishes with the external world and with his own interpretative code – respectively refer to the ontological and the hermeneutical approach. However, we shall make reference below to the analogous Nonaka and Takeuchi (1995) distinction between “Learning I”, “[which] is obtaining know-how in order to share specific problems *based upon existing premises*”, and “Learning II”, “[which] is establishing *new premises* (i.e., paradigms, schemata, mental models, or perspectives) to override the existing ones” (p. 44; italics ours)<sup>4</sup>.

The shift from the one to the other notion of knowledge is particularly relevant as regards creativity because, while admitting that it stems from the recombination of existing elements in a new and useful way (Poincaré, 1908), recombination can occur at two very different levels, depending on whether or not the reference set of elements includes the cognitive code(s). While in the ontological approach the recombination concerns the information drawn from reality according to the best approximation to the true code the subject supposes is at his disposal, and takes the form of a problem-solving task (Guildford, 1967), in the hermeneutical approach creativity is conceived as the outcome of the exposure of the subject’s own interpretative code to confrontation with other codes, and first results in problem-finding or else problem-creating (Runco, 1994). This entails, among other things, recourse to different sociologies of creativity. In the first case the subject *creates* by establishing a direct relationship between his mind and the external world, maybe in a solipsistic way (Schon, 1983), and society intervenes mainly by endowing him with a convenient cognitive code; by contrast, in the second case social relationships play a crucial role, because it is only through them that the subject can experience differences in cognitive codes.

It is however worth noting that *Learning II* is not alternative but complementary to *Learning I*. No-one can indeed completely neglect the practical relationships he necessarily has to establish with the real world, by devoting himself to the contemplation of the relationships occurring between his perceptual aptitudes and cognitive code. To avoid the risk of alienation / annihilation that is inherent to such an attitude, he has thus to make an incessant shuttle between the two forms of learning, by assimilating the external world according to the provisionally available cognitive code he has at his disposal, acting accordingly to that code,

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<sup>4</sup> An analogous distinction is made by Morin (1986), who distinguishes between “knowledge” and the “knowledge of knowledge”.

evaluating the outcomes of action and *questioning the cognitive code itself*, and in case reshaping it (Piaget, 1967).

With these premises, the next section is devoted to an examination of how the *Learning II* paradigm has entered firms and industry at large as a core strategic activity, thus giving rise to the knowledge economy.

### **3 The rise of the knowledge economy**

If the distinguishing and constituent feature of modern civilisation is the mission that human beings confer upon themselves to behave as “the lords and possessors of nature” (Descartes, 1637), without any other limit than those imposed by the right use of reason and respect of positive norms, the entrepreneur is the champion of modernity. At best he embodies the ambition of continuously reshaping reality – potentially, any domain of reality, the mind included – in order to gain advantage (and pleasure) in a competing world. The enterprise is the venture he continuously launches to fulfil this ambition: a venture that entails creativeness and innovativeness, that is to say, respectively, the conception and implementation of new ways of making / combining things<sup>5</sup>. And the firm is the organisational device he sets up – and this is the basic innovation he makes (Schumpeter, 1911) – to design and implement innovations away from prying eyes and indiscreet ears.

On this view, the entrepreneur’s basic resource is a flair for seizing opportunities and assessing risks, which requires a clear representation of the state of affairs. This means that the primary skill he must have is mastery of a reliable cognitive code (obviously the one that *he* believes to be reliable) which allows him to make right choices quickly, and above all, more quickly than competitors. With these requirements, *Learning I* appears to be the fit paradigm for him, because it primarily focuses on the relationship between mind and the external world<sup>6</sup>. This does not mean however that the entrepreneur did / does not have also recourse to *Learning II*, because everyone makes conscious or unconscious use of this way of learning. It means rather that this recourse is considered as lateral, somewhat incidental, compared with *Learning I*, to which the entrepreneur can usefully resort (De Bono, 1970).

If this is a plausible representation of the epistemic background of the typical western entrepreneur, the question arises as to whether and how the *Learning II* paradigm has not only entered the firms’ praxis, but gained the central place within it. At a first glance, one might think that the shift of focus brought about by postmodern thought – from the relationship

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<sup>5</sup> Strictly speaking, the entrepreneur’s role is to innovate (Schumpeter, 1911), since the act of creating / inventing can be analytically distinguished from the implementation of a new idea, and conferred to another figure (the inventor). However, the question is whether innovativeness can actually always proceed separately from creativeness, since the implementation of a new idea entails problem-finding and problem-solving in the relational domain, which is a function that specifically attains to the entrepreneur and requires an equally important aptitude for creativeness.

