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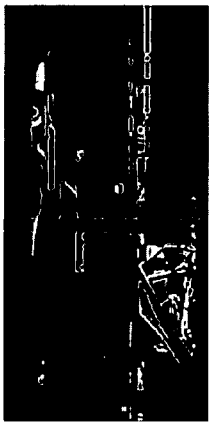

ORGANIZED AUTONOMOUS NETWORKS

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ABSTRACT **Drawing on the work of Gilbert Simondon, this article explores the creative, subversive potential of organized autonomous networks through an examination of the possibilities and pitfalls of a collective, Net-based practice of writing.**

KEYWORDS: Internet, organized networks, cooperation, creativity, writing, authorship, Simondon, individuation, identity, knowledge

THE WEB AND US

In the age of profit and extreme individualism, collaboration and free cooperation between persons holding each other in mutual esteem may seem an untimely notion. Not to speak of conviviality:[1] who has the time and inclination to sit and chat, make plans, create or, quite simply, spend time with like-minded people? The "convivial" implies the existence of a stable "we," or at least a "we" capable of telling its own story, representing itself,

taking care of itself, building collective spaces and experiencing shared moments. And yet the pronoun "we" has become almost derogatory: it is redolent of archaic community and village-pump localism. It is, thus, the "I," the ego that holds center stage in the theatre of contemporary life. The successful ego, as current wisdom has it, has no need of strong ties to a community: one's own ambitions, sustained by the necessary skills or, in other words, the ability to sell oneself well, are all that are needed. These personal resources have been accumulated in the traumatic changes one has adapted to in one's work: industrial restructurings, periods of overwork alternating with periods of forced inactivity, and "lifelong learning." Non-working time is perhaps affected even more by structural instability: endless relocations based on the choice of the "right opportunity" and friendships operating by email (or on Facebook) are the experiences that have forged the flexible ego. No wonder, then, that after thirty years of "weak relationships," life is a whirligig of anxiety, euphoria, and depression (see the analyses in Sennett 1988, 2009).

The Net, as the reality that enables this type of flexibility to come about, is also the preferred metaphor of the lords of that flexibility, those who pontificate on the possibilities offered by the digital worlds, whose language is peppered with terms like "networking," "decentralizing," "horizontalizing," "interconnecting," "outsourcing," and "crowdsourcing." As though networking could itself provide synergies that were certain to increase profits and reduce costs.

There is, however, a great difference between "networked organizations" and "organized networks." A hierarchical organization may derive advantage from networking: it may be able, by reducing the formal power at the top and distributing responsibility, to draw on people's passions, their sense of belonging (to a work group or a project team), and the advantages of granting them relative autonomy. Flexible capitalism operates by pats on the back and small gratifications, re-creating that sense of the "we" that is so badly neglected in the brief space of working experience. By contrast, genuinely autonomous networks of individuals, linked together by shared interests and objectives, have problems of a quite other nature to confront. Their problem is not the network, but organization (Rossiter 2007; Ward 1973).

In reality, most "networking" is made up of dead time, misunderstandings, and phatic – and fatiguing – time spent on bringing people together, reconciliation, and conflict management. In short, the Net is not productive if it is not organized hierarchically. Decentered, autonomous networks are not made for work! A networked organization will perhaps be able to produce better, but an organized network doesn't produce more and better, because it allocates resources in a non-economic way. And it does so particularly when the relational interface is mostly or exclusively virtual. It is difficult and often exhausting to collaborate online without meeting in real life. Work online can be extremely inefficient and slow. It requires great patience and listening skills.[2]

Moreover, organized autonomous networks, unlike networked organizations, which can count on a solid, existing entrée into the techno-bureaucratic world, have enormous difficulties in gaining recognition by institutions. This is the case of entire sectors, such as literature, the arts, and academic research: institutions detest having to deal with amorphous structures that have no heads or leaders, since, from their point of view, when all are responsible, no one is responsible.[3]

In these cases, it is easier to present oneself to the institution under a false identity, building up an expendable identity as a façade (an "association" or such like). But the bureaucratic cost of a public identity often turns out to be intolerable for an autonomous network: who would wish to take on the nuisance of bureaucracy and make the compromises that are required to gain public recognition? One possible alternative is to promote the emergence of a single individual, who will pass off the group's creation as his own and assert authorship to satisfy the media's thirst for "success stories." However, this requires immense mutual trust and is, in any event, a double-edged sword, especially for organized networks of a more radical orientation, since the single individual runs the risk of attracting the slings and arrows of the law or succumbing to the "star system."

Lastly, if they are to maintain a truly horizontal organization, organized autonomous networks cannot grow beyond a certain limit. This makes it difficult for them to reach the critical mass required to speak of a "movement," and these networks probably never aim at creating events of historical significance. They are more occupied with themselves, with their own relationships and plans. But why, then, would one ever collaborate/cooperate? What is the advantage of organized networks if horizontal collaboration is so difficult and so disadvantageous?

The time of the organized network is a time of non-work, a time of non-productivity (Lovink 2005). It is liberated, free time and freedom is not productive. In some circumstances, it may be creative. So how are we to draw on the characteristics of networks to enhance individual creativity? How are we to bring the individual and the collective together?