<sup>6</sup> For a vivid representation of this view, see Schon (1983).

between *the* cognitive code and the external world, to the process by which codes take form within the subject's mind – would eventually contaminate the domain of the firm, mainly via management turnover. This is a plausible sight, but on condition that the new notion of knowledge proves to be more suitable than the previous one in achieving the firm's goals, namely success in market competition.

In this connection, we argue that the achievement of this condition has been an outcome, among others, of the advent of ICTs. The hypothesis is that this advent, with the dramatic reduction in the cost of processing and transmitting information it has made possible<sup>7</sup>, has had not only functional consequences – such as the spectacular dissemination of information technology, the reorganisation of firms (also in spatial terms) and the comprehensive readjustment of markets on a global scale – but also significant consequences at the structural level: a level that relates to issues which, within a given techno-economic paradigm, lie outside the decision-makers' field of choice, such as social relations or the re-setting of boundaries between the firm and the society.

To understand the nature and implications of these structural changes, it is expedient to examine what has occurred within the communication circuits inside the firm with the advent of ICTs. Before that advent, but also in the short interval of informatics-without-telematics, communication necessarily required the intervention of the human factor, since the monitoring of automatic devices, based as they were on electro-mechanical technology, only worked in an analogue / local way, without any possibility of their being integrated into a complete motoring system at the firm level (and, *a fortiori*, more broadly too). For example, how could a mechanical counter communicate with a mercury thermometer and, at the same time, let us suppose, with a chemical colorimeter or a budget item? The role of Humans was just to make communication possible at the firm level, by translating (in the double sense of interpreting and transferring) the signals that were emitted by the different monitoring devices (human devices included) according to their specific and different languages.

However, this unavoidable human intervention meant that communication at whole was exposed to ambiguity, since individual interpretative codes are idiosyncratic, not to mention that ambiguity itself can be opportunistically produced (Cusinato, 1996). It follows that even the most peripheral agent had at his disposal a power to condition the performance of the system, since he was able to affect communication, albeit at an infinitesimal level (Marcuse, 1964; Lyotard, 1979). It also becomes clear that, in such a situation, most of the top management's care was devoted to establishing accurate protocols for minimising the ambiguity content within the communication circuits (Sennet, 2006), an effort that could not (and cannot) however fully attain its goal, not so much because of the increasing marginal cost of ambiguity reduction, as an approach *à la* Shannon would conceive, but because,

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<sup>7</sup> Between 1990 and 2004, the "Cost of Hard Drive Storage Space" fell from 9 US\$ to 0.11 cents per Megabyte (-190% a year). Source: <http://www.swivel.com> (Accessed October 2009).

inasmuch as the principal makes such an effort, the agents can be induced to produce additional ambiguity, in order to maintain their degree of discretion.

This also makes it possible to understand why, within the electro-mechanical paradigm, the typical firm assembled all productive phases within the same plant, the factory: if technical indivisibilities can explain the big dimension of plants, the proximity between the different and technically divisible parts and phases of the productive process met the need, on the functional side, to reduce ambiguity and, on the strategic side, to prevent the formation of free-riding within the communication circuits.

The advent of ICTs has wholly upset this scheme. The now occurring possibility of fully integrate the peripheral monitoring devices into a unique “syntactic”<sup>8</sup> network thanks to the generalised recourse to digital language has rendered unnecessary the intervention (and the connected power of mediation / interposition) of the human component in the codified communication circuits. This has made possible an unprecedented disembedding of syntactic / “monological” communication circuits from the previously single circuit, within which this kind of communication was inextricably entwined with the human / “dialogical” communication.

This material separation between the monological and the dialogical circuits has entailed crucial consequences inside firms and industry. Firstly, the closeness between the human factor and the routinised activities is no longer necessary, and the latter can from then on be totally left to / performed by automata, except for the overall monitoring activities. Secondly, routinised activities become potentially foot-loose, except where there are technical indivisibilities. The major consequence consists however in the chance the firm have to adopt the practices – or, better, the pragmatics – of *Learning II*, thus displacing its focus from the “mechanical” production of goods, including innovation, in the way it is conceived by *Learning I* and *conventional* “knowledge management” (cf. McAdam, McCreedy, 2000) –, to the handling of those conditions that are suitable for generating “vision[s] to create something new” (Audretsch, Thurik, 1998, p. 23).