Since, "to speak and to relate what is happening" in an understandable way means to create/stratify memory, we may use writing as a point of entry into organized networks. Groups should be capable of giving an account of themselves and of explaining themselves to, and taking a stand towards, the external world, of expressing themselves and bringing their own identity into play. This is not a question of extolling so-called "online participation" and Net writing in the form of contributions to the blogosphere and media chit-chat. Becoming an author is a process of complex training and requires the honing of a complex technique. Writing is that complex technique that makes it possible to share what cannot on the face of it be shared – that is to say, the product of individual thoughtfulness. We shall see below how, as a technique, writing has a subversive power in respect of instituted reality, since it is capable of modifying the code of society.

THE MARVELS OF TECHNOLOGY: WE ARE NOT ALONE, EVERYTHING IS OUT THERE

The risk of collective online authorship being carried out in a welter of very superficial interactions is dramatically real. Time, as Michel de Certeau has clearly explained, is the only resource available for the invention of daily life from below, for creating one's own imaginary (de Certeau 1984). But even the most refined tactics of subversion in the use of tools seldom succeed in giving rise to autonomous zones of sustainable experimentation. Time is almost always reabsorbed by the digital spaces and redirected towards the service of profit 2.0. According to Richard Foreman, "we've been pounded into instantly-available pancakes, becoming the unpredictable but statistically critical synapses in the whole Gödel-to-Google net." Speed is certainly a double-edged sword, since the illusion of obtaining immediate results in response to one's own "research intentions" deals a mortal blow to the infinite richness of the book-based culture:

> We give up the illusion of our power as deriving from some notion of individuals collecting data, and find out that having access to data through our network-enabled communities gives us an entirely more living flow of information that is appropriate to the ever changing circumstances surrounding us. Instead of growing high, we grow wide. We become *pancake people*. (Foreman 2005)

The evacuation of individual inwardness, which is completely discharged into digital exteriority, is a product of this tension with the external world and the ceaseless search for responses. The responses of the digital networks, provided by mechanical signifying machines, belong to the domain and discourse of science. As Feyerabend pointed out, science betrays a religious character in its desire to impose a single truth (see Feyerabend 1975, esp. chapter 18). The digital technologies seek to offer a personalized, immediate truth (at a single click) for every research desire. "Google and the others" (as John Battelle calls them) – the little divinities of the economy of research 2.0 and the Web – are, then, something like a minor hypostasis of this scientific religion, on which we bestow the power to officiate in the contemporary rite of technology. We wait impatiently for the search algorithms to unearth what we need from the chaos of the Net. We are passive, vacuous, adoring onlookers in our encounter with the oracle. In this way, the philosophy of excellence of Google, which is now so mysterious as to be analogous to magic, shows us its esoteric – and also its militaristic – side (see Ippolita 2008).

Though far less codified than the major religions, the totality of superstitious beliefs that goes with the daily use of digital tools is the seasoning that accompanies countless insipid online meals. Meanwhile, the monitoring that is done, we are told, "for our own safety," is militarizing the whole of external space, to the point of checking on every online movement, every transition/transaction, every

communication tool. Moreover, the *inner space* of "pancake people" is very limited.[4]

Brains are being reduced to binary responses – yes/no, first/second link – and in-depth reading and acquisition are becoming incomprehensible pipe-dreams, relics of the analog past. Answers are sought "out there" on the Internet where one "surfs" and "floats," but where it is difficult to plunge down and immerse oneself. One bounces from node to node in a half-entranced state, without achieving any sort of stratification. The future is gone before it has been imagined; someone else will surely have already put it on a website in a digital location that is indexed and perhaps even commercialized; it's simply a question of finding it, expending all one's own time in constructing the space "out there."

The gurus of mass "online participation" spread the false notion that the sum total of distracted Internet users generates an enormous added value that is easily monetizable. But it isn't true at all that people know more today than they used to. When you live in the suburbs of Milan or London, knowing all there is to know about a US sitcom, the lifestyles of the rich and famous, or the latest fashions in Manhattan doesn't, in fact, mean having greater or better knowledge. The sum total of that knowledge is useful only to feed the (freewheeling) engine of Digital Progress. The liberatory joy of Raoul Vaneigem's declaration that, "*Nothing is sacred*, everything can be said" is rendered banal by the enormous quantum of stupidity. In this way, everything becomes semi-sacred, relative in the pejorative sense of equivalent – or, in other words, equally useless, because it seems that nothing new can be said.

And yet, not all items of knowledge are equal. Not everything is equivalent. My grandma Gardenia will never manage to cope with iPhones and VoIP, though, with adequate preparation, she could do so. On the other hand, she was capable of getting by pretty well in *her* world, which is still the real world for the majority of the world's population and is also our real world outside of the screen, though we do not realize it. There is a difference between knowing how to repair a leaking tap in the house or how to darn a torn pocket and being able to post on your own blog about the latest pair of shoes acquired by Carrie in *Sex and the City*. These are two equally complex but very different types of skill. The first two are empowering: they give individual persons greater autonomy. The last-mentioned depends entirely on the heteronomous productions of the world "out there," particularly if you don't have the faintest idea how a blog functions technically (and, hence, are not autonomous in respect of that tool), despite using it compulsively.