A displacement of borders has also occurred between firms and society at a whole. During the *mechanically* “managed economy” (ibid.), the issue of learning and, above all, of learning about learning (Morin, 1986) normally fell within the socio-cultural domain, and only laterally touched the firm, at the top management level. When *Learning II* is taken into consideration by firms as a strategic activity, boundaries with the socio-cultural domain become weaker and permeable: better, they become a new action-field for the firms themselves (Sacco, Dragone, 2006). In fact, for as long as learning is understood as an accumulation of information according to a given interpretative code, it implies high externalities, and for this reason it is not well suited to the firm (Arrow, 1962). But when it is considered from a hermeneutical view, it proves to be highly place-specific, in that it makes

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<sup>8</sup> The term is drawn from Nonaka, Takeuchi (1995).

substantial use of ambiguity, which stems from personal idiosyncrasies: thus, not only learning, but culture, intended as the aptitude for interacting with interpretative codes (Geertz, 1973), becomes a primary resource for enhancing creativeness within firms and organisations (Lash, Urry, 1994; O'Connor, Wynne, 1996).

With these premises, we argue (among others) that the rise of the knowledge economy has occurred (and is still occurring) through the *internalisation of Learning II practices into firms, and more generally industry, as a core strategic activity* (cf. Nonaka, Takeuchi, 1995; Houghton, Sheehan, 2000; Rullani, 2004; Lytras, Sicilia, 2005).

## 4 Corollaries

The shift of focus from *Learning I* to *Learning II* that is occurring within firms and industry entails important consequences on the analytical and normative domains. Relationships between things, agents and concepts importantly shift, so that meanings which were conventionally associated with some categories change, categories that were central within the previous paradigm become obsolete, while others arise and require to be well-analytically established. Let us examine some of these consequences.

### 4.1 Knowledge-creating Services (KCS)

It is widely recognised and empirically evident that with the advent of ICTs a sudden increase has occurred in specialised services which act as providers of high-skilled competencies in dealing with the formation, storage, shaping and transmission of knowledge, as well as in training firms to deal with these issues (OECD, 1996; EFILWC, 2005). A number of theoretical approaches have been developed to account for the rise of this kind of activities and the role they play in enhancing the competitiveness of firms as well as local and national systems. Methods have also been developed to statistically detect these activities and measure their volume within the economic system. These approaches obviously reflect the peculiarities of different interpretations of knowledge and its role in the economy, so it seems expedient to undertake an assessment of their suitability with regards to the *Learning II* paradigm.

Two main approaches are briefly recalled below: the “Knowledge-intensive Business Services” (KIBS) approach and the “Creative Industry” (CI) approach. The results of the examination can be anticipated, by arguing that these solutions only partially meet the requirement of depicting the specificity of *Learning II*-based or -related activities, just because they abstract from the distinction between the ontological and the hermeneutical notion of knowledge, and stay implicitly inclined towards the first notion. The view itself they subsume of the knowledge economy, as based on a large if not dominant role of intellectual workers – “those who do not engage in the output of physical goods” (OECD, 1996, p. 10; in



the same sense, Foray, 2000) –, makes it clear that these approaches focus on the syntactical dimension of knowledge, while remaining implicitly neutral with respect to the pragmatic dimension, inside which *Learning II* takes forms and relevance.

According to Miles *et al.* (1995), KIBS are “services that involve [...] economic activities which are intended to result in the creation, accumulation or dissemination of knowledge” (p. 18). This approach seems therefore to be appropriate to render the specificity of knowledge-oriented activities. Learning and knowledge are however interpreted in a conventional way, respectively as the acquisition and mastery of information, while no explicit attention is paid to how cognitive codes form and evolve: knowledge is produced (rather than “created”) or acquired (rather than experienced), accumulated (rather than articulated), recombined (rather than hybridised), disseminated (rather than compared with), and finally applied (rather than tested). Also the centrality recognised to the conversion of tacit knowledge into codified knowledge in enhancing innovation does not consider the fact that this kind of experience provides an extraordinary occasion for dealing with idiosyncrasies in cognitive codes and having access to the pragmatic / hermeneutic dimension of knowledge.