The internal (individuality) versus external (the Net, Collective Intelligence) spatial metaphor is useful for grasping the error underlying the idea of miraculous technology. Forms of knowledge are not outside; they are not interchangeable: though knowledge can be objectivized and subsequently shared, it is, first and foremost, a process of individual imagination. Individuation, unlike the total thoughtless memory of digital machines, is a process of becoming, in which we constantly lose

knowledge, lose and reconstruct our memory, and hence reconstruct ourselves in the processes of life.

When we know something or someone, we clearly enter into relation with something external to our individuality. But, just as not all relations are interesting and worthy of deep exploration, so not all links are equal. The dictatorship of the zero-cost link is worth precisely what it costs: nothing. To plot a new connection isn't easy: it means carving up a world, connecting two separate realities, creating new divisions in space.[5] This operation requires care, attention, and energy. It requires awareness, for if the bridge I am going to throw from one point of the Net to the other is poorly designed, it will collapse as soon as other people try to use it. On the other hand, the cult of the link propagated by the Web 2.0 is the immediatism of "everything has already been said," "everything is already out there'; you have only to put in the address and you will be taken straight to it. It is also of the order of consumerism, since one is constantly pursuing new links, rather than cultivating what is already in place.

This type of link is insignificant; it is destined to wear out and die. Http 404 is the – simultaneously terrible and tiresome – response that throws up a brick wall in the connection: the resource has been moved or has been cancelled and no longer exists (there is perhaps a copy in Internet Archive, but without the multimedia contents that made it more agreeable and filled the pneumatic void) or an erroneous link has been inserted in the mad rush to make connections.

We now understand better the real significance of the slogan attributed to Pierre Lévy, "No one knows everything, everyone knows something, all knowledge resides in networks" (see the foreword to Lévy 1995). This aphoristic assertion, extremely dangerous in its implications and consequences, deserves particular attention. The no one/everyone/all articulation is an allusion to the Hegelian dialectic. In fact, the overcoming of individual limitation (thesis: no one knows everything) comes through a positive revaluation of diffuse knowledge (antithesis: everyone knows something) to end in the synthesis of everything being upended outwards: the whole of knowledge is out there (that is to say, simply everything is out there, once one assumes informational equivalence, in which reality is *merely information*). This seems very reasonable: since everyone knows something, each person merely has to "throw out" what she knows, and everyone will simply have to reach out and seize for herself the infinite wealth of knowledge "out there." Participation in the construction of shared worlds seems so easy! And yet we know very well that participating and acting together in the construction of something – building an organized autonomous network – is very difficult and wearing.

The point is that "out there" there is nothing – absolutely nothing – that has not been created by an individual imagination which is capable of socialization and hence of becoming something collective. The apparently innocuous idea of storing knowledge "out there" is based on the informational assumption under discussion here (see,

in particular, Lafontaine 2004). There is no support medium external to ourselves. Knowledge is not separable from the human brains that create it, except at the cost of losing our humanity. Not the humanity of humanism, but of the biological characteristics of human beings.[6] In more technical terms, minds are coextensive with bodies; non-human bodies may one day display conscious mental activities, but not of a human type.

For this reason, even if an external (digital or other) support medium existed for knowledge (such a medium already exists for information, but information is not self-conscious and hence does not equate to knowledge), it would not act in our collective interest. The "collective intelligence" of the networks is a reactionary dream of control. Cornelius Castoriadis has shown that, when it ceases to recognize itself or reflect upon itself, the collective imaginary crystallizes and gives rise to institutions. Generally, institutions do not act for the benefit of people, but in the interest of their own self-perpetuation, sucking up energies from individuals. It is easy to conceive how much more inhuman those institutions that have crystallized out of the collective technological imaginary will be than the ones we have known historically. We need only think of the institution of digital control and, hence, of digital policing: though it is still possible in some way to stand up against human domination, appealing, ultimately, to a common humanity, how is one supposed to stand up against a machine charged with upholding the law that is "out there"?[7] It is no accident that these institutions are gradually adopting a networked model, transforming themselves into those networked organizations to which we referred at the beginning of this article. In this way, they unload the negative externalities on to the weak points of the network, while managing at the same time to accumulate even greater power. One has only to think of the control systems that are being developed thanks to credit/debit cards, smartphones, GPS terminals, etc. With any advanced portable terminal, tracked in real time (GMS or, better, GPS), capable of posting on Facebook, Twitter, and WAYN, the panopticon becomes a reality, without need of police, but with the enthusiastic collaboration of the honest citizenry, anxious to participate in the contemporary panopticon, the product of continuous "informing" from below. This, then, is the dream of participation of the networked organizations: the panopticon. Something very different from difficult, conflictual participation in the construction of organized networks.

It is true that we are not alone. We are all of us here, now, with our own skills and histories and potentials – potentials limited only by our mediocre imaginations. We cannot give in to fear and trust solely to encryption or to "safe networks" (a contradiction in terms: if there is a link, it is, self-evidently, possible to use it): the networks are not there only to transmit data; their primary role is to enable us to question the system, since making connections and using them means reconfiguring reality. And, since autonomous organized networks are anything but productive work in the classical sense of the term, we have to draw

on the pleasure of play – play that summons up the construction of a collective space.