Consequently, KIBS include the generality of business activities devoted to the symbolic analysis (according to Reich, 1992), independently of whether they pertain to the application or rather the generation of cognitive codes, and when codes are although implicitly considered, the key concern is to refine rather than articulate them. KIBS thus embrace executive activities such as “Press distribution agencies”, “Maintenance and repair of office, accounting and computing machinery” besides genuine knowledge-creating activities, such as “Research [in the various domains]” and “Business and management consultancy activities” (figure 1); and leave out public entities, like universities, which are clearly devoted to deal with cognitive codes, and which frequently interact with industry in knowledge-creation.

On its part, the “Creative Industry” approach focuses on “those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property” (DCMS, 2001, p. 4). Its main peculiarity is that it takes into consideration the entire value chain, from the conception of a potential innovation to the manufactures and the retail shops where “creative goods” are respectively produced and sold to final consumers. The key question is how this approach selects the “very” creative value chains from the entire set of existing and other possible chains, once it is admitted that creativity is present in any productive chain. The response given by the IC approach is not convincing, because the choice is made by assuming a pure formal criterion, which consists in the appropriability of the creative act, through patenting (Howkins, 2002). Many other activities that are creative without being susceptible to be patented (such as many kinds of daily research and consultancy outcomes) are then omitted, whereas others that are not intrinsically creative (such as, emblematically, “Retail

sale of secondhand goods”) are included because they belong to a value chain deriving from a patentable creative activity.

To avoid these limits and render the peculiarities of *Learning II*-based activities, we propose the notion of “Knowledge-creating Services” (KCS), which are services that are expressly devoted “to working with” cognitive codes, by recombining and reshaping them rather than recombining information on the basis of a given (supposed) code (table 1 and figure 1).

*Table 1 – Classification of Knowledge-Creating Services (KCS)*

Code <sup>1</sup>	Description	Code <sup>1</sup>	Description
<b>Private</b>			
22110	Publishing of books	74145	Public relations
22120	Publishing of newspapers	74146	Commercial information agency activities
22130	Publishing of journals and periodicals	74150	Management activities of holding companies
22140	Publishing of sound recordings	74201	Architectural activities
22150	Other publishing	74202	Engineering activities
72100	Hardware consultancy	74203	Integrated Engineering activities
72200	Software consultancy and supply	74204	Aerial photogrammetry and cartography activities
72601	Telematic, robotics, eidomatic activities	74205	Mining research activities
72602	Other computer-related activities	74401	Advertising
73100	Research and experimental development in natural sciences and engineering	74111	Legal activities
73200	Research and experimental development in social sciences and humanities	74811	Photographic activities
74130	Market research and public opinion polling	74845	Designers
74141	Financial consultancy	92110	Motion picture and video production
74142	Labour consultancy	92200	Radio and television activities
74143	Agrarian consultancy	92310	Artistic and literary creation and interpretation
74144	Business and management consultancy activities	92400	News agency activities
<b>Public</b>			
92510	Library and archive activities	80303	Other higher education
80301	Higher education- 3-year first degree course	85114	University hospitals
80302	Higher education-5-year first degree course	92520	Museum activities and preservation of historical sites and buildings

<sup>1</sup> Istat, Ateco 1991.

Fabiano Compagnucci in this Session examines this approach in detail, and offers an empirical investigation of the Italian case. The main result which is worth mentioning here is that KCS show to be strongly spatially interrelated with industry and highly city-oriented. Considering that manufacture has left the city and, moreover, the neo-marshallian Industrial Districts have risen as an alternative pattern to the urban pattern of industrialisation (Becattini, 2009), issues arise when the spatial and functional relationships between the city and the “new-urbanised and industrialised countryside” is examined in the knowledge era (Compagnucci, Cusinato, 2011).



## 4.2 Noise

In the common sense, noise is a disturbance to reception of a signal. It is considered as the effect of an interference or entropy in the transmission of the signal, which distorts it *compared with a normal and expected, although highly unlikely form*. Already in this common sense, it appears clear that the notion of noise necessarily goes with that of code, be this of a sensitive, syntactic or semantic kind. Only by possessing a code, can the receiver discern between familiar and unfamiliar, correct and incorrect, meaningful and not-meaningful, expected and unexpected signals.