SOCIAL NETWORKS OR CONVIVIAL SPACES? INDIVIDUALIZING THE COLLECTIVE

We have up until now avoided like the plague the use of the term "collective." "Collaboration," "co-operation," "autonomy," "exchange," "translation," "sharing between individuals," "conviviality," "mediators and translators," "affinities between actors," and "participation" – these are the concepts that have been to the fore in our discourse. The "collective" has been deliberately neglected and marginalized. After such insistence, we can now be reasonably confident that the individual, the source of all possible change, will not be sucked down into the morass of the multitude or sacrificed for the common good, class interest, the acquiescence of the masses or the transformism of the swamp. The moment has, in fact, come to settle our accounts with the collective, taking stock of what has so far been constructed.

To this end, we shall make use of concepts developed by one of the most underestimated philosophers of the second half of the twentieth century, Gilbert Simondon, relating them to certain ideas of Cornelius Castoriadis and to hints coming to us from biology, physics, and, in particular, the neurosciences. Simondon writes:

> The entry into the collective must be conceived as a supplementary individuation, appealing to a preindividual endowment of nature intrinsic to living beings ... we may regard beings as wholes formed from individuated and pre-individual reality: it is the preindividual reality that may be regarded as the reality grounding transindividuality. Such a reality is, in no sense, a form in which the individual might be regarded as matter, but a reality prolonging the individual in all directions, like a world in which he finds himself inserted ... Entry into the collective is an individuation in collective form of a being that had in him both a pre-individual and an individual reality. (Simondon 2007: 215)

Simondon's language is no great aid to understanding here, and his limited success is no doubt also attributable to his specialized idiolect. Let us translate. As it comes to fruition, the whole of the research we carry out imprints itself on our vocabulary. Simondon is arguing that when an individual enters a collective, it is not a complete absorption into a higher unity that takes place. On the contrary, as Paolo Virno notes in his afterword to the Italian edition, "group life is the occasion for a subsequent, more complete individuation. Far from regressing, singularity becomes more precise and reaches its acme in concerted action, in the plurality of voices – in a word, in the public sphere." (Paolo Virno in Simondon 2006: 284) The individual, grasped in her processual character, is a becoming, an individuation, not something fixed and given. Similarly, the collective is a wider becoming, but of the

same type, that is to say, an *individuation* rendered possible by the condition of *metastability*, to use Simondon's language.

This is a counterintuitive argument. It is normally argued that, in combining collectively with others, the individual has to give up part of herself. Contractualism (from Hobbes to Locke and Rousseau) is based entirely on this prejudice. In the social contract, individuals delegate part of their own freedom to the government (the Leviathan or democratic institutions etc.), because only in that way can they overcome the state of nature. The optimistic offshoots of this myth are also found in the idea of "collective intelligence," in which the force of the crowd overwhelms and obscures individual capacities.

For Simondon, by contrast, no renunciation is required in collective individuation. There is, in fact, a *pre-individual* common core that is realized more completely in the collective. In philosophical terms, Castoriadis refers to this common core as *chaos*: "humanity emerges from the Chaos, the Abyss, the Unfathomable. It emerges therefrom as psyche." (Castoriadis 1997b: 311, translation modified) Thanks to biology, chemistry, and physics, this chaos is no longer an unknowable philosophical limit, a kind of *numen*, but is becoming more concrete. Thanks to the discoveries of the contemporary sciences, we now know what this chaos is from the point of view of matter: it is the intrinsic tendency to cell differentiation, subject to Darwin's laws (see Kupiec 1997); to the creation of dissipative structures that apparently free living matter from the laws of thermodynamics (Prigogine 1994); to evolution according to dynamics of self-organization, however physically improbable our living world may be (see Kauffmann 2000).

Only when both recognize the chaotic basis from which they originate are the individual and the collective not mortally opposed to each other. Domination feeds on the alienating contradiction between the individual and the collective, expressed in the common sense of the much-abused formula, "My freedom ends where that of others begins." The limitation of the individual subject is experienced as an intolerable constraint, while the force of the collective subject is experienced as an unlimited source of power. Since every subject is built around the enigma of being *subject-to* (subjection) and *subject-of* (subjectivity), the only possible way out of the *heteronomy that alienates* is the *autonomy that liberates*. A subjectivity realizes itself the moment it ceases to subject itself to alienating rules (rules which, literally, *render it other*), the moment it becomes aware of the creative, founding character of its own imaginary, and begins to live by autonomous rules of its own. In this way, it is possible completely to overturn received opinion, asserting to the contrary that "*my freedom* begins *where that of others begins*" (Bakunin).

The pre-individual, chaotic reality that is the necessary common core for realizing collective individuation is the tendency to autonomy. Part of pre-individual chaos is brought into the service of a subsequent collective individuation. Reality is always in excess, precisely because there always remains a residue of chaos capable of giving rise to new individuations.

For subjects, individual and collective, endowed with reflexivity, autonomy is more than freedom, because it constitutes the tangible proving ground of freedom, constantly renewing its own creation and setting itself up as the origin of its own law, that is to say, of its own practice of life. Autonomous subjects have no need of an external law: they are self-regulating because, in exploring their own limits, they recognize themselves as the foundation of their own reality.

Delegating contractualism can also accept the construction of autonomous collective subjects: states, for example, self-regulate through institutions and it is argued that, just as individuals have had to submit to the social contract in order to avoid the *bellum omnium contra omnes* (the war of each against all), so states will avoid mutual destruction by delegating part of their own freedom to supranational institutions.