The status of noise becomes much more multifaceted however when intelligent systems are taken into consideration, that is systems that are able to shape interpretative codes, within certain margins which assure their internal consistency, just in order to give sense to signals that would be otherwise interpreted as noise, and hence ignored or refused. This clearly opens the prospect to the third dimension of knowledge (and language) beyond the syntactical and the semantic ones: the pragmatic dimension, within which *Learning II* actually occurs. When considered from this perspective, the “amount” of noise that occurs on the syntactical or semantic level can be divided into two parts: a part that is potentially susceptible to being integrated as new information into the subject’s interpretative schemes through a process of adaptation of those schemes themselves (Piaget, 1967), and another one that is not susceptible to integration: while this latter part remains *noise*, the first gives rise to that realm of the human experience which lies on the uncertain terrain between noise and information, that is *ambiguity* (Empson, 1930).

Ambiguity thus turns out to be the prerequisite – the “raw material” – for learning (Visser, Visser, 2004). An ambiguity which appears as noise, and therefore a “bad”, when it is seen from the information-science point of view, but becomes a basic and maybe irreplaceable resource when approached pragmatically (Monod, 1980). The crucial question then arises about the conditions that enhance the subject’s aptitudes *for converting noise into ambiguity*, which are ultimately the aptitudes for reshaping interpretative codes to make room for new and unexpected elements (Butera, 1997). Making reference to the seminal Durkheim’s notion of milieu (Durkheim, 1895), but also to the notion of “milieus of creativity” introduced by Meusburger *et al.* (2009), we label this system of generative conditions as “knowledge-creating milieu”, that is a socio-spatial device that is suitable to produce original “social facts” – in the case under examination, variants in interpretative codes – thanks to the concurrence of both subjective and structural conditions.

### 4.3 *The general structure of a knowledge-creating milieu*

For *Learning II* to occur, the subject must be competent in perceiving differences within the properties of cognitive codes. This entails that he is able to move aside from his mental schemes, by admitting that other schemes are possible and that the (relative) hybridisation with the one he makes currently use of might allow the creation of original and unexpected relationships between things, agents and concepts: namely, cognitive innovation (Lane, Maxfield, 2005). It is not our task here to examine how psychological conditions favour the aptitudes for carrying on such a generative experience, so we limit ourselves to an examination of how external conditions (with respect to the mind) play such a role.

To a first approximation, such conditions entail the intervention of three interrelated (and in certain circumstances, interchangeable) devices: (a) a generator of “cultural noise”<sup>9</sup>, which can be an individual, a social group or the society at large; (b) an interpreter, which is an intelligent device inclined to consider noise as expression of underlying although unknown cognitive codes, and (c) a noise regulator – which can be of a physical and/or institutional nature – which allows the interpreter to decide how much / how long to expose himself to noise in order not to succumb to it. Let us examine two main ideal-types of knowledge-creating milieus, in order to highlight how structural and functional features change depending on the scale of the milieu itself: the dialogical milieu and the city<sup>10</sup>.

#### 4.3.1 *The dialogical knowledge-creating milieu*

From a purely epiphenomenal point of view, dialoguing people exchange words in a reciprocal and repeated way. Since words are signifiers which serve to convey meanings, it is reasonable to suppose that people intend to exchange meanings when exchanging words, and that the exchange is reputed advantageous for (and by) them both. This pure referential intendment is fully realised when the people concerned have recourse to the same interpretative code, correctly codify and de-codify their reciprocal signals, and the channel faithfully transmits them; otherwise a margin of misunderstanding – noise – forms. Within this informational-based point of view, which specific code the dialoguing people make use of is an irrelevant issue: the focus is on the signifiers and the channel, and not on the signifieds

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<sup>9</sup> “Cultural noise refers to impediments to successful communication between people of different cultures [or sub-cultures, we add]. Sources of cultural noise include differences in language (e.g., the same words have different meanings), values (e.g., importance of being on time or setting work schedule times in a culture), non-verbal cues (e.g., interpretation of body language), and many others” (O’Connell, 2004).

<sup>10</sup> Another typical kind of knowledge-creating milieu is the firm (Nonaka, Takeuchi, 1995). On a wider scale, Compagnucci, Cusinato (2011) make an attempt to see the territorial systems as knowledge-creating milieus.

(Ermine, 1996). This image clearly belongs to the *Learning I* approach, and renders a simplified and somewhat caricatural depiction of a dialogical experience.

When seen with the *Learning II* perspective, that is from a pragmatic point of view, the image is completely reversed. The presupposition for a dialogical experience to take place is indeed that the involved people admit the contingent and idiosyncratic character – and, essentially, the lack of ultimate ontological basis – of their respective cognitive codes, and start dialoguing just to ascertain the peculiarities of these codes through the ambiguities they give rise to when speaking about shared experiences.

The real “referent” of a dialogical condition is indeed the differences between interpretative codes, and under the appearance of exchanging words and meanings, dialoguing people actually exchange margins of ambiguity, that is noise they repute to be susceptible of interpretation by reshaping their own cognitive codes. The primary condition for a subject to forms an aptitude for dialogue – and therefore for dealing with cognitive codes – therefore lies in offering to share with others his own cognitive code – his mind –, and by “betting” on the reciprocation of the other(s) (Godbout, Caillé, 1993).

It follows that a dialogical experience belongs to the wider category of positive reciprocation, with the rules of which it has to comply to be effective: words are gifts and not merely signs; they are precisely symbols, in that they stand for a “signified”, namely ambiguity, which *relates* to other symbols and signifieds, and also relates to the parties’ aim to create and nourish a *relationship*, from which they hope to gain a surplus in terms of sense. Some circumstances, entailing spatial implications, may improve the generative potentiality of a dialogical experience, such as:

- a. the subjects’ capacity to suspend urge. This means that parties must have at their disposal (or also create) a shared mental space inside which the urge to get, to understand or to act – any urge– is put on the quiet and moulded into a wish or, better, the reminiscence of a wish. Since physical space has a high symbolic content, in that it serves in a steady and public way to represent, i.e. institutionalise, the image a community, a group and individuals give themselves of themselves, the presence of physical spaces and their arrangements in ways that allude to the condition of staying aside the space of daily concerns, may induce people to form a propensity towards relaxation and dialogue;
- b. an aptitude for giving. Since positive reciprocity requires the making of gifts in order to establish fruitful and durable relationships, the spatial arrangement must also transmit the idea that the parties have at their disposal a protected area, within which gifts (words, in the case under examination) are not exposed to the risk of being pillaged or offended<sup>11</sup>. A sense of sacredness is then required to be evoked by that physical space, to symbolise the shared belief and will that an area of intimacy exists within everyone and also between the

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<sup>11</sup> On the practice of establishing “sacred spaces” for making exchanges in risky conditions, see Polanyi *et al.* (1957).

dialoguing parties, which are considered untouchable by each and everyone entering that physical space;

- c. respect of silence. Since in a dialogical experience parties make gifts of words, words themselves have to be respected and also patiently hoped-for, as occurs within the emblematic experience of the “silent trade” (Curtin, 1984). This entails that silence – one’s own and that of others – is not only respected but also appreciated (Rovatti, 1992);
- d. the physical proximity of parties is also an essential condition for fostering dialogue. Inasmuch as the parties expose themselves reciprocally to the direct view of the other(s), they make clear that they are wholly and unreservedly involved in the experience of reciprocal exchange;
- e. finally, to avoid the risk of entropy, the space of dialogue must be cautiously open to the external world, and induce guests to make a mental shuttle between the two. Voices, buzz and also noise coming from the external world must enter that space, albeit in a softened way, as a reminder that the dialogical experience is a temporary and precious suspension, and not a refuge from daily *social* life.

To sum up, the structural features of a dialogical milieu consist in (a) the concurrence of two or more (but not too many, with respect to the requisites of reciprocation) dialoguing individuals, which meet on a voluntary basis, act according to schemes of reciprocity and alternatively work as both noise-generating and sense-extracting devices, and (b) the intervention of a moderating device which is made by (b1) the binding rules of reciprocity in exchanging words, that is the respect of the other’s words as well as pauses and silence, and (b2) a suitable arrangement of spaces (the inner space and the softened connection with the outer space), which works as a symbolic apparatus in evoking the conditions of proximity but also respect between the involved subjects, the (relative) suspension of daily concerns and the possibilities of generating variants in interpretative codes.