The same argument is used to justify systematic recourse to authority in the regulation of social relations as a whole, leaving aside the numbers of subjects involved. In the case of knowledge in general, what makes delegation possible is the surrender of the critical capacity in the face of the excessive power of the experts, who pronounce on every aspect of individual and collective life. *To criticize*, from the Greek *krinein,* means to separate or distinguish so as to be able to judge. Individual and collective decisions are highly influenced by the inability to judge, and writing plays a central role in this, because the "problem of critique makes reference to a triangle formed by author, critic and public" (Castoriadis 2007: 44). This may be extended from the artistic field to all fields of knowledge.

Individuation aside, individuals and collectives find themselves increasingly subject to that which is outside them. The motive for delegation (for sending someone as *legatus*, i.e. "bound"), for distancing matters from oneself, is the fear of violence, identified with chaos. And yet we now know, thanks to the neurosciences and the biological, physical, and chemical sciences, that living chaos tends towards self-regulation and self-construction, not self-destruction. On the other hand, in placing representative authority outside herself, the individual subject is setting out on a path of alienation. In a sense, she is herself neglecting to institute the social. The enigma of the subject becomes the enigma of the social. Castoriadis shows in *The Imaginary Institution of Society* (1997a) that every society is, on the one hand, the source of its institutional systems and, on the other, by actualizing itself most often in social institutions aimed at the subordination of individual subjects, it is at the origin of its own alienation in that it denies and conceals its own instituting dimension [*dimensione istituente*].

In other words, the individual tension between freedom and submission to social norms expresses itself at the social level by a tension between two extremes: on the one hand, the desire to change everything here and now (revolutionary movements) and, on the other, the fear of the unknown, which encourages the acquiescence to forces of control (totalitarian anxiety).

According to Castoriadis, there are psychical reasons why individuals – and hence also collectives insofar as they are made up of individuals – deny that they are the source of their own creativity in the very act of building society. This self-concealment

> corresponds ... to the needs of the psychic economy of the subjects as social individuals. Forcibly stripping them of their monadic madness, of their originary representation-desire-affect of atemporality, of unotherness, and then of all-powerfulness, imposing on them, by instituting them as social individuals, the recognition of the other, difference, limitation and death, society holds out for them, in one form or another, a compensation in terms of this ultimate denial of time and of otherness. (Castoriadis 1997a: 213)

Castoriadis too requires translation. Writing is a good example of monadic madness: total, self-reflexive aloneness. In socializing herself, the individual forgets her own constitutive solitude (and, in this way, avoids solipsistic paranoia), but she does, on the other hand, tend to forget her finitude in time (the worry of passing time) and in space (the scandal of the existence of others) and to relegate it to some recess of her brain. Society is posited as existing beyond the individual, in both time and space. The limits of the individual body and language are thus surpassed, while the social language (the norm) and body are absolutized. Institutional socialization is, then, a kind of repression of the self and a sort of collective psychosis of the incommunicable "all" by means of a language pre-defined outside the experience of socialization itself.[8]

The neurosciences offer us a handle on how the social may be a prolongation of the activity of individual consciousnesses. Instead of becoming lost in their own internal chatter, brains attempt, in a sense, to extend their reach beyond their own limits, following in this regard their own organic structure, which is subject to Darwinian selection. Consciousness is an adaptive advantage, as brains "that speak to each other" through the development of re-entrant neural pathways enable future planning to occur on the basis of a memory of the past. An examination of the biological bases of consciousness reveals, in fact, that it is based on a selective system and this enables us to understand the complexity, irreversibility, and historical contingency of our phenomenal experience (see Edelman 2006).

Minds tend to "move outside themselves" and generate the social world. The social is, therefore, a way of overcoming solitude, but the danger is that it may, by subordinating the individual, become an even worse trap for the self. This is that same movement of "projecting outside of oneself" that we have seen at work in the digital networks, a movement which clearly displays the features of alienation. It is Simondon who once more indicates the path for escaping infinite delegation with his definition of the "technician as pure individual":

> Technical activity can, as a result, be regarded as an introduction to genuine social reason and as an initiation into the meaning of the freedom of the individual; the community in fact identifies the individual with his function, which is organic or technical; but, whilst it can identify him totally with his organic function or his organic state (young man, old man, warrior), it cannot make him cleave totally to his technical function ... The doctor is the technician of treatment; he has a magical power; his strength is not purely social, like that of the leader or warrior; his social function is the product of his individual power, not his individual power the product of his social function ... Even a king is attached to his function, even if he is "legibus solutus." In a community, the technician brings a new, irreplaceable element – that of direct dialogue with an object insofar as it is hidden or inaccessible to the person in the community. (Simondon 2006: 261–2)

Technics mediates individual freedom and enables individuals to achieve autonomy; it serves, then, to liberate collective freedom, and enables the collective to achieve autonomy. We have seen in detail how the deployment of technics operates in closely observing the development of Ippolita's writing instruments. The Ippolita research community identified each member of the group in an essentially implicit way with his/her specific function: the communicator, the theorist, the designer, the historian, the economist and the coder. But then, at the point when a difficulty arose, technology was brought into play and used as a mediating object on which to exercise one's own subjectivity. In this way, individuals free themselves from their own organic functions and can grow within the collective.