#### *4.3.2 The city as a knowledge-creating milieu*

The idea that the city is a cognitive milieu – in the generative Durkheimian sense – has entered the economic thought through the work of Jean Rémy. According to him, the city distinguishes from similar socio-spatial formations because it gives rise to specific economic effects, and particularly to the production of “certain types de connaissance” (Rémy, 1966, p. 72). As to the ways through which this process takes form, Rémy provided at that time a version which is affected by a notion of knowledge that lies at the crossroad between the syntactic (or informational) and the pragmatic dimension. On the one side, he makes room to the pragmatic dimension, by noticing that the city-milieu characterises itself, not only by the large amount of information it is able to process (the city is not a computer!), but mainly by the heterogeneity of sources and recipients. The concurrence of these two elements – a large

amount of information and the heterogeneity of users – facilitates, on his view, the reciprocal fecundation between the different visions which form within the forcedly circumscribed infra-urban milieus, giving rise to common ways of seeing things. On the other side, he does not however come to conceive the rise of those common visions as the formation of new interpretative codes and, even less, to conceive learning as the outcome of a dialogical relationship between codes, but as the union of some visions which found in the reciprocal contact the occasion for integrating their partial repertoires.

The issue of the heterogeneity of interpretative codes is finally dealt with by Rémy, Voye (1992), on an urban ecological prospect: “L’ailleurs pénètre la ville”, not only from the outside, but also and systematically from the inside, “d’autant plus que s’accroissent le volume et l’hétérogénéité de la population” (pp. 44 e 45). It follows that, in a context of generalised anonymity, cultural niches emerge, “où, plus souvent que des sommes d’activités individuelles on trouve les activités collectives les plus disparates et les plus susceptibles de se développer dans la marginalité, l’illégalité [...] et donc de susciter un sentiment de curiosité et de mystère” (ibid., p. 45). Thus, if the city becomes a milieu, and more precisely a “*milieu of milieus*” (Rémy, 2000b), made of sub-systems which generate local cultural codes and continuously produce variants in them, thanks to a number of relations they necessarily establish and nourish among them and with the external world.

The process by which the heterogeneity of codes turns into a cognitive resource is now described in a different way than by Rémy (1996). The contacts between the infra-urban milieus do not merely entail the integration between the respective cognitive repertoires, but give rise to “un «pool» d’informations indéterminées [...] dont] on ne connaît pas à l’avance le contenu pertinent, ni même la personne capable de le formuler” (Rémy, 2000b, p. 37). Although Rémy does not say it, this kind of contacts produces noise, and it is just in the points of contact, of partial and also occasional overlapping, “à première vue peu compatibles” (ibid., p. 38) that opportunities for exploration and dialogue take form, as premises for learning.

Unlike in dialogical contexts, relationships within the city are however generally impersonal and involuntary, and heterodoxy rather than discipline is the very engine of shifts in cognitive and more widely cultural codes (Redfield, Singer, 1954). Moreover, the device by which new cognitive and cultural codes spread among people is not reciprocity (which is an institutional device) but emulation (which is a socio-behavioural device) and the noise is no more a club good as it is within a dialogical context, but a public good. As a consequence, the city can be considered as a “natural” noise-generating milieu, in comparison with the artificiality (in the sense of artificially / intentionally made) of a dialogical milieu.

The real problem at stake thus becomes how to perceive this noise as a potential vector of original information (about codes), and how to exploit it as a resource for creativeness and innovativeness. Both these processes entail the intervention of a third party, who may also



come from the same urban people, but has to be anyway able to play the role of a meta-observer with respect to the noise-generative device (Atlan, 1979). More in detail, the recourse is required to a chain of highly specialised figures, the first and the last links of which are respectively the cool-hunter and the “post-modern” entrepreneur: the one, who is fit to perceive those differences in cultural-behavioural codes that are suitable for economic exploitation (Klein, 2000), and the other, who is able to turn the suggestions coming from the borders and mediated by the cool-hunter into new and highly symbolic-content goods (Schmitt, 1999; Ferraresi, Schmitt, 2006). Between these two figures, a number of other figures intervene, giving rise to the so-called creative class (Florida, 2002): designers, engineers, psychologists, information and computer technicians, advertisers, publicists, and many others, who have in common the ability to deal with interpretative codes.

This suggests that the smaller the milieu is in scale – essentially, in volume and space –, the more it acquires the features of an artefact, and conversely, the larger it is, the more it appears to be a social and thus, in some way, a “natural” device with respect to the subjects involved. Investigations into the rate of artificiality and naturalness of milieus at the different scales seem therefore to be a crucial step for ascertaining the functioning of these socio-spatial devices, and, on the normative side, for assessing what room for manoeuvre exists, what policies should be adopted, and by whom they should be implemented, to improve their generative potentialities.

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