One can understand, then, why the technical operation is, in Simondon's view, transindividual or, rather, a "condition of individuation." To develop a technique successfully equates to entering into relation with the outside world; it requires an effort to step outside oneself that can be accomplished only by drawing on one's own already stratified resources and skills in the depths of the individual self. A neuroscientist would say that, in order to socialize an idea, one has to force the re-entrant connections in the brain to invest the external world with significations it would not otherwise possess. A writer would say one has to create one's fictional world in one's novels in a way that the public can appreciate.

At all events, this means it is not possible simply to surrender oneself to the instrument, because, in the absence of individual competence, the instrument is inert or dangerous. We are not talking here of mere voluntarism; correct evaluation of personal capacities is required, along with an execution that is adequate in respect of the rules inherent in the technical object itself. To use a hammer without crushing your fingers demands a particular skill, which is determined, on the one hand, by the functional structure of the hammer and, on the other, by the deployment of one's personal resources. The same goes for writing.

To write elegant, functioning code requires skills determined, on the one hand, by the functional structure of the language used (procedural such as C, declarative like LISP, etc.) and, on the other, the commitment of one's personal resources.

To write together without cancelling each other out as individuals or without overwhelming each other demands, on the one hand, skills that are determined by the functional structures of the instruments used (computer, languages, rhetorics, ideologies, theories, etc.) and, on the other, constant recourse to the inexhaustible creativity of the individual instituting imaginary. Only by clarifying personal needs and desires does the collective succeed in pursuing its writing, since only with the constant redefinition of the limits of its own developing identity [*identità in divenire*] does the collective succeed in individualizing itself as subject in the realization of its project/object.

The technical operation – from hammering to writing and beyond – is not delegable, but in technical operations we are not alone. Technical skills can be handed on, learned, and improved. In addition to the *ostensive* modalities of learning ("I'll show you how it's done"), there are descriptive and narrative modalities, such as those implemented in the collaborative writing practices analyzed here. The narration of self, as a socializable account of individuation (individual, collective, social self, etc.), is the best method for living actively in the world.

When action is carried out not by a single individual, as technician, but by a technical collective individual, an enormous power is born. Technology does not, in fact, depend in any way on the norms typical of social life. Technical invention, including the daily invention of the use of instruments (beginning with the art of surviving), is not institutional and, in fact, exposes the very conventionality of institutions. Existing social forces (*institutions* in Castoriadis's sense; *communities*, as Simondon would call them) tend to assimilate technical forces into a system of social obligations, creating *ex nihilo* a hierarchy to channel technical power and, *de facto*, equating technical force with productive work.[9] But technical normativity (know-how) is capable of modifying the values of a closed/institutionalized society. Simondon believes, for example, that:

> The relation of Man to the world may, in fact, be carried out either through the community, by labour, or between the individual and the object in a direct dialogue that is technical endeavour: the technical object elaborated in this way defines a certain crystallization of the human creative act and perpetuates it in being; the technical effort is not subject to the same temporal regime as work; work exhausts itself in its own accomplishment and the being who works alienates himself into the work he produces, which assumes greater and greater distance from him; by contrast, technical being effectively calls into existence a disposition that remains constantly present ... technical being mediates human endeavour and confers an autonomy on it that the community does not confer on work. Technical being is open to participation

> ... it is, therefore, inexhaustibly fertile ... The Sophists understood and expressed this value of the technical endeavour that frees man from the community and makes him a genuine individual. Man is not only *zoon politikōn*; he is also *zoon teknikōn*. (Simondon 2006: 263–4)

If, however, technical operationality – and technology as such (and also, therefore, writing and literacy) – are not of the order of work, this means they are not to be treated as part of the problematic of the organization of work and, hence, of economics. The "hacker attitude"[10] shows us that technical activity is a kind of passionate play. The problem of a shrewd management of this technical power may be resolved by using the concept of *research as play* and the concept of *positive limit* deriving from it.

As free play of technology, research cannot be work, and this rescues it from alienation: it has to set itself limits that are the positive limits of its applicability. Whereas work tends to run to infinity (economic productivism), triggering a fateful domino effect of duty and need, of exploitation and necessity, play tends to peter out at the point when the pleasure in the game itself diminishes. Only in this way does collective individuation escape its implosion/self-destruction – by setting limits on itself.

It is necessary always to avoid the risk of individuals overwhelming each other, the risk that someone may gain the upper hand over the others and impose her will, checking continually that the path of research is agreeable as well as absorbing, that everyone is able to feel reflected in the collective, and that there are sufficient forces remaining. If this is not the case, then a threshold has been crossed and it is crucial to stop in time: other individuations will be possible, after the prior gathering of sufficient energies, desires, etc., to achieve them.Since every technical *dispositif* modifies the community/institution in which it is created by bringing about new technical changes, all genuinely collaborative writing modifies the code of the society in which it is created. Technical value is in no way diminished by the fact that the society does not recognize or utilize that technique, because every technique is inherent in the object and retains all of its subversive potential in respect of established forms, so long as there is still a memory of the possible convivial use of the technical instrument. Using a technical object is an act that is, in itself, alien to institutional/community dynamics, an act in which the notion of freedom acquires a concrete meaning, because the use of a technique is linked to the self-creation of the individual.[11] In this way, research as play becomes a civilizing factor when it succeeds in being understood as an instrument of transindividual – that is to say, convivial – creation.[12]

Writing together about one's own research is a concrete opportunity for change and for revolt against what currently exists. Especially when, engaging in complicated arguments, writing places itself in the role of re-mediating knowledge and translating it for a general audience. This certainly involves assuming a great deal of responsibility, and

there will inevitably be simplifications and misrepresentations of original knowledge, which would otherwise have remained the secret prerogative of an ever more restricted caste of experts. There are enormous layers of hidden knowledge to be made available for the invention of daily life.[13] It is not just academic knowledge that can be popularized and used as tools for participation, but the tactics of everyday life can also become so many tools for conviviality.

Digital technologies bring many people an opportunity to take charge of their own skills and translate them into knowledge that can be consumed by others. Underlying convivial writing is the conviction that individuals disinclined to use their own knowledge as an instrument of mere social promotion, control, and domination will not be particularly disposed to obey, and will, as a consequence, seek to spread liberatory practices. It all depends on our capacity to trust in ourselves and our own desire to *waste time* in the creation of personal pathways and to seek to communicate these to others by *constructing spaces* we can move around in. Together. Organized autonomous networks.

Translated by Chris Turner

NOTES

1. This concept of "conviviality" was largely developed by Ivan Illich in the late 1960s and early 1970s in a series of texts that included *Tools for Conviviality* (1973) [eds].
2. In "real life," for example, it very often happens that meetings or gatherings suddenly go off the agenda to concern themselves with the problems or personal demands of the group members, and this in fact lowers efficiency. Group consciousness may be a useful method for bringing out shared problems; it may also be a trap leading to the immobility of mutual aid with no concrete outcome.
3. The impossibility of reconstructing and identifying responsibilities is the real reason for the spread of the networked organizational model with virtual interfaces. "Customer Satisfaction Call Centers" are the clearest example of this: when there is a problem on the network, responsibility always lies elsewhere. In this way, networked organizations present themselves to the users as though they had no bosses and hence as truly amorphous structures (particularly during financial collapses), whereas to the institutions that finance them they present themselves as solid, trustworthy, and well-structured.
4. The idea that inner space is the only space that really remains to be explored – and hence the only alien space – goes back at least to Ballard (1962).
5. Graph theory can be used to show how, in a graph (the Internet network), a genuinely new connection completely reconfigures the network itself and is, therefore, an act of radical creation. For an introductory overview of this argument, see Barabási (2002).
6. A human being is more autonomous thanks to fire, language, and writing, which are so many techniques made available by convivial

tools and machines (matches, books, pens, telephones, etc.), but when the social institution alienates the machine for its own ends, this perverts its effects and it turns around and becomes a source of oppression, increasing the intensity of social domination. Modern humanism fails because it combats machines as dehumanizing, whereas it should rebel against machines that are enslaved to the social/community institution. As long as they are convivial tools, machines are sources of individual and collective autonomy. Humanism should integrate convivial machines into its own biotic community and grant them a place in its project of liberating human beings.

7. Digital democracy based on the principle of one link–one vote transforms itself rapidly into a system of recommendations (Google, Amazon, Facebook), which in fact militarizes the networks. If you have nothing to hide, then you have nothing to fear, the Web 2.0 profiling services tell us reassuringly. We will not use the information you entrust to us against you. We are forbidden to do so by law. Adolf Hitler made the same pronouncement as reassurance to the Jews of Germany: you have nothing to fear if you have nothing to hide. We know how this ended. Without being alarmist, it is not impossible to imagine that the names of all those who have downloaded at least one illegal, copyright-protected file from the web will be automatically passed to the authorities by these profiling services. Or even more troubling, but already current scenarios of cooperation between profilers and authoritarian governments (as occurs in China), or secret services and police forces of various types (as occurs in all the countries of the world, including Western countries).
8. With regard to the non-transcendibility (non-transcendent in the Kantian sense) of social communication (parallel and analogous to the non-transcendibility of individual language and the body), see Ludwig Wittgenstein's "language games." There is no modality given in advance for communicating the social outside of the social itself (that is to say, the social constructs itself with its own language). Let us try to consider legal language, says Stuart Kauffman, illustrating Wittgenstein's approach, and let us translate it into utterances relating to human agents without ever using legal concepts.

> So consider, "The jury found Henderson guilty of murder." We understand this statement but do so in the context of law, evidence, legal responsibiilty, trials, guilt and innocence, jury systems ... appeal processes and so forth. Now try to translate the statement into a set of statements about ordinary human actions: "A group of twelve people were seated behind a wooden enclosure for several days. One day, the twelve people left the room and went to another room and talked about what had happened. Then the twelve people came back and one man stood up and uttered the words, 'We find Henderson guilty of murder.'" (Kauffmann 2000: 52)

9. It is the insuperable contradiction identified by Bruno Latour in the episode of the invention of the air-pump that marks the contemporaneous birth of modern science and the modern state. Latour takes this argument from Shapin and Schaffer (1985; see especially chapter 2). To sum up the chapter in brief, around 1670 the philosopher Thomas Hobbes and the scientist Robert Boyle go to see the king of England. Hobbes announces: "Your Majesty, you are the Leviathan, that is to say, the guarantor that the 'war of each against all' will be averted. Human subjects will draw up a contract (the social contract) and will, so to speak, recognize themselves totally in you. Your will shall be their will. What you will recognize as true will be true for them." Transcendent nature will, as it were, be subject to the immanent power of the Leviathan, the representative of society. Meanwhile, Boyle is messing around with his air-pump: it is, admittedly, an invention that is not yet perfected, but he shows it to the king who is compelled to acknowledge the facts. The pump creates a vacuum quite independently of his will. There are, then, incontrovertible facts, scientific artifacts outside the power of the as yet barely established Leviathan. Despite the fact that he is the absolute power, the total subjectivity (for Hobbes, he is the *sum* of the subjectivities of his subjects), his power is directly limited by the discovery of scientific objectivity. Transcendent nature can be mobilized by technical power and hence suddenly becomes contested ground for the political authorities. In this sense, the machine created by scientific knowledge and subjugated to political power should be the object of convivial humanistic revolt.
10. The reference is to "hackers" not as understood in the popular press, but in the sense used by Pekka Himanen et al. See Himanen (2001). [Trans.]
11. Not by chance has art (*ars*), the expression of an absolute technical knowledge, always been a target for normalization on the part of the institution – and yet it always escapes it.
12. In the sense intended by Ivan Illich in his *Tools for Conviviality* (1973).
13. Contrary to what one might imagine, public knowledge represents merely a fraction of existing knowledge. A large part of scientific knowledge falls within the sphere of – state or industrial – secrecy; this is knowledge kept from the public domain and used to subjugate, alienate, and dominate us. See the study by the physicist Peter Galison on classified materials (in particular, Galison 2004). See also Robb Moss's incredible documentary *Secrecy* (www.secrecyfilm.com).

REFERENCES

Ballard, J.G. 1962. "Which Way to Inner Space." *New Worlds* 118 (May).
Barabási, Albert-László. 2002. *Linked: How Everything is Connected to Everything Else*. New York: Perseus Books.

Castoriadis, Cornelius. 1997a. *The Imaginary Institution of Society*. Trans. Kathleen Blamey. Cambridge: Polity Press.

Castoriadis, Cornelius. 1997b. "Institution of Society and Religion." In *World In Fragments: Writings on Politics, Society, Psychoanalysis, and the Imagination*. Trans. David Ames Curtis. Stanford: Stanford University Press.

Castoriadis, Cornelius. 2007. *Fenêtre sur le chaos*. Paris: Seuil, 2007.

de Certeau, Michel. 1984. *The Invention of Everyday Life*. Trans. Steven Rendall. Berkeley: University of California Press, 1984.

Edelman, Gerald M. 2006. *Second Nature: Brain Science and Human* Knowledge. New Haven, CT: Yale University Press.

Feyerabend, P.K. 1975. *Against* Method. London: New Left Books.

Foreman, Richard. 2005. "The Pancake People or "The Gods are Pounding my Head"." edge.org. Available at: http://www.edge.org/3rd_culture/foreman05/foreman05_index.html.

Galison, Peter. 2004. "Removing Knowledge." *Critical Inquiry* 31(Autumn): 229–243. Available at http://www.fas.harvard.edu/~hsdept/bios/docs/Removing%20Knowledge.pdf.

Himanen, Pekka. 2001. *The Hacker Ethic and the Spirit of the Information Age*. London: Secker & Warburg.

Illich, Ivan. 1973. *Tools for* Conviviality. London: Calder and Boyars.

Ippolita. 2008. *La Face cachée de Google*. Paris: Payot.

Kauffmann, Stuart A. 2000. *Investigations*. Oxford & New York: Oxford University Press.

Kupiec, Jean-Jacques. 1997. "A Darwinian Theory for the Origin of Cellular Differentiation." *Molecular and General Genetics* 255(2): 201–8.

Lafontaine, Céline. 2004. *L'empire cybernétique*. Paris: Seuil.

Lévy, Pierre. 1995. *Collective Intelligence*. New York: Basic Books.

Lovink, Geert. 2005. *The Principle of Notworking*. Amsterdam: Hogeschool van Amsterdam Publicaties.

Prigogine, Ilya. 1994. *Chaos and the Laws of Chaos*. Moscow: Progress Publishers.

Rossiter, Ned. 2007. *Organized Networks: Media Theory, Creative Labour, New Institutions*. Amsterdam: NAI.

Sennett, Richard. 1988. *The Corrosion of Character*. New York: W. W. Norton and Co.

Sennett, Richard. 2000. *The Craftsman*. London: Penguin.

Shapin, Steven and Schaffer, Simon. 1985. *Leviathan and the Air-Pump: Hobbes, Boyle and the Experimental Life*. Princeton, NJ: Princeton University Press.

Simondon, Gilbert. 2006. *L'individuazione psichica e collettiva.* Rome: DeriveApprodi.

Simondon, Gilbert. 2007. *L'individuation psychique et collective à la lumière des notions de Forme, Information, Potentiel et Métastabilité*. Paris: Aubier.

Ward, Colin. 1973. *Anarchy in Action*. London: Freedom Press.